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# CENSUS AND STATISTICS

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VOLUMES 5 AND 6

JANUARY 1912 TO DECEMBER 1913

WITH TABLE OF CONTENTS AND INDEX

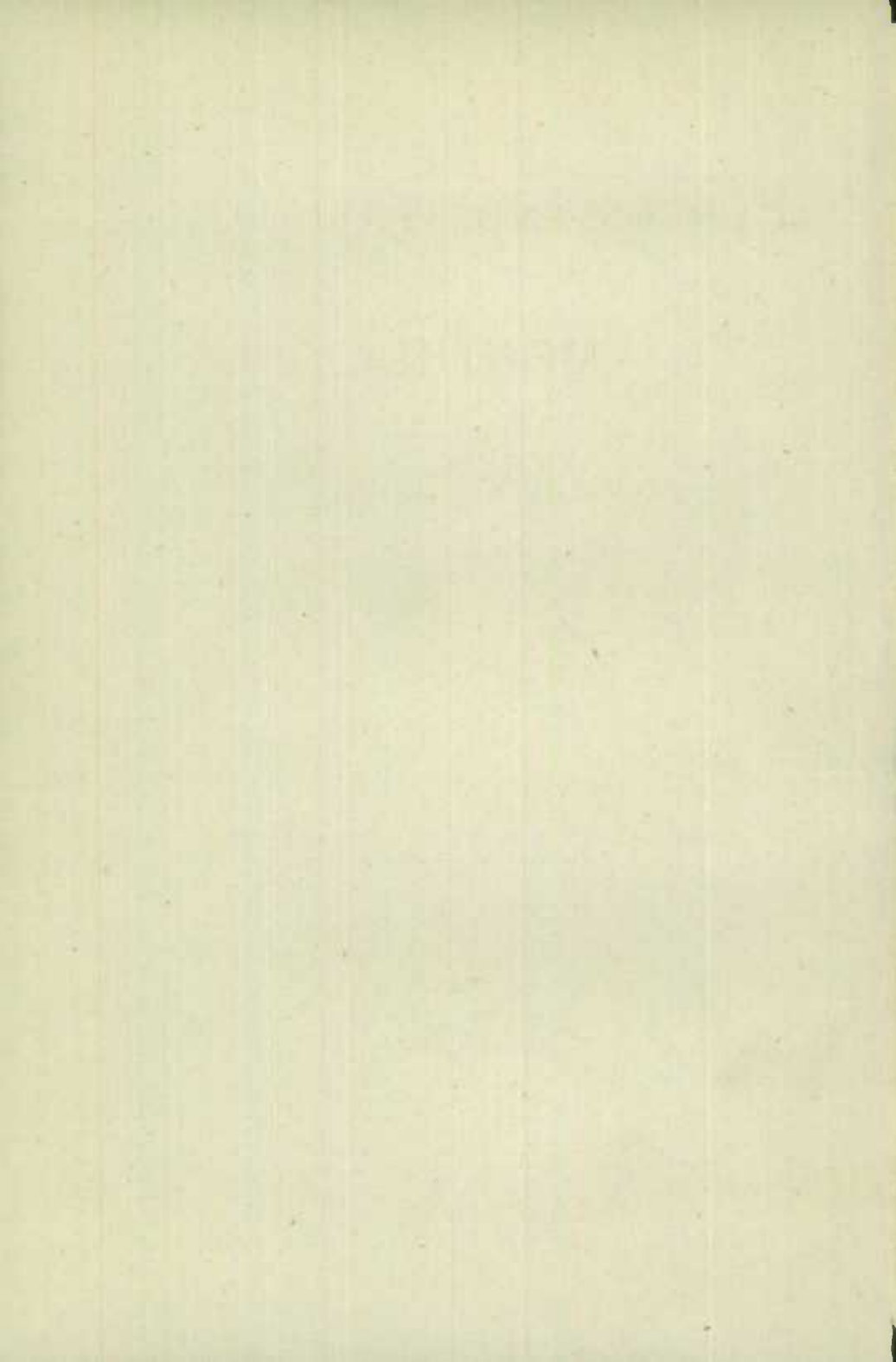
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PUBLISHED BY AUTHORITY OF HONOURABLE MARTIN BURRELL, MINISTER OF AGRICULTURE. CORRESPONDENCE RELATING TO THE CENSUS AND STATISTICS MONTHLY SHOULD BE ADDRESSED TO ARCHIBALD BLUE, CHIEF OFFICER OF THE CENSUS AND STATISTICS OFFICE, DEPARTMENT OF AGRICULTURE, OTTAWA, CANADA.

## CROP-REPORTING METHODS AND THE COLLECTION OF AGRICULTURAL STATISTICS.

In the United States a system of crop-reporting by government authority has been in continuous existence since 1863 ; but it is only within about the last decade that the governments of European countries have begun to pay systematic attention to the organisation of services for the issue of reports on the condition of agricultural crops during growth and of pre-harvest forecasts of yield. The establishment in 1908 of the International Agricultural Institute at Rome has caused still wider attention to be given to the subject, and the organisation of new crop-reporting services, or the reorganisation of existing services, is now being generally undertaken by many of the countries adhering to the Institute. Special attention is being given to the methods employed in crop-reporting, because the problem is no longer confined to the needs of any particular country, but touches interests common to a number of countries combined. To be of real value comparisons between one country and another or between one period and another must be based upon data of a common standard, and the closer that the methods of collection and compilation in different countries can be assimilated to approved models the more accurate and trustworthy will be the statistical results obtained.

### Recent Articles on Methods of Crop-Reporting.

From time to time the statistical methods followed by different governments in connection with agricultural production have engaged the attention of the International Statistical Institute, and in 1902 a report to this Institute on the agricultural statistics of the countries of the world by the late M. Emile Levasseur included also some account of the crop-reporting methods then in use. More recently, in 1910, the present writer published a paper on the different systems of crop-reporting in the principal wheat-using countries,<sup>1</sup> and in 1911 Mr. H. D. Vigor, B.Sc., read before the Royal Statistical Society a paper on the use of the "normal crop" as a standard in crop reports.<sup>2</sup> In this paper Mr. Vigor demonstrated that the normal crop used as a standard by the United States and also in the crop reports of The Times newspaper has no statistical basis, and pointed out the inconveniences and difficulties which its use involves, difficulties which, he concluded, would be obviated by expressing the probable yield of a crop as a percentage of the

<sup>1</sup> Journal of the Royal Statistical Society, Vol. LXVIII, Pt. III, March 1910. <sup>2</sup> Ibid., Vol. LXXIV, Pt. VII, June 1911.

average yield taken as 100. But the latest as well as the most comprehensive contribution to the subject is an exhaustive monograph by Professor Umberto Ricci, Chief of the General Statistical Branch of the International Agricultural Institute, which he presented to the Economic Section of the International Statistical Institute on the occasion of its 13th session at The Hague last September.

#### **Description of Systems of Crop-Reporting.**

Readers of the crop reports from other countries which appear in the *Census and Statistics Monthly* will be aware that the crop-reporting systems now in use throughout the world exhibit considerable variety of method. In general however they belong to one or other of two main systems to which are given respectively the names of "estimates" and "classification".

In the "estimates" system numbers are employed to express condition in comparison with some standard usually represented by 100, and denoting either the average yield of a number of years or a normal or standard yield defined by those employing it. The countries where this system has been in force for a greater or less period are the United States, Great Britain and Canada. A particular form of this system used by the British Board of Agriculture has been adopted by the International Agricultural Institute in reporting upon the condition of crops in the adhering countries, and a number of countries, Australia, New Zealand, Belgium, Chili, Denmark, Hungary, Japan, Rumania, Switzerland and Tunis, in organising new crop-reporting services, have also adopted this system as recommended to them by the Institute.

The system of "classification" consists in the descriptive use of the words "excellent", "very good", "good", "average", "bad", etc., or of numbers representing these conditions. Amongst the countries that employ this system or analogous systems are France, Germany, Austria, Holland, Sweden, Russia, Bulgaria, British India and Argentina. In France, for instance, a scale of numbers is employed in which 100 = very good, 80 = good, 60 = fairly good, 50 = fair, 30 = poor and 20 = bad. In Germany the scale is 1 = very good, 2 = good, 3 = medium or average, 4 = poor, and 5 = very poor. Further refinements in this scale are obtained by the use of one decimal point, which increases the possible gradations to a total of 41.

The system adopted by the International Agricultural Institute, described as System A by Professor Ricci, has been in use for crop-reporting by the Government of Great Britain since 1906. It consists in representing the average yield of the previous ten years by 100 and expressing the probable yield, as anticipated from the appearance of the crops at a given date, in a percentage of this figure. Thus the number 104, applied to the wheat crop on June 1, indicates that the condition on that date points to the probability of a yield 4 p. c. in excess of the average of the previous ten years. Similarly a condition of 96 implies a probable yield of 4 p. c. below the same average. The advantage of this system lies in the fact that it has a definite statistical basis, by which its data are rendered capable of measurement, while it does not encourage the artificial raising or lowering of prices by any tendency towards increase or diminution during the growth of the crops.

In Professor Ricci's memoir the different systems are submitted to mathematical analysis, and in view of the importance of uniformity in the method of expressing the condition of the crops of the countries adhering to the International Agricultural Institute rules are given for the reciprocal conversion of the different systems and especially for the conversion of the data arrived at by other systems into those of System A adopted by the Institute. Among the countries that already, according to Prof. Ricci, express their data in System A by conversion from their own system are the United States in the "estimates" group and Argentina, Bulgaria, Luxemburg, Holland and Sweden in the "classification" group.

#### The System followed by Canada.

To the countries in the former group may be added Canada, as last year the Census and Statistics Office converted the figures of condition from the percentage of a standard yield into the percentage of an average, this average being however one of three years, as the data for ten years are not yet available. The rule given by Professor Ricci for the conversion into System A of the condition expressed in the system followed by Canada is as follows: "Multiply the condition by 100 and divide the result by the average condition of the crop at the same date". On reference to pages 159, 160 and 185 of the Census and Statistics Monthly for July and August last it will be seen that this rule of conversion was actually applied, the average taken however being only three instead of ten years. As the present system of crop reporting did not begin until 1908 the year 1911 was the first during which any comparison could be made with a three years' average for Canada, and even then the province of British Columbia was excepted.

Now that the final results for 1911 have been published it will be of interest to compare the crop reports of the season with the figures of yield as published in the Census and Statistics Monthly for December. The following statement shows the yields per acre of the principal crops, as forecasted from the condition, compared with the preliminary and the final estimates, the comparison being also exhibited in percentages of the average of the three years 1908-10:

| Crops            | Average yield 1908-10 | Yield anticipated from condition |                    |               | Actual results       |                        | Per cent of average yield 1908-10 |                  |            |         |         |
|------------------|-----------------------|----------------------------------|--------------------|---------------|----------------------|------------------------|-----------------------------------|------------------|------------|---------|---------|
|                  |                       | June 30                          | July 31            | Aug. 31       | 1st estimate Aug. 31 | final estimate Dec. 31 | by condition                      |                  | by results |         |         |
|                  |                       |                                  |                    |               |                      |                        | June 30                           | July 31          | Aug. 31    | Aug. 31 | Dec. 31 |
|                  | bush. per acre        | bush. p. acre                    | bush. p. acre      | bush. p. acre | bush. per acre       | bush. per acre         | p. c.                             | p. c.            | p. c.      | p. c.   | p. c.   |
| Fall wheat       | 24.07                 | 21.48                            | 23.96 <sup>1</sup> |               | 22.19                | 22.19                  | 89                                | 100 <sup>1</sup> | -          | -       | 92      |
| Spring wheat     | 17.55                 | 19.72                            | 20.10              | 19.25         | 19.14                | 20.63                  | 112                               | 114              | 110        | 109     | 118     |
| Rye              | 18.02                 | 18.87                            | 18.19              | 16.20         |                      | 18.89                  | 105                               | 101              | 90         |         | 105     |
| Barley           | 27.05                 | 28.84                            | 29.30              | 29.13         | 28.78                | 28.94                  | 107                               | 108              | 108        | 106     | 107     |
| Oats             | 34.21                 | 36.67                            | 36.95              | 36.12         | 35.81                | 37.76                  | 107                               | 108              | 106        | 105     | 110     |
| Corn for husking | 58.11                 | -                                | 59.69              | 56.80         |                      | 59.39                  | -                                 | 103              | 98         | -       | 102     |
|                  | tons per acre         |                                  | tons p. acre       | tons p. acre  |                      | tons per acre          |                                   |                  |            |         |         |
| Corn for fodder  | 10.31                 | -                                | 10.10              | 9.89          |                      | 9.32                   | -                                 | 98               | 96         | -       | 96      |

<sup>1</sup> Preliminary estimate.  
17675-14

In this table the anticipated yields are derived from the figures of condition as converted by the Institute's rule into the percentage of an average from the figures expressing the percentage of a standard, the average being that of the three years 1908-10. The figures in percentage of the average yield of the years 1908-10 are also given in the table, together with the results of the two estimates of yield made by our correspondents (1) for spring wheat, barley and oats on August 31 before threshing and (2) for all crops after threshing on December 31. Examining these results by means of the percentage figures we find that the preliminary estimate for fall wheat on July 31 was eight p.c. above what it actually turned out to be by final estimate. The estimate by condition on June 30 was in fact nearer the mark, viz., 89 compared with 92,—a difference of only 3 p.c. For the largest and most important crop, spring wheat, the forecasts fluctuated within a range of between four and nine p.c. different from the final estimate. Yet each of the three condition estimates anticipated a yield of at least 10 p.c. above the average, while the condition and the first estimate results of August 31 were within one p.c. of agreement. For rye and barley the figures of June 30 are in exact agreement with the final estimates and for barley the intermediate figures keep within one per cent of the final. Rye dropped to 90 on August 31, thus reflecting the great recession from 83½ to 70½ p.c. of a standard as shown in the table below. The large oat crop was, as compared with the final result, accurately forecasted to within 3 p.c. on June 30 and 2 p.c. on July 31. The two forecasts (one by condition the other by estimate) of August 31 agree with each other within one p.c. The corn estimates, both for husking and for fodder, are not far out.

Moreover let it be noted that almost without exception and in the case of the exceptions to an extent practically negligible the forecasts were under and not over the mark, and this in face of the fact that the early promise of the western wheat crop might well have justified an optimistic view. It cannot be said therefore that the reports of the Dominion Agricultural Department on the data collected led farmers to anticipate a bigger yield than they eventually obtained, or that by too great sanguineness they encouraged any tendency towards depression of price.

We may now compare the unconverted figures of condition, that is to say, the figures of condition as expressed in percentage of a standard. The following statement shows the change during the progress of the season :

| Crop                  | Per cent of standard condition |         |         |         |
|-----------------------|--------------------------------|---------|---------|---------|
|                       | May 31                         | June 30 | July 31 | Aug. 31 |
|                       | p. c.                          | p. c.   | p. c.   | p. c.   |
| Fall wheat .....      | 80.63                          | 75.26   | 77.44   | —       |
| Spring wheat.....     | 96.69                          | 94.78   | 90.00   | 86.80   |
| Rye .....             | 90.26                          | 90.82   | 83.77   | 70.51   |
| Barley .....          | 93.49                          | 93.01   | 87.67   | 84.73   |
| Oats .....            | 94.76                          | 94.46   | 88.20   | 84.44   |
| Corn for husking..... | —                              | —       | 85.98   | 81.46   |
| Fodder corn.....      | —                              | —       | 87.16   | 86.55   |



It is apparent that there is a continuous retrogression in condition as the season advances towards harvest. This is in fact an inherent feature of the system of expressing condition by comparing it with a standard that has no relation to any definite quantity. In the vegetable as in the animal kingdom the promise of early youth is but too frequently belied. The use of the standard condition cannot therefore be trusted to furnish any very definite indication of yield, which after all should be the main object of a crop-reporting service. Its value lies rather in the means it affords of making a rough and ready comparison between one year and another; but this is dependent upon the personal equation—maintenance of uniformity of mental standard by the co-operation as far as possible of the same persons as correspondents and by the balancing against each other of personal idiosyncracies.

#### **Statistical Requirements of the International Agricultural Institute.**

Owing to the incompleteness of the existing crop-reporting services in some countries and to their non-existence in others the International Institute at Rome has not yet been able to present very comprehensive reports on a comparative basis as to the condition of crops during growth, still less to furnish unitary indexes of condition for groups of countries as in the case of area and yield. With a view however to the ultimate organisation of a satisfactory international crop-reporting service upon the principles approved by the General Assembly of the Institute, Professor Ricci appended to his memoir a statement of the measures which it is desirable that each adhering government should adopt. This statement may be summarised as follows:

- (1) Adoption of a uniform nomenclature of crops, including especially a distinction between autumn and spring-sown cereals.
- (2) Annual return of areas sown to different crops expressed in absolute figures, with a per cent estimate of areas of crops winter-killed.
- (3) Report monthly for the three or four months preceding harvest on the condition of crops, the system of expression to be either that of the Institute, or, when this may not be possible, a reduction to that system made either by the adhering governments or by the Institute under authority from the adhering governments.
- (4) An approximate estimate of yield one month before harvest and final ascertainment of area and yield after harvest, both returns in absolute figures.

Professor Ricci sought to obtain an expression of opinion on the part of the International Statistical Institute as to which of the two systems, "estimates" or "classification," was preferable in reporting upon crops, and if the former were preferred whether the average should be one of ten years or of any other period. The Economic Section of the Institute adopted resolutions approving of the "estimates" system and adoption of the ten years' average; but the General Assembly appointed a commission to investigate the subject and report to the next session which is to be held at Vienna in 1913. This commission is constituted as follows: MM. Dr. Mischler (Austria), president, March (France), secretary, Bodio (Italy), Major Craigie (Great Britain), Prof. Ely (U. S.), Evert (Germany), De Lannoy (Belgium), Lévy (France) and Verrijn Stuart (Holland).

### **Extent of Canada's compliance with the Institute's Requirements.**

Many of the countries adhering to the International Agricultural Institute are not at present complying with the requirements outlined by Professor Ricci; but by the crop-reporting service of the Census and Statistics Office of the Department of Agriculture, which service was instituted in 1908 before the inaugural meeting of the Institute at Rome, Canada has made considerable progress towards their complete attainment. At present, however, the Dominion fails to meet these requirements in two important respects: (1) by not possessing data for the use of the ten years' average, and (2) by having no machinery for a satisfactory annual census of crop areas. The first of these difficulties time only can remedy. There are now data for the striking of a four years' average, and each future year will increase the number.<sup>1</sup> In regard to the second, actual statistics are collected only by the decennial census for Canada and by the quinquennial census of the Northwest provinces. The figures of area and production published annually by the Census and Statistics Office are obtained by the estimates of a select body of crop-reporting correspondents not exceeding 3,750 for the whole of Canada. In the spring for cereals and in the summer for later crops estimates of area are returned for their respective districts by the correspondents in the form of a per cent increase or decrease compared with the previous year. In the fall, after threshing, estimates of the yield per acre are obtained from the same corps of correspondents, and these estimates, multiplied by the areas, give the total estimated yields as finally published after the close of the calendar year. A provisional estimate of the yields of cereal crops, according to their appearance at the end of August, is published in September.

### **Comparison of Correspondents' Estimates with Census Statistics.**

The original datum line for the per cent calculation of areas is that furnished by the census. It is therefore evident that the longer the time that has elapsed since the taking of the census the greater is likely to be the extent of the error due to the system. In the spring and summer of 1911 the Census and Statistics Office published, as has been usual since 1908, estimates of the areas under the principal field crops, arrived at through the co-operation of correspondents in the manner described. In January 1912 the Office published statistics of the areas of these crops in 1911, as compiled from the census schedules required to be filled up by every occupier throughout Canada, together with estimates of total yield based thereon by multiplication of the estimated average yields per acre, as returned by correspondents.

If there had been no census last year the areas as returned by correspondents would have been the dominant factor, and the following statement

<sup>1</sup> It is questionable whether in the case of a rapidly-growing country like Canada an average of ten years is the best to adopt. Probably one of five years would give a truer basis of comparison.

illustrates the extent of the error that would have occurred had there been no decennial census in 1911 to correct the estimates of areas from which the total production was calculated :

| Crops                | Areas of            |                     | Difference indicating extent of error |          | Total yields calculated from |                   | Difference indicating extent of error |          |
|----------------------|---------------------|---------------------|---------------------------------------|----------|------------------------------|-------------------|---------------------------------------|----------|
|                      | correspondents 1911 | census records 1911 | absolute figures                      | per cent | correspondents' areas 1911   | census areas 1911 | absolute figures                      | per cent |
|                      | acres               | acres               | acres                                 | p. c.    | bush.                        | bush.             | bush.                                 | p. c.    |
| Fall wheat..         | 739,000             | 1,172,119           | + 433,119                             | + 59     | 16,398,000                   | 26,014,000        | + 9,616,000                           | + 59     |
| Spring wheat         | 9,764,400           | 9,201,839           | - 562,561                             | - 5      | 201,440,000                  | 189,837,300       | - 11,602,700                          | - 5      |
| All wheat.           | 10,503,400          | 10,373,958          | - 129,442                             | - 1      | 217,838,000                  | 215,851,300       | - 1,986,700                           | - 1      |
| Oats.....            | 10,279,800          | 9,219,920           | - 1,059,880                           | - 10     | 388,165,000                  | 348,187,600       | - 39,977,400                          | - 10     |
| Barley.....          | 1,791,200           | 1,404,352           | - 386,848                             | - 22     | 51,837,000                   | 40,611,000        | - 11,196,000                          | - 22     |
| Rye.....             | 79,500              | 142,571             | + 63,071                              | + 79     | 1,502,000                    | 2,694,400         | + 1,192,400                           | + 79     |
| Peas.....            | 333,200             | 287,135             | - 46,065                              | - 14     | 5,265,000                    | 4,536,100         | - 728,900                             | - 14     |
| Mix'd grains         | 562,100             | 559,991             | - 2,109                               | - 0.3    | 16,739,000                   | 16,679,000        | - 60,000                              | - 0.3    |
| Buckwheat.           | 260,000             | 359,367             | + 99,367                              | + 38     | 5,899,000                    | 8,155,500         | + 2,256,500                           | + 38     |
| Flax.....            | 743,300             | 1,131,586           | + 388,286                             | + 52     | 8,481,000                    | 12,921,000        | + 4,440,000                           | + 52     |
| Corn for husking...  | 312,350             | 316,104             | + 3,754                               | + 1      | 18,550,000                   | 18,772,700        | + 222,700                             | + 1      |
| Beans.....           | 50,246              | 60,630              | + 10,384                              | + 21     | 958,000                      | 1,155,600         | + 197,600                             | + 21     |
| Potatoes....         | 508,500             | 459,097             | - 49,403                              | - 10     | 73,132,000                   | 66,023,000        | - 7,109,000                           | - 10     |
| Turnips, etc.        | 226,000             | 227,141             | + 1,141                               | + 0.5    | 84,506,000                   | 84,933,000        | + 427,000                             | + 0.5    |
| Hay and clover....   | 8,502,300           | 7,903,242           | - 599,058                             | - 7      | 13,689,000                   | 12,694,000        | - 995,000                             | - 7      |
| Sugar beets.         | 15,100              | 20,878              | + 5,778                               | + 38     | 128,000                      | 177,000           | + 49,000                              | + 38     |
| Corn for fodder..... | 273,700             | 285,321             | + 11,621                              | + 4      | 2,715,000                    | 2,830,000         | + 115,000                             | + 4      |

NOTE. The census records of 1911, as published in the Census Monthly for December, include the province of British Columbia for wheat, oats, barley and peas, whereas those of the correspondents' estimates do not. The differences in respect of these crops are not large enough materially to alter the proportions; in making the comparison therefore the figures for British Columbia in 1911 have not been deducted.

The table compares the areas and yields, as calculated from correspondents' estimates, with the areas of the census records and the yields based thereon; it indicates also the extent of error by the plus or minus differences between the two sets of figures, expressed both in absolute and percentage numbers for area and yield. It will be seen that the gravest differences appear in respect of fall wheat, rye, buckwheat, flax, beans, peas and sugar beet, where the percentage of error one way or the other is respectively 59, 79, 38, 52, 21, 14 and 38. The areas of these crops are relatively small or unimportant, but in the case of other crops we have differences to the extent of 22 p. c. barley, 10 p. c. oats and potatoes and 7 p. c. hay and clover. The area under each of these crops was overestimated to the extent of 386,848 acres barley, 1,059,880 acres oats, 49,403 acres potatoes and 599,058 acres hay and clover. If these areas had not been corrected by

the census the yields would have been overestimated by over 11,000,000 bushels barley, nearly 40,000,000 bushels oats, 7,000,000 bushels potatoes and nearly 1,000,000 tons hay and clover. On the other hand the area of Canada's most important crop, that of spring wheat, was overestimated only to the extent of 5 p. c., representing about half a million acres and  $11\frac{1}{2}$  million bushels, whilst in the case of all wheat the overestimate was only 129,442 acres and nearly 2,000,000 bushels out of totals of over 10 million acres and nearly 216 million bushels, the difference being not more than 1 per cent. This result is however due partly to the fact that the underestimate of fall wheat, with its larger rate of yield, is offset by the overestimate of spring wheat.

#### Problem for the Future.

The differences revealed by this table indicate sufficiently the acknowledged defects of a system of estimates, however carefully elaborated, compared with one of true statistics obtained by the counting of actual units. They show the nature of the problem which must be solved before the statistical requirements of the International Agricultural Institute can be satisfactorily met by the Dominion of Canada. This problem, though difficult, is not incapable of eventual solution, especially in view of the experience of other countries in less favourable circumstances. There are indications that the present affords an excellent opportunity for a careful consideration of the whole question with a view to the adoption of a national scheme for the collection of annual agricultural statistics capable of meeting the rapidly expanding requirements of the country.

Ottawa, February 15, 1912.

ERNEST H. GODFREY.

### DEPARTMENTAL NOTES.

**Experimental Farms and Stations.** At the Central Farm, Ottawa, the temperatures recorded during January range lower than during the first month of any year since observations have been taken here. On six days the thermometer did not get above zero at all, while for seventeen nights out of the thirty-one below zero readings were registered. The highest temperature was 36.4, the lowest -26.2 and the mean 2.24, as compared with extremes of 40 and -17.8 and a mean of 11.38 in January a year ago. The precipitation totals 2.61 inches, consisting of 0.11 of an inch of rain and 25 inches of snow; while during the corresponding period of 1911 it amounted to 1.56 inch, made up of .02 inch of rain and 15.5 inches of snow. The bright sunshine recorded averages 3.84 hours a day, compared with a daily average of 3.16 hours in the previous January.

In the Agricultural and Live Stock Division at the Ottawa Farm some special experiments with sheep and swine are under way. With the former a test is being made of the relative merits of ensilage and turnips for fattening purposes, this being the third of a series of experiments commenced in 1909 to determine the point. In fattening swine a test is being made to determine the relative values of skim milk, meal mixture,



pulped turnips (raw), pulped turnips (cooked) and pulped mangolds. The results of both these experiments will appear in the next Annual Report of the Experimental Farms.

J. A. Clark, Superintendent of the Station at Charlottetown, P.E.I., reports: "January came in with cold, northerly winds. The thermometer remained near the freezing point until the second week, when it fell below the zero mark, giving a whole week of zero weather accompanied by heavy gales. Potatoes in many cases were reported as having been frozen in cellars. The third week was more moderate, and light showers of rain fell on the 16th and the 20th. The fourth week was very cold, the temperature falling to -14.5. There were many days of bright sunshine and very little snow fell during the month. About six inches lies on the ground at this date (January 31) and the country roads are good."

Robert Robertson, Superintendent of the Farm at Nappan, N.S., writes: "January has been for the most part fine and very cold, the thermometer dropping below zero on fourteen different days, the lowest being -24 on the 27th. Fourteen inches of snow fell, but on the whole little stormy weather has been experienced, while there has been sufficient snow in the woods for lumbering operations, which have been carried on to good advantage. Sleighing has been poor, the country roads being partly bare most of the time. At the Experimental Farm the work carried on during the month, in addition to the usual labour involved in caring for the stock, has included the cleaning of grain, the getting in of a supply of wood and the hauling of hay and straw."

G. A. Langelier, Superintendent of the Station at Cap Rouge, Que., reports: "The snowfall during January has been fairly heavy, and considerable time has necessarily been taken up in keeping the roads open along the frontage of the Station. This was accomplished by the use of the snowplough, followed by the roller. The work of chopping, clearing land, etc., has been continued as opportunity permitted. A carload of manure has been received each week from Québec and applied on different parts of the farm."

W. C. McKillican, Superintendent of the Farm at Brandon, Man., reports: "January has been a month of extreme cold. The snowfall has been rather light and sleighing has not been very good. Work on the Experimental Farm consisted chiefly of the care of stock and the cleaning of seed grain."

Angus Mackay, Superintendent of the Farm at Indian Head, Sask., reports: "From the 1st to the 15th of January the weather was extremely cold and it was almost impossible to do any outside work. From the 15th to the close of the month the temperature on the whole has been favourable. Although very little snow has fallen up to the present, sleighing is fairly good. An unfortunate outbreak of fire at the Experimental Farm on the 9th destroyed the large barn with cattle stalls in the basement, the horse stable, the engine house and the silo. The fire originated from an explosion of gasoline when starting the engine for grinding grain and cutting straw for stock. All the horses, cattle, sheep and swine were got out in good time with the exception of one hog, which lived only a few days, the result no doubt of inhaling too much smoke. Nearly all seed grain and a large

quantity intended for feed was destroyed, including nearly 500 bushels of Marquis wheat (which had been sold to settlers) and a large quantity of hay, potatoes and roots. Since the fire, shelter for the stock has been temporarily provided in the implement house and other buildings which escaped destruction."

Wm. A. Munro, Superintendent of the Station at Rosthern, Sask., reports: "January has been continuously cold and little work has been done besides caring for the stock. On the 11th the record temperature for this Station of -54.1 was reached. More letters have been received and despatched from the Experimental Station than for any two previous months since it was established. Most of these had to do with inquiries about seed grain, seed potatoes and general farming operations."

R. E. Everest, Superintendent of the Station at Scott, Sask., reports: "The temperatures recorded during January have been unusually low, the weather being very severe almost continuously. Towards the end of the month however it moderated and closed with pleasant winter conditions. The work at the Experimental Station has consisted mostly of the ordinary routine and odd repairs. The work horses from having exercise in the corral each day are in good health, and their feed is now being increased in preparation for spring work."

G. H. Hutton, Superintendent of the Station at Lacombe, Alta., reports: "Early January was extremely cold, but during the last half of the month ideal weather has prevailed. There have been few storms and there is just enough snow for good sleighing without drifts. Even during the coldest weather cattle on feed did not appear to suffer and horses wintering outside are thrifty. The correspondence continues heavy. Many letters are being received containing inquiries as to how best to make use of low grade grain through live stock. The growing interest in live stock as a market for grain injured by frost or otherwise is an indication that farmers realise that only in mixed farming can steady profits be assured."

W. H. Fairfield, Superintendent of the Station at Lethbridge, Alta., reports: "The temperature during the first half of January was very low; in fact it was not until the 20th that a mild spell set in. There was good sleighing from the 1st to the 19th, but before the end of the month the snow was pretty well gone and the ground bare except where extra large drifts had formed. The mean temperature is much higher than it was for the corresponding month a year ago, being 14.13 as compared with 0.77, or nearly 14 degrees warmer. The ice-house at the Station was filled and well packed with excellent ice before the mild weather began. Some of the hauled crops that had been cut after the storm with a mower for feed are being put through a cutter and fed to the horses, which appear to be doing well upon the same. The lambs in the feeding experiment have been making fairly satisfactory gains except during the last week or ten days of the month. The latter period has been extremely mild for this season of the year and the lambs have consequently fallen off somewhat in what they would eat."

P. H. Moore, Superintendent of the Experimental Farm at Agassiz, B. C., reports: "The early part of January was cold, with considerable snow and very high winds. About the middle of the month the weather moderated, and

from then until its close kept quite warm, with rains melting away much of the drifted snow and taking the frost out of the ground. In the later days of the month ploughing could be done on dry land, and everything at present points to an early spring. Although the conditions which have prevailed have been on the whole somewhat trying to live stock, there is plenty of feed in the district, and stock generally may be said to be coming through in good shape.

The records of temperature, precipitation and sunshine at the several Experimental Farms and Stations for the month of January are given in the following table :

**Meteorological Record for January.**

| Experimental Farm<br>or Station at— | Degrees of temperature, F. |        |        | Precipitation<br>in<br>inches | Hours of sunshine |        |
|-------------------------------------|----------------------------|--------|--------|-------------------------------|-------------------|--------|
|                                     | highest                    | lowest | mean   |                               | possible          | actual |
| Ottawa, Ont. ....                   | 36.4                       | -26.2  | 2.24   | 2.61                          | 285               | 119.1  |
| Charlottetown, P.E.I. ....          | 43.6                       | -14.5  | 12.51  | 3.27                          | 281               | 128.3  |
| Napian, N.S. ....                   | 45.0                       | -24.0  | 11.70  | 1.95                          | 285               | 148.5  |
| Cap Rouge, Que. ....                | 34.0                       | -24.0  | 8.90   | 1.59                          | 278               | 80.6   |
| Brandon, Man. ....                  | 25.9                       | -45.0  | -13.40 | .30                           | 268               | 135.1  |
| Indian Head, Sask. ....             | 36.0                       | -47.0  | -8.06  | .34                           | 266               | 68.8   |
| Rosthern, Sask. ....                | 19.4                       | -54.1  | -15.00 | .30                           | 252               | 103.7  |
| Scott, Sask. ....                   | 30.6                       | -48.3  | -15.30 | .37                           | 255               | 100.8  |
| Lacombe, Alta. ....                 | 42.4                       | -46.0  | 5.60   | .76                           | 257               | 103.5  |
| Lethbridge, Alta. ....              | 48.6                       | -30.5  | 14.13  | .96                           | 239               | 111.7  |
| Agassiz, B.C. ....                  | 53.6                       | 12.9   | 34.81  | 4.31                          | 271               | 61.4   |

J. H. GRISDALE, Director Experimental Farms

Ottawa, February 12.

**Dairy and Cold Storage Branch.** The following item taken from the U. S. Daily Consular Report of February 17 1912 will be of interest to cheese manufacturers :

A new co-operative cheese factory, which will be the largest in New Zealand and capable of turning out 3,500 tons of cheese annually, is being erected at Kaupokonui, province of Taranaki, North Island of New Zealand. The building will cost \$25,000 and the machinery \$25,000. The effective water power at hand for driving the machinery is a factor which will enable the company to take full advantage of the economic principle of utilising the butter fat in whey for the manufacture of butter. The floor of the curdling room is at a lower level than the main building and the walls of the room are properly insulated, while provision is being made for cooling by artificial means when necessary. The factory will be constructed of reinforced concrete.

The direct importations of Australian and New Zealand butter, via the port of Vancouver, have so far this season exceeded that of any previous year. A considerable quantity has also been imported via London and is now being sold in Montreal, Halifax and other eastern cities.

Private advices received at this office indicate that Australia is again suffering from drouth. The output of dairy produce for the season 1911-12 will be very much shortened as a result. The drouth is most severe in

Queensland, which State has in recent years been making the most progress in dairying. The dairy situation points to high prices for the coming year.

The third Dominion Conference of Fruit Growers, called by the Minister of Agriculture, was held on the 14th, 15th and 16th inst. Full delegations were present from all the fruit-growing provinces and various questions relating to the commercial end of the fruit-growing industry were fully discussed. The feature of the conference was a representative display of apples from all the provinces except Saskatchewan and Alberta. It was the most unique collection ever brought together in Canada, and comprised about 140 boxes of apples of all the leading varieties of each province. Amongst those who took an active part in the proceedings were H.R.H. the Governor General, the premier (the Right Hon. R. L. Borden, M.P.), the Minister of Agriculture (the Hon. Martin Burrell, M.P.) and the Hon. Sydney Fisher.

The Minister has authorised the purchase of two cheese factories situated near the village of Finch, in Stormont county, Ontario. These factories have been competing with each other for several years. One new factory equipped for butter-making and cheese-making will be built in the village, and provision will be made for carrying on experimental work.

The cow-testing propaganda which has been carried on by this Branch of the Department of Agriculture for several years will be continued for the season of 1912. There is ample evidence of a greatly increased interest in this work, and the Department is being deluged with invitations to undertake the work in different parts of the country. As far as possible these requests will be complied with.

J. A. REDDICK, Commissioner.

Ottawa, February 19.

**Seed Branch.** Some important changes in the regulations of the Canadian Seed Growers' Association, in regard to the selection and registration of seed, were made at the annual meeting of the association held in Ottawa, February 8th and 9th. The sections relating to the definition of terms and the registration of seed were changed to simplify the system of selection and registration, provide for the production of a much larger amount of registered seed and maintain or raise the standard for registration by a more thorough system of inspection. Under the new regulations there will be two main classes of seed eligible for registration: (1) "Elite Stock Seed", which is the general product of the hand-selected seed plot of at least three years' satisfactory selection, or a pure stock of seed originating from a single plant or seeds the progeny of which has proved in field tests and other means of examination to be worthy of distribution, and (2) "Registered Seed", which is the product of Elite Stock Seed up to and including the third generation.

Elite Stock Seed corresponds to what was previously known as "improved" seed, and it is hoped that the association will be able to provide facilities whereby applicants for membership may obtain a quantity of this seed or the progeny thereof not further removed than that of the first generation. Such seed will be obtainable either at the experimental farms



or from members of the association. Applicants are advised to procure sufficient to sow at least a one-quarter acre seed plot. By starting with "Elite Stock Seed" or "Registered Seed" of recognised quality a grower will save the three years of hand selection which are necessary to produce the Elite Stock Seed by selecting from an ordinary unimproved variety. The period during which seed descended from hand-selected stock is eligible for registration is extended two generations, which should greatly increase the amount of Registered Seed available, as even members with large farms will be able to devote all the available area to the production of Registered Seed; or they can have it grown by other farmers under their supervision. Any danger of lowering the standard that might have arisen through extending the period for registration is met by the new system which has been adopted for the inspection and sealing of sacks. Up to the present inspection has been confined to the field plots, but in future not only the standing crops but the threshed grain will be inspected, and that which comes up to the standard of quality fixed by the association for Registered Seed will be sealed in the bag and a tag bearing a number corresponding with that of the certificate of registration attached. In this way the quality and identity of Registered Seed will be guaranteed, and the interests of both the grower and the purchaser will be protected. After some discussion it was decided that for this year at least only seed that is grown by members should be accepted as eligible for the registration seal of the association. That is, if a non-member purchased Registered Seed of the first or second generation removed from Elite Stock Seed the association will not recognise the product of this seed as Registered Seed and seal it, even though it complies with the standard of quality. It was thought best to restrict for the present the privilege of registration to members of the association who had operated a seed plot for at last one year and had been favourably reported upon by the inspectors.

With the object of getting more reliable information regarding the suitability of varieties for different districts, two committees were appointed, one for eastern Canada and one for western Canada, each consisting of the superintendents of the experimental farms under the Dominion Department of Agriculture, the district officers of the Seed Branch, and the agronomists of the agricultural colleges, to make recommendations to the association regarding the value and suitability of different varieties. The evils resulting from growing a large number of varieties, many of them new and untried, were recognised, and an attempt will be made to restrict the operations of the members to standard varieties that have been tested and are known to be suitable to the conditions under which they are to be grown. The principle of conducting trial plots when necessary to get information to supplement that collected by the committees was approved.

The results of the investigation regarding the suitability of the grain crop of western Canada for seed purposes have been published in a bulletin entitled "The Seed Supply, 1912, Manitoba, Saskatchewan and Alberta", 20,000 copies of which have been distributed. The bulletin contains a summary of the inspection reports up to the first week in January. Conditions in each of the prairie provinces are summarised, and a more detailed statement is given according to federal electoral districts. The report

indicates that there are large areas in both Saskatchewan and Alberta where the settlers are without seed or the means of obtaining it. This applies almost entirely to those districts which have been very recently broken up and the settlers are not in a position financially to meet the situation. There is plenty of good clean seed available if arrangements can be made for having it distributed.

Standard samples of seed representing the minimum standards of quality on account of general appearance that will be recognised in seed testing and seed inspection work this season have been made up and distributed to seed merchants. These samples represent the standards for No. 1 and No. 2 timothy, red clover and alsike seed apart from the standards of weed seed content defined by the Seed Control Act. There are no standards for general appearance for No. 3 seed, as the minimum standards are fixed by the weed seed content only. For this season two standards for No. 1 timothy seed are recognised, the regular No. 1 and No. 1 American Standard. Owing to the abnormal conditions which prevailed last season over the timothy seed producing area tributary to Chicago and the resulting low general quality of the seed, it was decided to recognise for this year No. 1 American Standard for seed that contains even a considerably larger proportion of hulled seed than the regular No. 1 grade allows, but which complies with the No. 1 standard in regard to freedom from inert matter and other impurities.

There has been this season a large increase in seed testing work, both for purity and germination. Up to date 3,830 samples have been received from seed merchants and farmers at the Ottawa seed laboratory, and in addition to these 1,350 samples have been received for germination test in connection with the seed supply investigation, making a total of 5,180 samples since September 1 1911, compared with 2,349 for the same period last season, an increase of 83 p.c. At the Calgary seed laboratory the proportionate increase has been much greater. During January 2,001 samples were received, compared with 135 tested the same month last year and 1,281 received during the whole year ended March 31 1911. The increase is almost entirely due to the seed supply investigation and the samples sent for germination test by farmers in the frosted areas. During January 1,421 samples were received at the Ottawa seed laboratory from seed merchants and farmers and of these 478 were cereals mostly for germination test only. The samples graded under the Seed Control Act were as follows: Red Clover, Ex. No. 1, 1; No. 1, 41; No. 2, 97; No. 3, 95; rejected, 52; total, 286. Alsike No. 1, 14; No. 2, 46; No. 3, 83; rejected, 41; total, 184. Timothy, No. 1, 46; No. 2, 77; No. 3, 85; rejected, 87; total, 295. Alfalfa, Ex. No. 1, 2; No. 1, 8; No. 2, 21; No. 3, 10; rejected, 2; total, 43. Less than seven per cent of these samples were sent in by farmers. Quite a large proportion of the samples from seed merchants represent farmers' lots of uncleaned or poorly cleaned seed, and many of these that grade No. 3 or rejected may be re-cleaned sufficiently to grade higher.

GEO. H. CLARK,  
Seed Commissioner.

Ottawa, February 15.

## CROP REPORTS FROM OTHER COUNTRIES.

**Great Britain.** The report of the Board of Agriculture (January 1) stated that continuous rains during November had generally hindered work in the fields; but as operations were well advanced at the beginning of the month farm work was, with few exceptions, forward for the season. Wheat and beans were everywhere a good plant, healthy and very promising. Over 80 per cent of the whole area at present intended for wheat had already been sown, the proportion being larger in England, whereas in Wales and Scotland it did not amount to more than about three-fourths. As compared with January 1 1911 the area already sown would appear to be quite 7 per cent greater in England and Wales, but in Scotland it was perhaps 4 p.c. less. The report for February 1 refers to continued wet weather during the first three weeks of January and states that the autumn-sown crops all looked healthy and vigorous, except a few pieces on heavy or low-lying lands where the plant was sometimes thin or weak. The sharp frosts accompanied by heavy snows in the midlands and north during the last week of the month were generally welcomed.

**Ireland.** The Irish flax crop is returned by the Department of Agriculture as 1,798,481 stones of 14 lb. from 66,618 acres, compared with 1,420,122 lb. in 1910 from 45,974 acres, the increase in area representing 20,644 acres. The average rate of yield is 27.0 stones compared with 30.9 in 1910. Turnips yielded 196,865,000 bushels from 270,805 acres, compared with 172,642,000 bushels from 275,296 acres in 1910. Mangolds yielded 64,756,000 bushels from 77,857 acres, compared with 54,743,000 bushels from 75,267 acres in 1910. Cabbage, a field crop in Ireland, produced 553,000 short tons from 37,281 acres, compared with 391,000 tons from 30,857 acres in 1910.

**New Zealand.** The Government Statistician reported (December 16) the following as the acreages sown or intended to be sown for the season of 1911-12: For threshing only, wheat 215,528, oats 403,668, barley 31,644, maize 6,094, peas 19,946. Intended to be cut for seed, rye-grass 77,535, cocksfoot 38,297, clover 6,610. Sown or intended to be sown this season, potatoes 28,248, turnips 440,202, mangolds 19,764, rape 213,691.

**British India.** According to the first memorandum of the Commercial Intelligence Department of the Indian Government returns from 89 p.c. of the area ordinarily devoted to wheat show a total for 1911-12 of 25,570,000 acres compared with 25,826,000 acres in 1910-11 or one p.c. less. In general the season is proving favourable except in parts of the Bengal presidency, and on the whole the crop prospects may be described as good.

**France.** An extract from the Journal Officiel of January 15, communicated by H. M. Ambassador in Paris, gives the usual estimates of the areas sown to winter crops at January 1, with their condition on that date by regions and departments. The areas, expressed in acres, are as follows, the figures within parentheses being those of 1911: Wheat 15,602,000 (13,911,000), meslin or mixed grain 321,000 (311,000), rye 3,022,000 (2,894,000), barley 401,000 (352,000), oats 1,980,000 (1,844,000). The

average weighted condition of these crops on January 1 for the whole of France, compared with the condition on the corresponding dates of the three previous years, was as follows :

| Crops       | 1912 | 1911 | 1910 | 1909 |
|-------------|------|------|------|------|
| Wheat.....  | 79.5 | 59.1 | 72.2 | 75.8 |
| Meslin..... | 80.1 | 63.7 | 75.0 | 81.4 |
| Rye.....    | 80.0 | 60.4 | 76.2 | 77.9 |
| Oats.....   | 79.5 | 61.7 | 76.0 | 78.2 |
| Barley..... | 77.4 | 64.9 | 75.5 | 76.6 |

Scale : 100 = very good, 80 = good, 60 = fairly good, 50 = fair.

The same publication under date of January 12 publishes an estimate in round numbers of the quantity of cider and perry manufactured in 1911 compared with 1910. The figures, converted from hectolitres to imperial gallons, are 481,711,000 in 1911, compared with 237,458,000 in 1910, the difference representing an increase in 1911 of over 100 p. c.

**Norway.** The Norwegian Agricultural Department reports that the area under mixed grains in 1911 was 15,200 acres with a yield of 448,500 bushels. Potatoes yielded 21,334,000 bushels from 101,700 acres, and the yield of hay is estimated at 2,763,000 short tons from 1,966,700 acres. Returns of the other cereal crops are included in the report from the International Agricultural Institute on page 21.

**Sweden.** The Central Statistical Bureau of Sweden reports (November 30) that the harvest of 1911 is slightly above the average. The yield of cereals is above while that of root and fodder crops is more or less below average; the quality of the harvest is excellent. In the following statement is given in thousands of bushels the yield of the principal field crops, with the average weight per measured bushel, for the year 1911, compared with 1910 and with the mean of the ten years 1901-10 :

| Crops             | Total yield ("000" omitted) |        |                              | Average weight per bushel |      |                   |
|-------------------|-----------------------------|--------|------------------------------|---------------------------|------|-------------------|
|                   | 1911                        | 1910   | Average of ten years 1901-10 | 1911                      | 1910 | Ten years 1901-10 |
|                   | bush.                       | bush.  | bush.                        | lb.                       | lb.  | lb.               |
| Winter wheat..... | 7,892                       | 7,160  | 5,593                        | 64.3                      | 62.6 | 62.7              |
| Spring wheat..... | 342                         | 364    | 343                          | 61.8                      | 60.5 | 60.5              |
| All wheat.....    | 8,234                       | 7,524  | 5,936                        |                           |      |                   |
| Winter rye.....   | 24,217                      | 24,100 | 23,727                       | 59.9                      | 58.8 | 58.3              |
| Spring rye.....   | 468                         | 456    | 433                          | 58.1                      | 57.3 | 56.9              |
| All rye.....      | 24,685                      | 24,556 | 24,160                       |                           |      |                   |
| Barley.....       | 14,696                      | 15,549 | 14,704                       | 53.1                      | 52.2 | 51.1              |
| Oats.....         | 71,493                      | 83,495 | 70,324                       | 39.5                      | 39.0 | 38.3              |
| Mixed grains..... | 11,891                      | 14,778 | 9,114                        | 46.9                      | 45.3 | 45.1              |
| Peas.....         | 1,333                       | 1,334  | 1,082                        | 64.6                      | 63.7 | 63.5              |
| Beans.....        | 182                         | 179    | 192                          | 65.7                      | 64.1 | 63.0              |
| Tares.....        | 612                         | 697    | 587                          | 62.8                      | 61.0 | 60.7              |



The yield of potatoes is estimated at 51,036,000 bushels, compared with 66,464,000 bushels in 1910 and 60,019,000 bushels the average annual yield of the ten years 1901-10. The total value of the cereal crops for 1911 (wheat, rye, barley, oats, mixed grains, peas, beans and tares) is estimated at 331,248,000 crowns (\$88,774,000).

**Austria.** The Austrian Department of Agriculture issued (December 19 1911) a statement of the yields of the principal cereals for 1911 compared with 1910 and the average of the ten years 1901-10. The following are the figures converted into acres and into bushels of Canadian legal weights :

| Crops  | 1911      | 1910      | Average<br>1901-10 | 1911        | 1910        | Average<br>1901-10 |
|--------|-----------|-----------|--------------------|-------------|-------------|--------------------|
|        | acres     | acres     | acres              | bush.       | bush.       | bush.              |
| Wheat  | 3,002,545 | 2,998,802 | 2,808,117          | 58,881,045  | 57,589,538  | 53,696,467         |
| Rye    | 4,991,824 | 5,092,764 | 4,803,173          | 104,123,649 | 108,939,372 | 95,137,523         |
| Barley | 2,709,933 | 2,721,912 | 2,820,301          | 74,414,463  | 67,618,232  | 72,309,982         |
| Oats   | 4,640,756 | 4,259,461 | 4,557,107          | 147,186,749 | 133,778,775 | 130,709,721        |
| Corn   | 742,775   | 770,401   | 831,641            | 11,933,293  | 17,388,076  | 16,030,432         |

The yields per acre and the weight in lb. per bushel for the same years, converted from kilogrammes per hectolitre, are as follows :

| Crops  | 1911          | 1910          | Average<br>1901-10 | 1911          | 1910          | Average<br>1901-10 |
|--------|---------------|---------------|--------------------|---------------|---------------|--------------------|
|        | bush. p. acre | bush. p. acre | bush. p. acre      | lb. per bush. | lb. per bush. | lb. per bush.      |
| Wheat  | 19.6          | 19.2          | 19.2               | 61.9          | 61.3          | 61.6               |
| Rye    | 20.9          | 21.3          | 19.8               | 57.2          | 56.0          | 56.5               |
| Barley | 27.5          | 24.9          | 25.1               | 53.2          | 51.5          | 52.4               |
| Oats   | 31.7          | 29.6          | 28.6               | 38.2          | 37.1          | 37.6               |
| Corn   | 16.0          | 22.6          | 19.3               | 58.4          | 59.7          | 59.3               |

**Hungary.** The final results of the Hungarian harvest of 1911, expressed in bushels, are reported as follows: Wheat 175,032,000 (169,702,000), rye 50,379,000 (52,336,000), barley 72,973,000 (53,630,000), oats 84,845,000 (66,543,000), corn 137,068,000 (187,732,000) and potatoes 161,588,000 (176,946,000). The figures within parentheses are those of 1910.

**Russia.** H. M. Consul at St. Petersburg (January 10) sends information supplied by the local authorities of the Ministry of the Interior to the Central Statistical Committee respecting the condition of winter crops at the beginning of the winter (December 15/28). The particulars given refer to 78 of the 91 governments of the Empire and comprise the 56 governments of European Russia proper, the 10 governments of Poland, eight governments of the Caucasus, four governments of western Siberia, two governments of the Steppe and four governments in Turkestan. Of

the remaining 13 governments practically no crops have been sown, or the information to hand was too scanty to be of use in compiling statistics. The condition of the young crops with the commencement of winter was "entirely favourable". In the great majority of the governments (65 out of 78, or 83 p. c.) the condition was "above satisfactory". In nine governments it was "satisfactory" and only in four governments (5 p. c.) "unsatisfactory". However the absence of snow and frost in many of the governments causes fear for the well-being of these crops, as they may suffer from wet and cold. In the majority of the governments comparatively little change has taken place in the crops as compared with their condition a month previously. But it must be noted that the views of the peasantry throughout are somewhat more pessimistic than the information which has been officially supplied. In this connection special notice must be taken of the governments of Taurida and Saratov where the condition of the crops as noted by the peasantry is declared to be "unfavourable" (below the average), whereas the information supplied officially up to November 15/28 describes the condition as "entirely satisfactory".

**Argentina.** H. M. Minister at Buenos Aires, reporting to the British Foreign Office on December 20, writes in part as follows: "The very unusual prevalence of torrential rains during the last weeks has had a serious effect on the optimistic forecast as to a "bumper" harvest. It appears that the original estimate of wheat for export was  $4\frac{1}{2}$  million tons, but that, owing to the rains, the amount will now probably not exceed three millions, being a loss of  $1\frac{1}{2}$  million tons. In addition to this, "smut" is largely apparent, and this will reduce the value of the wheat, to what extent I cannot yet learn. Much of the wheat-growing land has, since the destruction of the wheat, been sown with maize, and the prospects for this are excellent. The amount of maize will in all probability be much in excess of the average, and the quality is said to be most satisfactory. Linseed has suffered largely from the rains and high winds. Instead of the million tons which were expected for export, it is said that not more than six to seven hundred thousand tons will now be available,—a loss of some thirty per cent. Should the rains continue (and the outlook for fair weather is by no means good), a very serious loss will be felt by the agricultural community in the Argentine Republic. The centre and south have suffered less than the north, where the crop was more advanced. An immense quantity of agricultural implements and machinery were purchased by agriculturists throughout the country when the prospects appeared the most bright, and the difficulty of meeting payment for these, particularly consequent on the three last years of bad harvests, may cause ultimate trouble, if the sanguine hopes at first entertained are unhappily not realised. The pastoral prospects are still excellent."

A later report states: "It is significant of this country and its climate that when the forecasts for the present harvest were made, the possibility of drouth, late frost, and damage by locusts were considered, but nobody hinted at there being a danger of too much rain. This has however occurred and caused great damage to the crops, with the exception of the maize, which has benefited considerably."

**United States** The Crop Reporting Board of the U. S. Department of Agriculture reports the estimated numbers and value of farm animals on farms and ranges in the United States on January 1 1912, compared with January 1 1911, as follows:

| Farm animals       | Total number |             | Value per head |             | Total value   |               |
|--------------------|--------------|-------------|----------------|-------------|---------------|---------------|
|                    | Jan. 1 1912  | Jan. 1 1911 | Jan. 1 1912    | Jan. 1 1911 | Jan. 1 1912   | Jan. 1 1911   |
|                    | No.          | No.         | \$ c.          | \$ c.       | \$            | \$            |
| Horses .....       | 20,508,000   | 20,277,000  | 105 94         | 111 35      | 2,172,353,000 | 2,259,981,000 |
| Mules .....        | 4,362,000    | 4,323,000   | 120 50         | 125 32      | 525,600,000   | 544,359,000   |
| Milch cows .....   | 20,699,000   | 20,823,000  | 39 39          | 39 97       | 815,414,000   | 832,209,000   |
| Other cattle ..... | 37,260,000   | 39,679,000  | 21 20          | 20 54       | 790,064,000   | 815,184,000   |
| Sheep .....        | 52,352,000   | 53,633,000  | 3 46           | 3 91        | 181,170,000   | 209,535,000   |
| Swine .....        | 65,410,000   | 55,620,000  | 8 00           | 9 37        | 523,328,000   | 614,170,000   |

## INTERNATIONAL INSTITUTE OF AGRICULTURE.

The Bulletin of agricultural statistics for January 1912, with Supplement, reports on the production of cereal crops in the southern hemisphere and on the sowing of winter cereals in the northern hemisphere. It contains also supplementary notices as to the cereal harvest of 1911 in the northern hemisphere.

**CEREAL CROPS IN SOUTHERN HEMISPHERE.** The following tables show the approximate figures of area and production of wheat and oats in the southern hemisphere for the season of 1911-12, compared with 1910-11:

**I. Area and production of Wheat and Oats in 1911-12 compared with 1910-11.**

| Countries           | Area   |                             |  | Production   |                             |  |
|---------------------|--|-----------------------------|--|--|-----------------------------|--|
|                     | harvested<br>1910-11                                 | under crop 1911-12          |  | harvested<br>1910-11                                 | estimate for 1911-12        |  |
|                     |  | compared<br>with<br>1910-11 | total figures  |  | compared<br>with<br>1910-11 | total figures  |
|                     | acres<br>( <sup>1</sup> 000 <sup>1</sup><br>omitted) | p.c.                        | acres<br>( <sup>1</sup> 000 <sup>1</sup><br>omitted) | bush.<br>( <sup>1</sup> 000 <sup>1</sup><br>omitted) | p.c.                        | bush.<br>( <sup>1</sup> 000 <sup>1</sup><br>omitted) |
| <b>Wheat</b>        |  |                             |  |  |                             |  |
| Argentina .....     | 12,239   | 139.2                       | 17,043   | 136,319  | 125.1                       | 179,564  |
| Chili .....         | 2,259  | 82.0                        | 1,853  | 36,107   | 106.9                       | 38,581   |
| Australia .....     | 7,366  | 97.9                        | 7,213  | 95,112   | 79.2                        | 75,364   |
| New Zealand .....   | 322  | 67.2                        | 216  | 8,274  | 78.4                        | 6,488  |
| <b>Totals</b> ..... | <b>22,186</b>  | <b>118.7</b>                | <b>24,325</b>  | <b>275,812</b>                                       | <b>105.5</b>                | <b>290,987</b>                                       |
| <b>Oats</b> —       |  |                             |  |  |                             |  |
| Argentina .....     | 1,606  | 158.6                       | 2,548  | 34,337   | 166.7                       | 57,256   |
| New Zealand .....   | 302  | 133.7                       | 404  | 11,578   | 152.0                       | 17,597   |
| <b>Totals</b> ..... | <b>1,908</b>   | <b>154.7</b>                | <b>2,952</b>   | <b>45,915</b>  | <b>163.0</b>                | <b>74,853</b>  |

### II. Average yields per acre of Wheat and Oats in 1911-12 compared with 1910-11.

| Crops      | Argentina |         | Chili   |         | Australia |         | New Zealand |         |
|------------|-----------|---------|---------|---------|-----------|---------|-------------|---------|
|            | 1911-12   | 1910-11 | 1911-12 | 1910-11 | 1911-12   | 1910-11 | 1911-12     | 1910-11 |
|            | bush.     | bush.   | bush.   | bush.   | bush.     | bush.   | bush.       | bush.   |
| Wheat..... | 9.96      | 11.15   | 20.82   | 15.91   | 10.41     | 12.94   | 30.04       | 25.72   |
| Oats.....  | 22.57     | 21.25   |         |         |           |         | 43.56       | 38.31   |

The production of corn in Argentina is estimated at 275,577,000 bushels, as against 27,558,000 bushels last year, when a large part of the area had to be abandoned.

WINTER CEREALS, 1911-12. The following statement shows the areas sown to winter cereals during the fall and winter of 1911 up to December 31 and percentage comparisons with data of the previous year:

### III. Areas sown to Winter Cereals 1911 and percentage comparison with 1910.

| Country            | Winter wheat |                  | Winter rye |                  | Winter barley |                  |
|--------------------|--------------|------------------|------------|------------------|---------------|------------------|
|                    | area 1911    | per cent of 1910 | area 1911  | per cent of 1910 | area 1911     | per cent of 1910 |
|                    | acres        | p.c.             | acres      | p.c.             | acres         | p.c.             |
| Belgium.....       | 408,000      | 104.0            | 630,000    | 100.0            | 79,000        | 106.6            |
| Denmark.....       | 101,000      | 100.0            | 680,000    | 100.0            |               |                  |
| Spain.....         | 9,167,000    | 95.0             | 1,979,000  | 90.0             | 3,121,000     | 90.0             |
| France.....        | 15,602,000   | 112.1            | 2,775,000  | 95.9             | 401,000       | 114.1            |
| Great Britain..... |              | 106.0            |            |                  |               |                  |
| Luxemburg.....     | 27,000       | 101.6            | 26,000     | 101.7            | 91            | 112.0            |
| Switzerland.....   | 91,000       | 100.0            | 51,000     | 100.0            | 3,000         | 100.0            |
| Canada.....        | 1,098,000    | 97.1             |            |                  |               |                  |
| United States..... | 32,213,000   | 98.7             | 2,436,000  | 100.9            |               |                  |
| India.....         | 25,569,000   | 99.0             |            |                  |               |                  |
| Tunis.....         |              | 100.0            |            |                  |               | 100.0            |

<sup>1</sup> Figures refer to about 89 p.c. of the total reported wheat area of India.

In Spain the area sown to winter oats is 1,086,000 acres or 5 p.c. and in France 1,980,000 acres or 7.4 p.c. more than in 1910.

CEREAL HARVEST OF 1911 IN NORTHERN HEMISPHERE. The following are the final returns of area and production in Norway and of production in Sweden:



**IV. Area and production of Cereals in Norway in 1911 compared with 1910.**

| Crops.      | 1911    | 1910    | 1911      | 1910       | Yield per<br>cent of 1910 | 1911              | 1910              |
|-------------|---------|---------|-----------|------------|---------------------------|-------------------|-------------------|
|             | acres   | acres   | bush.     | bush.      | p. c.                     | bush.<br>per acre | bush.<br>per acre |
| Wheat.....  | 12,400  | 12,400  | 270,000   | 315,000    | 85·8                      | 21·71             | 25·43             |
| Rye.....    | 37,200  | 37,200  | 947,000   | 1,062,000  | 89·2                      | 25·49             | 28·52             |
| Barley..... | 88,750  | 88,750  | 2,682,000 | 2,973,000  | 90·2                      | 30·30             | 33·46             |
| Oats.....   | 262,600 | 262,600 | 9,593,000 | 11,267,000 | 85·1                      | 36·47             | 42·77             |

**V. Production of Cereals in Sweden 1911, compared with 1910.**

| Crops       | 1911       | 1910       | Per cent<br>of 1910 |
|-------------|------------|------------|---------------------|
|             | bush.      | bush.      | p. c.               |
| Wheat.....  | 8,235,000  | 7,524,000  | 109·4               |
| Rye.....    | 24,685,000 | 24,555,000 | 100·5               |
| Barley..... | 14,696,000 | 15,540,000 | 94·5                |
| Oats.....   | 71,493,000 | 83,495,000 | 85·6                |

## CANADIAN SEED GROWERS' ASSOCIATION.

The eighth annual convention of the Canadian Seed Growers' Association was held at Ottawa, February 8-9, under the presidency of Dr. J. W. Robertson, C.M.G. There was a good attendance of the members.

The report of the directors brought up a series of recommendations made by a committee on regulations consisting of Messrs. Eddy, Klinck and Newman. The more important of these are described in the report from the Seed Branch in the Departmental Notes (see page 12).

Reports from the district representatives of the Seed Branch were presented by Mr. S. J. Moore (Maritime provinces), Mr. J. C. Côté (Quebec), Mr. T. G. Raynor (Ontario), Mr. George Clark on behalf of Mr. F. H. Reed (Manitoba and Saskatchewan), and Mr. E. D. Eddy (Alberta). These reports gave instances of enthusiastic and successful work on the part of the members of the association, carried on in spite of the special difficulties of the season due to drouth in the east and a wet ripening period in the west.

An evening public meeting was held in the railway committee room of the House of Commons on February 8 when brief addresses were delivered by Dr. Robertson, the Hon. Martin Burrell, Canadian Minister of Agriculture, Mr. C. C. James, Deputy Minister of Agriculture for Ontario, and Mr. Rufus W. Stimson, of Boston, Mass.

The President explained that the association had been formed for the special purpose of bringing about an improvement in the crops of Canada by the general use of good seed, selected in such a way as not merely to

increase the crop but also the intelligence and capability of the farmer himself. It would be difficult, he thought, to devise any scheme with larger or more important objects. Ninety per cent of the members of the association reported that the crops grown from seed according to the rules were larger in yield and produced more vigorous plants.

The Hon. Martin Burrell, in the course of an interesting speech, expressed his cordial approval of the aims of the association and eulogised the work of the secretary (Mr. L. H. Newman), as explained in a recent address before the Standing Committee on Agriculture and Colonisation. The work of the association, so far as he understood it, was a voluntary labour of love. The greatest work in the world was done not for money but for pure love of the work itself. It was Ruskin who called attention to the fact that your fee-first man was not the best type; it was inevitable that his work should deteriorate by the quality of that thought in it. The greatest work in the world had ever been initiated and carried through by men absolutely without fee or reward of a beneficial kind, or else with a totally inadequate one when compared with its value.

Mr. C. C. James described some phases of the work of the Ontario Department of Agriculture and especially a recent development by which district representatives went personally amongst the farmers to show them how to do things. As indicating how successfully this plan was working Mr. James stated that whereas at first they went to ask the Government for money the Government now came to the Department to ascertain how many good, first class men they could furnish. Farmers were beginning to assume a new attitude towards their work. Formerly the agricultural appropriations took the form of assistance to the farmer; now it was seen that what was needed was help for the development of the greatest of the resources which the country possessed and that they were trying to help not merely one class but the people as a whole.

On Friday, February 9, Mr. Rufus W. Stimson, of Boston, special agent for agricultural education, Massachusetts, U.S.A., read a paper on "Vocational agricultural education for boys and girls." Vocational education, in the usage of Massachusetts, included, he said, all forms of specialised education the controlling purposes of which were to fit for useful occupations. The aims of vocational education were therefore to draw out and develop the vocational capabilities of the individual. In Massachusetts it met the requirements of boys and girls 14 years of age or older. It was definitely and frankly vocational and undertook to train a boy or girl for farming, for the household arts or for some trade and industrial pursuit. He quoted the report of various authorities, notably that of the Industrial Commission presided over by the late Carroll D. Wright, to the effect that from 25,000 to 40,000 boys and girls left school at 14 and between that age and 16 did not engage in any settled occupation. There was now a general movement throughout the United States for agricultural education of secondary grade, and probably there were not fewer than 500 secondary schools in which agriculture was now seriously taught. The training varied from the study of an agricultural text-book in the hands of the general teacher to the out-and-out vocational school where the teachers were specialists in agriculture. After describing the plans for agricultural education in

various States of the American Union, Mr. Stimson explained that of Massachusetts, a fundamental feature of which was known as "part-time work in agriculture." This meant that the student must spend part of the time required for his education in productive farm work preferably at home and part of his time at school, the farm work and school study being closely correlated.

The following verbatim extract from Mr. Stimson's paper will best explain how in this system practical work subserves an educational purpose:

A farming project is a thing to be done on a farm which, in the preparation for doing it and in the carrying of it out to a successful result, involves a thorough-going educational process. The improvement project of constructing a concrete walk to the front door might involve a study of the nature of cement; its action on sand, gravel and broken stone; its resistant qualities to the weather; the seasons in which it may be used; its cost as compared with other materials, such as board, plank, tar, brick, flagging and asphalt; the mathematical determination of proportions of sand, cement and stone to be used; the geometrical determination of the sections into which it should be divided, and whether it should be crowned or flat; the geographical sources of the raw material and the commercial conditions for purchasing the cement. The experimental project of planting an untried variety of fruit might involve a study of the probable adaptability of the variety selected to the soil on the farm, the climate of the locality and the market demands within reach of the farm. The productive project of growing a crop of clover might involve a study of the various varieties of clover; the comparative adaptability of those varieties to the given field on which the crop must be grown, and to the climate of the locality; the most reliable places for the purchase of seed; the best time for seeding; the best time for cutting; the best methods of curing and storing; the mathematical calculation as to the saving in cost of feeding stuffs which the crop would afford; the chemical elements it would furnish in the ration and the beneficial chemical, biological and mechanical effects on the soil in which it would be grown.

The paper concluded as follows: "Good results have already been achieved. It is believed that the Massachusetts plan of vocational agricultural training will justify itself from every reasonable point of view, and will prove to possess undeniable merit as a method of training both for farming as a definite calling and for intelligent and vigorous participation in the community life of any Commonwealth".

On the motion of the president a cordial vote of thanks was given to Mr. Stimson for his exceedingly valuable and suggestive paper, and a wish was expressed that it might be printed separately in pamphlet form for general distribution.

Other papers were read by Professor L. S. Klink on the improvement of cereal grain at Macdonald College, by Mr. G. H. Clark on the inspection of seed crops, by Mr. J. H. Grisdale on cultural conditions for seed growing, in which he showed that cultural conditions constituted an important factor in the production of high class seed apart from the pedigree of the stock itself, and by Dr. Charles Saunders on the distribution of seed produced at the Experimental Farms. Asked in the course of a discussion as to the origin of the Marquis wheat with which Mr. Scager Wheeler, a member of the association, had gained the prize of \$1,000 at New York,<sup>1</sup> Dr. Saunders replied that there was no record as to who had made the cross; but he believed that it was made by his brother, Dr. A. P. Saunders, at Brandon, in 1892. The wheat was one of the varieties selected by him (Dr. Charles Saunders) from mixed progeny of the cross at Ottawa in 1903 when taking up his present duties as Cerealist.

<sup>1</sup>See pp. 300 and 322 of the Census and Statistics Monthly for December 1911.

The report of the secretary (Mr. L. H. Newman) showed that the total number of members of the association in full standing was 164, which with 232 applicants on the list made the total number affiliated to the association to be 396.

## CANADIAN FORESTRY ASSOCIATION.

On February 7 and 8 was held at Ottawa, under the presidency of Mr. George Y. Chown, of Kingston, the thirteenth annual convention of the Canadian Forestry Association. There was a large and representative gathering of the members from all parts of Canada, and the railway committee room of the House of Commons was filled with enthusiastic audiences. Letters of regret at inability to be present were received from a number of public men especially interested in forestry conservation, including Mr. John Hendry, vice-president of the Association, Sir Edmund Walker, president of the Canadian Bank of Commerce, the Hon. Clifford Sifton, chairman of the Commission of Conservation, Mr. Henry S. Graves, U. S. forester at Washington, Dr. S. P. Matheson, Anglican Archbishop of Rupert's Land and primate of Canada, and Sir William Whyte, vice-president of the Canadian Pacific Railway.

The proceedings opened on February 7 with brief addresses by the Rt. Hon. R. L. Borden, M.P., premier, and the Rt. Hon. Sir Wilfrid Laurier, M.P., ex-premier of Canada. Mr. Borden, on behalf of the Dominion Government, welcomed the association to Ottawa and expressed his full appreciation of and sympathy with the work in which they were engaged. They should all bear in mind that a nation, like an individual, might be prodigal. So far as the forests were concerned he thought that every man who had given consideration to the subject would agree that up to the present time there had been a lack of thrift on the part of the people of Canada. Referring to the terrible destruction wrought by fire he thought that no better work could be done by the convention than that of impressing not only upon the Legislature but also upon the people at large the imperative necessity for such legislation and such concerted action by all interested in this question as would ensure that this awful destruction by fire should no longer prevail, but should be reduced as far as possible. The Government and Parliament of Canada would always be prepared to co-operate with the association most heartily.

Sir Wilfrid Laurier expressed his entire agreement with the premier as to the importance of forest conservation. They had taken, he said, a long time to realise that the forests were one of the most important assets of their country. It was true that 1,000 acres of land under tillage would support a larger population than the same area in forests; but they had also discovered it to be no less certain that there were large areas in forest that could not be profitably cultivated otherwise. He suggested that the Commission of Conservation, which was appointed some years ago, should make a survey of the whole country with the object of carefully pointing out those parts which should be made into forests and those which should be turned over to the settlers.



The President in his address on the work of the year threw out four suggestions as to directions which their future energies should take. First, he said, the forestry service of the country should be taken out of politics and the civil service rules should be extended to the forestry service as soon as possible. Secondly, they should have a proper forestry policy for the management of the forestry reserves, not only for the present production of lumber but also for their future development. Thirdly, there should be more definite work in regard to fire protection. By taking the service out of politics they would obtain a better class of men to look after the forests. The system of licenses should be remodelled, and regulations should be made to avoid the terrible fire loss and to deal with the proper disposal of slash. Fourthly, the Association should, he thought, have in its employment a trained forester, whose expert advice would be of value to them in framing a proper forestry policy.

A paper affirming that "a progressive forestry policy requires an investment of capital," prepared by Mr. H. R. MacMillan, was in Mr. MacMillan's absence through illness, read by Mr. R. H. Campbell, Dominion Superintendent of Forestry. In this paper Mr. MacMillan stated that the Riding Mountain Forest Reserve contained 982,000 acres of good forest-producing land which had been set aside for the sole purpose of producing timber. If managed as were the average state forests in Germany the reserve would produce per annum 58.5 cubic feet of timber per acre amounting to over 57,000,000 cubic feet of wood or 250,000,000 board feet of merchantable timber. This amount would be sufficient to supply in perpetuity the sawmills and pulpmills of Ottawa and Hull and still leave wood for thousands of settlers. Prussia in 1880 spent \$1.09 per acre on forest management, deriving a net revenue of 92 cents; in 1902 the expenditure was \$1.54 per acre and the net revenue \$1.66. Baden in 1880 spent \$2.17 per acre and received in net revenue \$2.38 per acre and in 1902 \$3.89 per acre, receiving in net revenue \$5.08 per acre. In Canada, however, the expenditure had yet to reach one cent per acre, although the forests were in a much worse condition than the forests of foreign countries. Having dealt also with the question of fire protection Mr. MacMillan concluded that money intelligently devoted to forestry was not spent: it was invested for revenue purposes only.

Archdeacon R. J. Renison, in charge of the Church of England Mission at Moose Factory, in a speech of force and humour, advocated the employment of the Indians as forest rangers. Having spent many years in the forest regions of the north he could appreciate the necessity for their preservation, but he spoke rather as being interested in the human equation. The present was a remarkable opportunity for getting right with the Indian whom he regarded as a great asset to the country. Familiar with all the sounds of the forest and the mysteries of the north, the Indian made an ideal forester. By employing him as fire ranger, game warden and advance agent to prepare for the tourist and settler they would be using him in his natural environment. He guaranteed that in such conditions the Indian would do ten times more work than the white man.

Dr. B. E. Fernow, Dean of the Faculty of Forestry of the University of Toronto, presented the report of the committee on forest fire legislation which, reviewing existing conditions and laying down the essentials of a

proper organisation against fire, made a series of recommendations of which one was that watch towers or look out stations should be erected in the forests. One of these every 20 miles would, it was stated, save its cost the first year by reducing the number of wardens necessary.

Dr. Archibald Blue, Chief of the Census and Statistics Office, communicated a short statement on the production of maple sugar as a bye-product of the forest. This paper is printed below.

Dr. Gifford Pinchot, president of the American Conservation Association, Washington, read a paper on the groundwork of a forest service. He advocated as principles of a successful forest service (1) absolute freedom from political control; (2) the employment of trained practical men; (3) sufficient money for carrying out the work required; and (4) federal rather than provincial administration.

Mr. E. A. Sterling, forester of the Pennsylvania Railway Co., dealt with the attitude of railway companies towards forest fires, and Mr. E. Stewart explained the aims and objects of the association. Briefly these, as put forth officially by the association, are as follows:

- (1) The exploration of the public domain, so that lands unsuitable for agriculture may be reserved for timber production.
- (2) The preservation of the forests for their influence on climate, soil and water supply.
- (3) The promotion of judicious methods in dealing with forests and woodlands.
- (4) Tree planting on the plains and on streets and highways.
- (5) Reafforestation where advisable.
- (6) The collection and dissemination of information bearing on the forestry problem in general.

Mr. John Hendry of Vancouver was elected president and Mr. W. A. Charlton, M.P., of Simcoe, Ontario, vice-president of the association for the ensuing year.

## MAPLE SUGAR AS A BYE-PRODUCT OF THE FOREST.<sup>1</sup>

The subjects which naturally take up the time of business men and statesmen at the meetings of forestry associations relate to trees and forests, to their production and conservation, and to the manufacture of timber and lumber for trade and commerce. But there are related questions, some of which may seem to be small, that in the aggregate become questions of large value, and one of these I venture to bring to the notice of this convention in a very brief paper. I refer to the production of maple sugar, which is only a bye-product and a delicacy, but which swells large when looked at in census figures and after a lapse of years.

We can look back in Canada over sixty years, and we have records for that time for the older provinces; and I ask this Association to look at some of the figures for that long period. Every ten years we take stock of the country; and in sixty years we have the data from which averages and totals may be prepared. Confining myself to maple sugar only, which is a bye-product of the forest, I find that the annual production of sixty

<sup>1</sup> Communicated to the 13th Annual Forestry Convention, Ottawa, February 7-8, 1912, by Archibald Blue, LL.D., Chief Officer, Census and Statistics Office, Ottawa.

years has reached from 10,000,000 to 25,000,000 pounds, the yearly average being about 18,500,000 pounds and the aggregate about 1,110,000,000 pounds. In the Maritime provinces the yearly output has rarely exceeded half a million pounds. But in Quebec and Ontario there are records of 25,000,000 pounds. Last year alone it was 21,000,000 pounds, reckoning syrup at its equivalent in sugar.

In round numbers the aggregate of the years 1851-61 is 135,000,000 pounds, with a share of 77,000,000 for Quebec and of 52,000,000 for Ontario. In the years 1861-71, with an aggregate of 175,000,000 pounds, Quebec's portion is estimated at 100,000,000 and Ontario's at 66,000,000. In the next decade, 1871-81, the aggregate rose to 190,000,000 pounds, with 132,000,000 for Quebec and 52,000,000 for Ontario. The ten years 1881-91 show an aggregate of 225,000,000 pounds, with 175,000,000 in Quebec and 48,000,000 in Ontario. For the fourth decade, 1891-1901, the aggregate is 212,000,000 pounds with 160,000,000 in Quebec and 48,000,000 in Ontario. Lastly, for the decade ending with the census of 1911, the aggregate production is 196,000,000 pounds, giving Quebec a portion of 143,000,000 and Ontario 50,000,000.

The average selling price of maple sugar during this period of sixty years has been about ten cents per pound, which would give a value for the whole period of more than \$110,000,000, representing the labour of a few weeks in the spring of each year when it can best be spared from service on the farm. The conservation of maple groves will therefore appeal to every forester and farmer in the country.

## BURIED TREASURE.

Under the above heading the Wall Street Journal of New York for January 31 1912 reproduced a paragraph from page 333 of the Census and Statistics Monthly for December last, wherein was given Mr. Grisdale's statement that on the basis of the estimates issued by this Office the yields in Canada, if equal to those of the Experimental Farm at Ottawa, would amount in value to \$1,456,000,000 instead of \$507,000,000, with a profit of \$1,038,840,000 or five times more than at present. The article then proceeded as follows:

If this is true of Canada it should apply to the United States. The most eminent authorities have repeatedly declared that our yields per acre could be easily doubled. Suppose the 477,000,000 acres of improved farm land in the United States were given such cultivation as is bestowed upon the Experimental Farm at Ottawa? The total value of all farm products in 1911, as estimated by the Secretary of Agriculture, was \$8,417,000,000, and the crops alone were valued at \$5,504,000,000. Treble this amount and increase the purchasing power of the farmers five times. The benefit to general business would be almost incalculable.

A remedy for business depression and the high cost of living lies dormant in the soil; but to awaken it the farmer needs to know more of seed, soil and fertility. We spend huge sums on investigating committees, with political ends in view, and stint the means for disseminating just such knowledge. Improved machinery is absolutely necessary; but we try to put out of business the large concerns engaged in supplying it. Abundance of fertiliser is essential; but would capital combine to undertake the task of converting the great kelp beds of the west coast into potash at the risk of being adjudged criminal?

Another real need is credit, because in most instances the farmer is not able to

finance such cultural methods as are bestowed on experimental farms like the one at Ottawa, even though he knows his yield and income would be greatly increased thereby. The nature of his business is not fitted for call loans or short-time paper. The people of France have worked out a system of agricultural credit that has contributed in large measure to the prosperity of that country. Similar systems are in use in Hungary and Germany.

It may be that the same system would not be feasible here; but with such a reward in sight Congress might turn its inquiries, for once, in a profitable direction.

The above comments are reprinted as being of some interest to Canadian readers; but it will be understood that the *Census Monthly* is neutral as regards their political bias.

## A NEW TEXT-BOOK OF AGRICULTURE<sup>1</sup>

Agricultural education in Great Britain owes the origin of its modern development to the Local Taxation (Customs and Excise) Act 1890 by which considerable sums of the Imperial Exchequer were placed at the disposal of local authorities for the promotion of technical including agricultural instruction.<sup>2</sup> Upon the passing of this act there arose at once a demand for agricultural teachers and text-books, and it was to meet this demand that the Royal Agricultural Society brought out in 1892 a small but comprehensive book entitled "Elements of Agriculture". The work was edited by the late Dr. W. Fream, well-known on this side for his excellent and exhaustive reports on Canadian Agriculture published in 1885, and the proof sheets were revised by leading English practical and scientific experts. Meeting with immediate success (three editions were exhausted within a few months of first publication) the work has run through seven editions of a total impression of 30,000 copies.

During the last ten years progress in agricultural science has been so great that the original work failed to meet present-day requirements. It has therefore been thoroughly revised and in great part re-written by Prof. J. R. Ainsworth-Davis, M.A., principal of the Royal Agricultural College at Cirencester, with the assistance as before of leading experts in different branches of agriculture. The result of these combined labours is the eighth edition as described in the foot note to the title.

Division of the work into three parts treating of the soil, the plant and the animal is retained, with also much of Dr. Fream's original work; but as

<sup>1</sup> Elements of Agriculture, a text-book prepared under the authority of the Royal Agricultural Society of England. By the late W. Fream, LL.D. Eighth edition by Prof. J. R. Ainsworth-Davis, M.A., cr. 8vo., 692 pp., 18 plates, 270 illustrations. London, John Murray, 1911. Price 5s net.

<sup>2</sup> The manner in which this money was voted is an illustration of the apparently haphazard yet practical methods that sometimes characterise English legislation. Upon a sultry afternoon towards the close of the parliamentary session of 1890, when the estimates were under discussion in Committee of Ways and Means, the Chancellor of the Exchequer (Mr. Goschen) announced a surplus arising from beer, wine and spirit duties, as to the disposal of which he was at the moment uncertain. Some one, apparently half in jest, threw across the floor of the House the suggestion, "Why not give it to the county councils for education?" This suggestion of educating the nation at the expense of its follies tickled the House; nevertheless it was promptly acted upon, and within ten minutes large sums of money were voted for distribution amongst the county councils with the recommendation that the grants should be used for the promotion of technical instruction. From this action dates the movement that has gradually provided Great Britain with its admirable and still-expanding system of agricultural education and research.



the earlier editions did not exceed 482 pages it is apparent how much new matter has been added by the increase of size to nearly 700 pages.

As illustrating the additions rendered necessary by recent discoveries it may be stated that the new book in the domain of science includes references to Hall's soil researches, the principles of Mendelism as applied to plant and animal breeding,<sup>1</sup> the nature of calcium cyanamide and calcium nitrate,—nitrogenous fertilisers in which the nitrogen has been obtained from the air by electrical process,—and various newly-discovered bacterial diseases such as those causing the American Gooseberry mildew (*Sphaerotheca mors-ueae*) and the Black Scab of potatoes (*Chrysophlyctis endobiotica*). A chapter on harmful and beneficial animals is also a useful additional feature; it includes some account of protozoan blood parasites causing such diseases as sleeping sickness and malarial fevers in man and dourine, Texas fever and louping-ill in domestic animals.

Under practical agriculture, besides enlargement of previously existing sections, are additional chapters devoted to hardy fruit culture and poultry, features entirely absent from the original work. The dairying section is expanded to correspond with modern progress, and the additions embrace such points as the cost of keeping a dairy cow, milking records, sanitation, the use of starters and pasteurisation. Cheese-making is described in greater detail, and the manufacture of soft and French cheeses is a new feature.

Through this recent revision the work has lost somewhat of its character as being restricted to principles, but the greater attention bestowed upon practical detail rather adds to than detracts from its value. The principles explained are however of universal application, and a perusal and study of the work may therefore be confidently recommended to agricultural teachers and students as well as to practical farmers throughout Canada. Settlers on the new lands, so many of whom have had little or no previous acquaintance with farming, should find it of special value.

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<sup>1</sup> It is stated that Prof. Biffen, of the Cambridge University Agricultural Department, working on Mendelian lines, has succeeded in establishing new varieties of wheat, one of which combines the vigour of English wheat with the immunity from rust of American Club wheat, while a second unites the former quality with the power of producing 'strong' flour possessed by Canadian Red Fife. The recently issued Report for 1910-11 of the Board of Agriculture and Fisheries on the distribution of grants for agricultural education and research [Cd. 6,025], mentions that several of Prof. Biffen's new wheats have been placed on the market, two of the most successful being "Little Joss" and "Burgoyne's Fife", the former being distinguished by immunity to Yellow Rust and the latter being a 'strong' wheat of the Fife type, but, unlike Canadian Fife, giving a yield up to the average of British types.

**Wages of Agricultural Labourers in France.** A British consular report from Rouen states that the wages of agricultural labourers at Quimper in the northwest of France are 2 francs (39 c.) daily in winter and 2½ francs (49 c.) daily in summer without food. The wages of domestic servants are 400 francs (£77) per annum.

## THE WEATHER DURING JANUARY.

The Dominion Meteorological Service reports that a prolonged cold period, lasting practically the whole month, marked the weather of January throughout Canada, and the resultant mean temperature was much below average in most districts, the month being in many places the coldest on record for years. Negative departures from normal were generally more than 9° from Saskatchewan to western Quebec, and from 4° to 6° in the Maritime provinces. In Alberta the average temperature was not reached by from 1° to 4°, while in Vancouver Island the normal was closely approached, but elsewhere in British Columbia the difference was fairly large. Precipitation exceeded the average in central British Columbia and Alberta, also in the highlands of Ontario, and very generally throughout Quebec and eastern Nova Scotia; elsewhere in Canada it was deficient and to a pronounced extent in Saskatchewan and Manitoba.

## COLONIAL AND FOREIGN PRODUCE IN BRITISH MARKETS.

**Wheat, etc.** On January 1 the following prices were quoted at Mark Lane per quarter of 496 lb.: Manitoba No. 1 41s 6d-42s, No. 2 40s-41s, No. 3 38s-39s, No. 4 37s-38s, No. 5 35s-36s, No. 6 33s-34s, feed 29s-30s, red winter 36s-37s, Australian 38s-38s 3d, New Zealand 35s-36s, Russian finest 38s-39s, good 36s-37s, com. 34s-35s, Californian 37s-38s, Blue Stem 37s-38s, white Walla 36s-37s, red Walla 36s-36s 6d, white Bombay 36s-37s, white Calcutta 35s 6d-36s 3d, white Karachi 35s-36s, red Karachi 35s-36s. Buckwheat, per 416 lb. Canadian 31s-33s, Russian 27s-29s, Oats per 320 lb., New Zealand 22s 9d-23s 9d, Canadian 20s-20s 6d, Finland 20s 3d-20s 9d, Prussia 20s 3d 21s 3d.

**Flour.** On January 1 the prices at Mark Lane for imported flour per sack of 280 lb. were: Hungarian 38s 39s, Pillsbury's Best 30s-30s 6d, Iron Duke 24s-24s 6d, American finest 31s-31s 6d, 1st pat. 30s-30s 3d, 2nd pat. 28s 3d-28s 9d, 1st bak. 23s 3d-23s 9d, 2nd bak. 22s 3d-22s 9d, low grade 20s 3d-21s 3d, Manitoba pat. 29s 9d-30s, straights 26s 9d-27s, Kansas best 28s-28s 6d, firsts 27s-27s 3d, seconds 26s-26s 6d, Californian 29s-30s, Argentine pat. 26s-27s, bak. 22s-23s, Australian 25s-25s 6d, French fancy 31s-32s, superior 26s-27s, excelsior 24s-25s, Belgian 30s-31s, Galatz 33s-35s.

**Fresh Meats.** The average monthly prices in December, as published by the Board of Agriculture, were per 112 lb.: Canadian and U.S.A. port-killed, London 59s 6d and 55s 6d; Liverpool 55s and 51s 6d; Argentine frozen hind quarters, London, Birmingham and Edinburgh 34s 6d; Liverpool and Manchester 35s; Glasgow 35s 6d; fore quarters, London 26s;

Birmingham, Liverpool, Manchester and Glasgow 25s 6d ; Edinburgh 24s 6d ; Argentine chilled hind quarters, London 46s ; Birmingham 44s 6d ; Liverpool 39s ; Manchester 39s 6d ; Edinburgh 44s ; Glasgow 43s 6d ; fore quarters, London and Edinburgh 29s 6d ; Birmingham 27s 6d ; Liverpool 25s 6d ; Manchester 26s ; Glasgow 30s 6d ; Australian frozen hind quarters, London 34s 6d ; Birmingham and Manchester 33s ; Liverpool and Glasgow 32s 6d ; fore quarters, London 26s ; Birmingham 25s 6d ; Liverpool, Manchester and Glasgow 23s 6d. For the week ended December 28 the prices were : Canadian and U.S.A. port-killed, London 59s 6d and 56s ; Leeds 54s 10d ; Liverpool 56s and 51s 4d ; Glasgow 58s 4d and 53s 8d ; Argentine chilled hind quarters, London 45s 6d ; Birmingham and Edinburgh 42s ; Leeds, Liverpool and Manchester 39s 8d ; Glasgow 46s 8d ; Australian frozen hind quarters, London 35s ; Birmingham, Liverpool, Manchester and Glasgow 32s 8d.

**Bacon and Hams.** The average prices in December for Canadian bacon per 112 lb. were : London 52s and 48s ; Bristol 51s 6d and 49s ; Liverpool 50s and 47s ; Glasgow 51s and 49s. For the week ended December 28 the prices were : Canadian sides, London 51s and 47s ; Bristol 51s and 48s ; Liverpool 49s and 45s ; Glasgow 50s and 48s ; Canadian Cumberland cuts, Liverpool 49s and 44s ; Glasgow 46s ; Danish sides, London 54s and 52s ; Bristol 55s and 53s ; Liverpool 52s and 50s. Canadian long cut green hams, London 66s and 63s ; Bristol 64s and 60s ; Liverpool 61s and 56s ; Glasgow 56s and 54s. American long cut green hams, London 58s and 55s ; Bristol 56s and 53s ; Liverpool 55s 6d and 51s ; Glasgow 53s ; American short cut green hams, London 56s and 53s ; Bristol 55s and 52s ; Liverpool 55s 6d and 52s ; Glasgow 56s.

**Cheese.** The average prices in December for Canadian cheese per 112 lb. were : London 71s 6d and 70s ; Bristol 71s and 69s 6d ; Liverpool 71s and 69s ; Glasgow 70s. For the week ended December 28 the prices of Canadian cheese were : London and Bristol 72s and 70s ; Liverpool 72s and 70s 6d ; Glasgow 70s. New Zealand cheese, London 69s and 68s ; Glasgow 71s.

**Butter.** For December the prices for Canadian butter were : Bristol 129s 6d and 125s 6d ; Liverpool 125s and 122s ; Australian, London 128s and 125s 6d ; Bristol 131s 6d and 128s ; Liverpool 130s and 127s ; Glasgow 129s and 126s ; New Zealand, London 133s 6d and 129s 6d ; Bristol 134s 6d and 132s ; Liverpool 133s and 131s ; Glasgow 133s and 132s ; Argentine, London 127s 6d and 125s ; Bristol 130s and 128s ; Liverpool 129s 6d and 127s 6d ; Glasgow 130s. For the week ended December 28 the prices of butter were : New Zealand, London 132s and 128s ; Bristol 134s and 130s ; Liverpool 132s and 130s ; Glasgow 134s and 132s ; Australian, London 126s and 124s ; Bristol 130s and 126s ; Liverpool 128s and 125s ; Glasgow 128s and 126s ; Argentine, London 124s and 122s ; Bristol 130s and 128s ; Liverpool 128s and 126s.

## AREA AND POPULATION OF CANADA.

The Census Report, issued under date of January 25, shows the area of Canada in land and water to be 3,729,665 square miles and the population on June 1 1911 to be 7,204,527. The area of Alberta in square miles was 255,285, of British Columbia 355,855, of Manitoba 73,732, of New Brunswick 27,985, of Nova Scotia 21,428, of Ontario 260,862, of Prince Edward Island 2,184, of Quebec 351,873, of Saskatchewan 251,700, of Yukon 207,076 and of the Northwest Territories 1,921,685.

The population of Alberta was 374,663, being an increase in ten years of 301,641 or 413.08 p.c.; of British Columbia 392,480, an increase of 213,823 or 119.68 p.c.; of Manitoba 455,614, an increase of 200,403 or 78.52 p.c.; of New Brunswick 351,889, an increase of 20,769 or 6.27 p.c.; of Nova Scotia 492,338, an increase of 32,764 or 7.13 p.c.; of Ontario 2,523,208, an increase of 340,261 or 15.58 p.c.; of Prince Edward Island 93,728, a decrease of 9,531 or 9.23 p.c.; of Quebec 2,002,712, an increase of 353,814 or 21.46 p.c.; of Saskatchewan 492,432, an increase of 401,153 or 439.48 p.c.; of Yukon 8,512, a decrease of 18,707 or 68.73 p.c.; and of the Northwest Territories 16,951, a decrease of 3,178 or 15.79 p.c. The population of the whole of Canada was 7,204,527, an increase of 1,833,212 or 34.13 p.c. No part of this population is an estimate, but is the result of an actual count by person and number.

The field work of the Census of 1891 was completed in sixteen months, of the Census of 1901 in eleven months, and of the Census of 1911 in seven months and eleven days.

**American Year Book 1911.** This is the second annual volume. It consists of 848 octavo pages, and is edited by Mr. Francis G. Wickware, B.A., B.Sc., under the direction of a supervisory board representing national learned societies. As stated in the preface the work is intended as a handbook for busy men, editors, contributors, professional men, teachers, scientific workers, engineers, practical and business men who wish to verify or confirm points that arise in their minds; and to serve as a handy body of reference-material settling questions of fact. The work is divided into 37 chapters dealing with comparative statistics, history and politics, government, economic and social questions, public works and national defence, industries and occupations, science and engineering, the humanities, etc. Naturally the subjects dealt with concern principally the United States, but many of them are of general interest. In view of the closeness of the ties between Canada and the United States and the frequent need in Canada for economic and statistical information relating to our southern neighbours, the work should prove of special value to Canadian publicists. It is issued by Messrs. D. Appleton & Co. of New York.



# CENSUS AND STATISTICS MONTHLY

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PUBLISHED BY AUTHORITY OF HONOURABLE MARTIN BURRELL, MINISTER OF AGRICULTURE. CORRESPONDENCE RELATING TO THE CENSUS AND STATISTICS MONTHLY SHOULD BE ADDRESSED TO ARCHIBALD BLUE, CHIEF OFFICER OF THE CENSUS AND STATISTICS OFFICE, DEPARTMENT OF AGRICULTURE, OTTAWA, CANADA.

## SCHEME OF CROP-REPORTING FOR 1912.

**March.** Farm products on hand or needed for home use. Condition of live stock.

**April.** Areas winter killed of fall wheat, hay and clover. Condition of the growing crops of fall wheat and of hay and clover. Progress of seeding operations (spring wheat, oats and barley). Condition of live stock.

**May.** Acreage compared with last year of spring wheat, oats, barley, rye, peas, mixed grains, hay and clover, alfalfa and pastures. Condition of these crops and also of fall wheat.

**June.** Condition of fall wheat, spring wheat, oats, barley, rye, peas, mixed grains, hay and clover, alfalfa and pastures. Areas of late-sown cereals and hoed crops, including buckwheat, flax, corn for husking, beans, potatoes, turnips, sugar beets, mangolds, carrots, etc., corn for fodder, green forage and tobacco. Numbers and condition of live stock.

**July.** Preliminary estimate of the yield per acre of fall wheat, hay and clover and alfalfa. Condition of spring wheat, oats, barley, rye, spelt, peas, beans, buckwheat, mixed grains, flax, corn for husking, potatoes, turnips, mangolds, carrots, etc., hay and clover, alfalfa, corn for fodder, sugar beets, tobacco and pasture.

**August.** Estimate of the yield per acre of spring wheat, rye, oats, barley and flax. Estimate of areas sown to these cereals that from any cause will not produce a crop. Condition of spring wheat, oats, barley, rye, spelt, peas, beans, buckwheat, mixed grains, flax, corn for husking, potatoes, turnips, mangolds, carrots, etc., hay and clover, alfalfa, corn for fodder, sugar beets, tobacco and pasture. Condition of live stock.

**September.** Estimate of the yield per acre of fall wheat, spring wheat, oats, barley, rye, spelt, peas, beans, buckwheat, mixed grains, flax, corn for husking and tobacco. Quality of these crops when harvested. Percentage of areas under these crops destroyed from any cause. Condition of potatoes, turnips, mangolds, carrots, etc., sugar beets, corn for fodder and alfalfa.

**October.** Yield per acre, quality and average price of potatoes, sugar beets, turnips, corn for husking, other roots (mangolds, carrots, etc.), hay and clover, fodder corn and alfalfa. Acreage sown to fall wheat. Condition of fall wheat. Per cent of fall ploughing completed. Acreage summer fallowed in percentage of previous year.

**November.** Per cent number and condition of live stock. Winter supplies for farm live stock.

**December.** Final estimates of yields per acre based upon reports of threshing results. Average market prices and weight per measured bushel of cereals. Yield per acre and price of clover, alsike and alfalfa seed.

## DEPARTMENTAL NOTES.

**Experimental Farms and Stations.** At the Central Farm, Ottawa, the weather records for February are very similar to those of the corresponding period of 1911—the highest reading of the thermometer being 35.4, the lowest -24, and the mean temperature 12.04, while in February 1911 the extremes were 38.7 and -17 and the mean 12.34. The precipitation of the month amounts to 3.04 inches, consisting of 0.07 of an inch of rain and 29.75 inches of snow, compared with a total of 2.82 inches for the previous February, made up of 0.2 of an inch of rain and 26.25 inches of snow. The bright sunshine recorded during the month averages 4.86 hours a day as against 4.04 hours daily for this period of last year.

In accordance with the wishes of the Minister of Agriculture, the Superintendents of the different Branch Experimental Farms and Stations were invited to come to Ottawa and attend the Live Stock, Fruit, Seed and Forestry Conventions held in the capital during the early part of February. The presence in the city of these Superintendents enabled them not only to attend the important gatherings referred to, but also afforded opportunity for them to meet the head of the Department and consult with the Director and the Chiefs of Divisions at the Central Farm, and their visit is likely to have beneficial results in connection with the work under their charge.

J. A. Clark, Superintendent of the Station at Charlottetown, P.E.I., reports: "During February several big snow storms have been experienced, and consequently the precipitation has been heavy, consisting of 50 inches of snow and over half an inch of rain. The second and third weeks were very cold, the thermometer dropping to -16 on the 11th, which is the lowest point it has reached here for some years. Towards the close of the month the weather moderated and snow fell almost daily. About two feet of snow lie on the level. A considerable quantity of sand has been hauled for building and other purposes. The stock have wintered well and made rapid gains in weight."

Robert Robertson, Superintendent of the Farm at Nappan, N.S., reports: "With the exception of the closing days of the month, when the thermometer rose to 45 and the weather became somewhat broken, February has been very cold, the lowest reading being 18 below zero on the 12th, the mercury falling below zero every week for the first three weeks. The precipitation has been rather less than usual. A light snowfall on the 5th was followed by fine weather until the 17th, when six inches more of snow fell. Work on the Experimental Farm has consisted of the usual routine, such as the drawing of manure, hay, straw and ice, and the caring for stock. The steers being fed are doing as well as usual, with an average gain of about 1.75 lb. per day."

G. A. Langelier, Superintendent of the Station at Cap Rouge, Que., reports: "February has not been so cold as was January, though the thermometer went down to from 6 to 19 below zero from the 9th to the 15th. Although only 21.5 inches of snow fell during the month, the strong easterly and westerly winds piled it up as high as twelve feet in three or

four places near the buildings at the Experimental Station. Water is very scarce in this locality and for the Experimental Station and in many other instances it has to be hauled from the river, a distance of about a mile and a half. The piece of land on which the timber was being cut is now ready to be stumped, as all the fuel was taken away from it. During the month the men at this Station hauled about 150 tons of manure, fanned oats and worked on the roads, in addition to caring for the stock. A double road, about a mile and a quarter long, has been kept open from the railway station to the north end of the middle of the farm, by using a special snow plough and a big roller."

W. C. McKillican, Superintendent of the Farm at Brandon, Man., reports: "February on the whole has been calm and mild, there being a marked absence of wind and snow storms, although during the latter half of the month a great deal of flying snow has been in evidence, which however consisted merely of intermittent flurries. Sleighing, except in protected places, has not been very good. During one part of the month there were a considerable number of bare spots on the ground, that is, in addition to the roads. The work on the Experimental Farm has consisted of the usual nature for winter, including the hauling of feed, the hauling of ice for the ice-house, cutting feed, crushing feed, the cleaning of seed grain, etc. These operations have been carried on under very advantageous conditions as regards weather, while the general mildness of the temperature should have a beneficial effect on the outside 'feeders' at the Farm."

Angus Mackay, Superintendent of the Farm at Indian Head, Sask., reports: "The weather during the first ten days of February was quite cold, with occasional winds. This was followed by a comparatively mild spell, which continued up to the 20th, when it again became cold. Very little snow fell during the month and sleighing was so poor at all times as to interfere with the marketing of farm products. The work done at the Experimental Farm during the month consisted chiefly in caring for the stock, drawing straw and manure, cleaning and hand-picking seed grain and the clearing away of rubbish from where the buildings recently destroyed by fire previously stood."

Wm. A. Munro, Superintendent of the Station at Rosthern, Sask., reports: "The weather during February has been much milder than was that of January. The whole winter so far has been characterised by very little snow and yet enough for good sleighing. As a consequence farmers at a considerable distance have been able to market their grain much more easily than in average years. Not much manual labour has been done at the Experimental Station, except that involved in caring for the stock. The horses and cattle are coming through the winter in good condition."

R. E. Everest, Superintendent of the Station at Scott, Sask., reports: "The month of February has been remarkable for fine and pleasant winter weather. In the district steps have been taken towards securing seed grain for the coming season. Work at the Experimental Station has consisted chiefly of caring for the stock and the making of stakes for cultural experiment plots."

G. H. Hutton, Superintendent of the Station at Lacombe, Alta., reports: "The weather during February has been fine, with a mean temperature for the month of 19.55. There has been very little snow and at the present time the roads are in good condition for wheeled vehicles. Live stock throughout the district is coming through the winter in good condition, while cattle on feed outside are making satisfactory gains. The average gain for the steers on feed here for February has been 56 lb., making a total gain for the past four months of 235 lb. Prices for all classes of live stock continue good."

W. H. Fairfield, Superintendent of the Station at Lethbridge, Alta., reports: "The weather during February has been particularly mild, and only on the last three days of the month did the mercury go down to zero or below. The mean temperature is 28.07 as compared with 15.81 for the corresponding period of last year. The ground has been bare of snow for the greater portion of the month. The lambs in the feeding test have been making good gains. They are being fed in open corrals and have the run of sheds which are almost entirely open on one side."

P. H. Moore, Superintendent of the Experimental Farm at Agassiz, B.C., reports: "The weather during February has been almost continuously mild. A fine spell was experienced at the beginning of the month and also at the end of it, during which good progress was made with ploughing and other outside operations; but the intervening weeks were dull and very wet and more attention was naturally devoted to inside work. Considerable fixing up around the grounds as well as work on the buildings has been done. Clover has made a start and gives promise of an excellent stand. All lines of stock on the Experimental Farm are doing well."

The records of temperature, precipitation and sunshine at the several Experimental Farms and Stations for the month of February are given in the following table:

**Meteorological Record for February.**

| Experimental Farm<br>or Station at— | Degrees of temperature, F. |        |       | Precipitation<br>in<br>inches | Hours of sunshine |        |
|-------------------------------------|----------------------------|--------|-------|-------------------------------|-------------------|--------|
|                                     | highest                    | lowest | mean  |                               | possible          | actual |
| Ottawa, Ont. ....                   | 35.4                       | -24.0  | 12.04 | 3.04                          | 303               | 141.2  |
| Charlottetown, P.E.I. .             | 42.5                       | -16.0  | 17.38 | 5.58                          | 300               | 118.1  |
| Napan, N.S. ....                    | 45.0                       | -18.0  | 18.22 | 1.76                          | 303               | 1      |
| Cap Rouge, Que. ....                | 35.0                       | -19.3  | 9.00  | 2.15                          | 298               | 63.3   |
| Brandon, Man. ....                  | 34.6                       | -27.7  | 4.60  | .30                           | 201               | 89.1   |
| Indian Head, Sask. ....             | 35.0                       | -26.0  | 7.41  | .15                           | 293               | 101.9  |
| Rosthern, Sask. ....                | 39.3                       | -27.8  | 5.50  | .30                           | 285               | 115.7  |
| Scott, Sask. ....                   | 36.5                       | -30.3  | 6.28  | .08                           | 287               | 97.3   |
| Lacombe, Alta. ....                 | 46.8                       | -23.5  | 19.55 | .20                           | 289               | 119.3  |
| Lethbridge, Alta. ....              | 49.2                       | -23.5  | 28.07 | .40                           | 294               | 140.6  |
| Agassiz, B.C. ....                  | 54.0                       | 28.0   | 41.84 | 10.61                         | 295               | 70.9   |

<sup>1</sup> Not available.

NOTE. In last month's issue incorrect figures were inadvertently published for the Station at Cap Rouge. They should read as follows: Highest temperature 34, lowest -24.2, mean 1.94. Total precipitation 3.75 in. Hours of sunshine 79.

J. H. GRISDALE, Director Experimental Farms.

Ottawa, March 14.



**Dairy and Cold Storage Branch.** The dairy record centres established last year in connection with the cow testing movement have been so satisfactory that the Minister has approved of considerable expansion along this line. New centres are being organised in Champlain and Stunstead counties, Quebec, and in Stormont, Leeds, Hastings and Perth counties, Ontario. Seven new men have been added to the cow testing staff during the past month.

Tenders have been asked for for the erection of the new dairy station at Finch. The plans provide for a combined cheese factory and creamery of such construction as will permit of its being used during the winter months.

The export season for Canadian cheese of the crop of 1911 is now drawing to a close and the new make will soon be in evidence. From May 1 1911 to March 6 1912 1,958,350 boxes of Canadian cheese have been exported from the ports of Montreal, Quebec, St. John and Portland, compared with 2,068,830 boxes in the same period in 1910-11, a decrease of 110,480 boxes. The shipments of butter through the above ports amounted to 136,272 packages in 1911-12 compared with 27,884 packages for the corresponding time last year, an increase of 108,388 packages.

Owing to the small stock of home-made cheese in Great Britain there is a good demand for Canadian and New Zealand products and the market is firm. At this writing the butter market in the old country is somewhat affected by the miners' strike, but prices are high. Owing to drouth it is anticipated that the export season in Australia will close earlier than usual. During the past few months the price of butter has been high throughout the world due to the hot and dry weather experienced last summer in all the principal butter-producing countries. To illustrate the uniformly high prices that have prevailed in the leading markets of the world the following wholesale quotations for best quality of butter per pound on January 26 1912, as reported by Messrs. Weddel & Co. Ltd., London, are given: London 29c, Copenhagen 28c, Stockholm 28c, Siberia 30c, Paris 36½c, Berlin 30c, Brussels 30c, Amsterdam 29c, Milan 26c, Vienna 30c, Australia 28c, New York 38c, Montreal 33c.

The total production of apples in Nova Scotia last year was variously estimated at from one million to one million and a half barrels, and that the larger estimate was not very far wide of the mark is shown by the fact that the total quantity shipped out of the province to date is approximately 1,300,000 barrels, and shipping is proceeding steadily each week. In view of this record crop—twice as big as in any previous year—growers, shippers and transportation companies are to be congratulated on the manner in which the fruit was handled and distributed among the various markets in Canada and abroad, including Ontario, Quebec, and the Northwest, United States, Great Britain, Germany, the Netherlands, South Africa, Newfoundland and the West Indies.

The following persons have been convicted for illegal marking and packing of fruit since January 3 last:

J. L. Denike, Prinyer, Ont.  
M. Storms, Cressy, Ont.  
J. N. Dalmas, Wooler, Ont.  
G. W. DeWolf, Three Mile Plain, N.S.

M. L. Warner, Kingston, N.S.  
Kingston Fruit Co. Ltd., Kingston, N.S.  
A. L. Outhit, Kingston, N.S.  
W. W. Pineo, Waterville, N.S.

G. C. DeWolf, New Minas, N.S.

J. Sexton, Falmouth, N.S.

Howard Bligh & Son, Sheffield Mills, N.S.

R. J. Graham, Windsor, N.S.

R. A. Jodrey, Gaspereaux, N.S.

W. C. Hamilton, Grand Pré, N.S.

R. E. Harris, Wolfville, N.S.

R. E. Harris & Son, Wolfville, N.S.

Guen Wo & Co., Vancouver, B.C.

There promises to be considerable activity in cold storage building this spring. Contracts have been entered into for the payment of subsidies on warehouses at Edmonton, Alta., Saskatoon and Moose Jaw, Sask., Halifax, N.S., and Joliette, Que., and applications have been received from Pacific B.C., (Queen Charlotte Islands), Brandon, Man., Brantford, Ont. and Chatham, Ont.

The large cold storage warehouse at Prince Rupert will be finished in May or June.

J. A. RUDDICK, Dairy and Cold Storage Commissioner.  
Ottawa, March 13.

**Seed Branch.** There is a shortage of good seed of various kinds this season and seed dealers and farmers are likely to experience considerable difficulty in securing supplies to meet the requirements. In western Ontario and parts of the Maritime provinces, especially Prince Edward Island and some districts of Nova Scotia, the oat crop was badly injured by drouth last season, with the result that the seed supply will be short in many districts which ordinarily have seed for outside points. Some farmers in Queens Co., P.E.I., are buying their seed oats, and the general supply on the island is very much below normal. Seed oats are being brought from the prairie provinces for some districts in western Ontario. The supply of good seed oats in western Canada was greatly reduced by the widespread frost injury last fall, and practically all that is available is required for distribution in the badly injured districts of the west, although there has been a considerable amount of oats, specially selected and cleaned for seed, shipped to the eastern provinces. With wheat and barley there will be less difficulty in securing plenty of good seed.

The short crop of clover and timothy seed on the American continent has resulted in a serious scarcity of good seed and very high prices with many unusual features of the trade. Usually Canada exports large quantities of red clover seed to England, but this year trade is the other way and considerable quantities of English red clover seed are being sold in Canada. The poor crop of timothy seed in the large timothy seed producing areas contributory to Chicago, following the poor crop of 1910, resulted in a serious shortage of timothy seed and very high prices. Many farmers are threshing their own seed. In eastern Ontario and Quebec, where the hay is cut late, a large proportion of the crop which was originally intended for hay only is being threshed for seed. Much of the seed secured in this way is of very good quality when well cleaned, but often the farmers do not get full value for it as their fanning mills are not properly equipped for cleaning the small seed. When seed has to be sold to a wholesaler for re-cleaning, a considerably lower price is obtained than could be secured if it were cleaned on the farm and sold direct to another farmer for seeding or to a retailer who could sell it without re-cleaning it.

The poor crop of clover seed made it very difficult for seedsmen to secure Canadian grown supplies that will grade No. 1 under the Seed Control Act. With a poor crop the weed seed content is usually larger and this greatly increases the difficulty of securing the uniform bulking of seed. With the lower grades, especially No. 3, seed is likely to vary considerably in weed seed content, even when the bulking is fairly well done; so that there is danger of getting different grades on tests of a bulk lot that is near the line. But in spite of the serious handicap of the poor crop to work with, most of the seedsmen have succeeded well in securing seed of good quality that is properly graded according to the requirements of the Act. The seed inspection staff has been considerably increased and the reports received indicate that while the retail dealers in the seed producing areas have not all observed the grading regulations, there is very little seed being offered that is below the standard for No. 3 and a large proportion of it is No. 2 and No. 1. A few instances have been found where farmers are selling seed to their neighbours that is below the standard for No. 3.

Owing to the scarcity of Mammoth red clover seed there is a strong temptation for dealers to substitute common red clover when the genuine article cannot be obtained. Some cases have been found where this practice is suspected and means are being taken to determine the genuineness of stock by growing tests. Seed that is offered as Mammoth red clover that is not quoted \$1.50 or \$2 higher per bushel than common red is subject to suspicion.

Through instructions from the Minister of Agriculture, at the request of the Minister of the Interior, the Seed Branch staff has assumed responsibility for inspecting all seed grain purchased by the Immigration Branch of the Department of the Interior for distribution to homesteaders. Since February 25th, when these instructions were received by the Seed Branch representative for the prairie provinces, all grain purchased by the Immigration Branch for seed has been subject to inspection and approval by the Seed Branch officer. This has added greatly to the work in western Canada, but inspection of the trade is being carried on.

During February work in the seed laboratories has been very heavy. In the Calgary laboratory 3,262 samples have been received, practically all for germination test, compared with 218 samples for February 1911. At the Ottawa seed laboratory 1,993 samples were tested during February, compared with 885 during the same month of 1911. The samples tested and graded under the Seed Control Act were as follows: Red clover, total 520: Grade No. 1, 57; No. 2, 183; No. 3, 202; Rejected, 78. Alsike, total 232: Grade No. 1, 10; No. 2, 72; No. 3, 83; Rejected, 67. Timothy, total, 476: Grade Extra No. 1, 2; No. 1, 69; No. 2, 105; No. 3, 142; Rejected, 158. Alfalfa, total 60: Grade Extra No. 1, 1; No. 1, 10; No. 2, 26; No. 3, 19; Rejected, 4. Most of the timothy samples rejected contained a large proportion of cinquefoil, wormseed mustard or other very small seeds which could easily be removed by cleaning.

GEO. H. CLARK, Seed Commissioner.

Ottawa, March 15.

## CROP REPORTS FROM OTHER COUNTRIES.

**New South Wales.** The Government Statistician estimates the yield of oats for 1911-12 at 1,715,000 bushels of grain and 180,000 tons of hay from 83,689 acres devoted to grain and 145,231 acres to hay. The acreage fed off was 13,691, making the total oats area to be 242,611 acres. For 1910-11 the total acreage under oats was 232,259, the yield of grain 1,702,706 bushels and the yield of hay 193,064 tons.

**Western Australia.** According to the cereal crop forecast of the Government Statistician, dated Perth, December 4 1911, the yield of wheat anticipated for 1911-12 is 5,149,889 bushels from 559,145 acres devoted to grain, an average yield of 9.2 bushels per acre. As compared with 1910-11 the increase in area sown is 177,818 acres, but there is a decrease in the area expected to be reaped of 22,217 acres. The anticipated yield is 747,651 bushels less than in the previous year. Of oats the expected yield is 1,197,333 bushels from a grain area of 83,726 acres, or 14.3 bushels per acre and of barley 55,184 bushels from 4,368 acres, or 12.6 bushels per acre. The anticipated yield of wheat, oats and barley hay is 331,472 long tons from 397,614 acres.

**South Africa.** The South African Trades Commissioner in London reports that the yield of corn in the Transvaal district for 1912 is estimated at 1,872,000 bushels less than the average, owing to severe drouth and to insect pest. The average corn crop in the Transvaal is approximately 8,000,000 bushels.

**United States.** The Crop Reporting Board of the U. S. Department of Agriculture states that the quantity of wheat on farms March 1 was about 122,025,000 bushels or 19.6 p.c. of the 1911 crop against 162,705,000 bushels or 25.6 p.c. of the 1910 crop on farms March 1 1911. The quantity of corn on farms March 1 was about 884,069,000 bushels or 34.9 p.c. of the 1911 crop against 1,165,378,000 bushels or 40.4 p.c. of the 1910 crop on farms March 1 1911. Oats on farms March 1 was about 289,988,000 bushels or 31.4 p.c. of the 1911 crop against 442,665,000 bushels or 37.3 p.c. of the 1910 crop on farms March 1 1911. Barley on farms March 1 was 24,760,000 bushels or 15.4 p.c. of the 1911 crop against 33,498,060 bushels or 19.3 p.c. of the 1910 crop on farms March 1 1911. Of wheat about 56.1, of corn about 20.5, of oats about 28.8 and of barley about 57.2 p.c. will be shipped out of the counties where grown. The proportion of the total corn crop of 1911 that is merchantable is about 80.1 p.c. as against 86.4 p.c. of the 1910 crop.

**Argentina.** H. M. Minister at Buenos Ayres has transmitted a report of the first official estimate of the Argentine harvest of 1911-12 by Señor E. Lahitte, Director of the Division of Rural Statistics and Economy. The estimated production of wheat, oats and corn was reported in the last issue of the Census Monthly (pages 19 and 20). Flaxseed is expected to yield 25,117,000 bushels. Potatoes are grown on 247,000 acres and a yield worth \$14,000,000 gold is anticipated. Alfalfa is an important industry in Argentina, the season's production being 5,512,000 short tons from 1,483,000 acres besides its growth as pasturage for cattle on 12,355,000 acres. The year has been very favourable for the pastoral industry.



## INTERNATIONAL INSTITUTE OF AGRICULTURE.

In the Bulletin of agricultural statistics for February the International Institute of Agriculture reports that the total production of wheat in 24 countries of the northern hemisphere for the year 1911 amounts to 3,154,363,000 as against 3,185,568,000 bushels in 1910. The single numerical statement of production for these countries is therefore 99; i.e., the total production in 1911 is less than in 1910 by 1 p.c. If to the above total be added the production of the four countries of the southern hemisphere, as given last month, we get a total for the 28 countries of 3,445,350,000 bushels compared with 3,461,380,000 in the previous year, the single numerical statement being 99·5—a decrease in 1911 compared with 1910 of 0·5 p.c.

The production of oats in Argentina for the year 1910-11 is revised to 21,679,000 bushels, which makes the total for Argentina and New Zealand in 1911-12 to be 50·2 p.c. above that of the previous year instead of 63 p.c. as reported last month.

The following are the acreages sown to winter cereals in Hungary, Russia and Japan, with the percentage of the previous year's area given in parentheses: Hungary (not including Croatia and Slavonia), wheat 8,816,000 (106), rye 2,482,000 (102), barley 142,000 (103); Croatia and Slavonia, wheat 109,000 (105), rye 61,000 (102), barley 18,000 (103); Rumania, wheat 5,041,000 (104·1), rye 282,000 (87·7), barley 91,000 (73·9); Japan, wheat 1,196,000 (102), barley 3,000,000 (99).

The condition of winter-sown cereals in each country of the northern hemisphere is generally reported as good.

## FIELD CROPS OF THE UNITED KINGDOM, 1911.

The following are the final and complete returns of the acreage and production of the principal field crops in the United Kingdom for the year 1911 compared with 1910, as published by the Board of Agriculture and Fisheries. The figures do not include the Channel Islands and the Isle of Man, for which no produce statistics are collected.

| Crops                    | 1911      | 1910      | 1911        | 1910          | 1911             | 1910             |
|--------------------------|-----------|-----------|-------------|---------------|------------------|------------------|
|                          | acres     | acres     | bushels     | bushels       | bushels per acre | bushels per acre |
| Wheat .....              | 1,951,094 | 1,856,485 | 64,313,456  | 56,593,432    | 32·96            | 30·48            |
| Barley .....             | 1,756,028 | 1,896,689 | 57,803,216  | 63,044,496    | 32·92            | 33·24            |
| Oats .....               | 4,050,856 | 4,094,664 | 162,933,336 | 175,794,312   | 40·22            | 42·93            |
| Beans .....              | 306,339   | 269,223   | 7,741,536   | 8,746,920     | 25·27            | 32·49            |
| Peas .....               | 140,484   | 153,279   | 3,705,576   | 4,011,608     | 26·38            | 26·17            |
| Potatoes .....           | 1,163,060 | 1,132,669 | 280,753,000 | 236,991,000   | 241·39           | 209·23           |
| Turnips and swedes ..... | 1,834,195 | 1,840,641 | 809,018,000 | 1,131,923,000 | 441·08           | 614·96           |
| Mangolds .....           | 530,177   | 518,046   | 344,026,000 | 403,921,000   | 648·89           | 779·70           |
|                          |           |           | long tons   | long tons     | long ton         | long ton         |
| Hay <sup>1</sup> .....   | 3,013,988 | 2,955,420 | 4,186,378   | 5,152,518     | 1·39             | 1·74             |
| Hay <sup>2</sup> .....   | 6,575,437 | 6,545,190 | 7,470,193   | 10,142,356    | 1·14             | 1·55             |
|                          |           |           | long cwt.   | long cwt.     | long cwt         | long cwt         |
| Hops .....               | 33,056    | 32,886    | 328,023     | 306,675       | 9·92             | 9·20             |

<sup>1</sup> From clover, sainfoin, etc.    <sup>2</sup> From permanent grass.

The total area under orchards in Great Britain in 1911 was 250,686 acres and under small fruit 84,308 acres.

In Great Britain the prices of wheat, barley and oats are collected under statutory authority from certain selected markets, and the prices of other descriptions of farm produce are collected and published weekly by the Board of Agriculture. The following statement shows in Canadian currency the value of the grain, hay and hop crops of Great Britain in 1911 and 1910, with, in the case of wheat, barley and oats, the quality of the grain as indicated by the weight per measured bushel :

| Crops           | 1911            |             | 1910            |             | Weight per measured bushel |      |
|-----------------|-----------------|-------------|-----------------|-------------|----------------------------|------|
|                 | value per bush. | total value | value per bush. | total value | 1911                       | 1910 |
|                 | \$ c.           | \$          | \$ c.           | \$          | lb.                        | lb.  |
| Wheat.....      | 991             | 62,098,667  | 925             | 50,769,067  | 63·5                       | 61·3 |
| Barley.....     | 938             | 47,819,867  | 748             | 42,228,067  | 55·3                       | 53·1 |
| Oats.....       | 598             | 68,405,867  | 497             | 60,526,733  | 40·6                       | 39·8 |
| Potatoes.....   | 403             | 66,089,333  | 400             | 52,034,400  | -                          | -    |
|                 | per ton         |             | per ton         |             |                            |      |
| Clover hay..... | 24·58           | 64,205,333  | 19·83           | 64,736,400  | -                          | -    |
| Meadow hay..... | 23·73           | 108,409,867 | 17·15           | 107,256,467 | -                          | -    |
|                 | per cwt.        |             | per cwt.        |             |                            |      |
| Hops.....       | 50·86           | 16,682,933  | 25·55           | 7,733,133   | -                          | -    |

Ton=2,240 lb. Cwt.=112 lb.

These values are hypothetical, since a large proportion of the crops, especially of oats and hay, is consumed on the farm. The total yields of all the crops, except wheat, potatoes and hops, were less in 1911 than 1910, but owing to the enhanced prices the values were more. In the case of hops, which are all marketed, the price is almost double. The weights per measured bushel are higher than any in recent years.

According to the Annual Report for 1911 of the Rothamsted Experimental Station wheat on one of the Broadbalk Field plots weighed up to 66·8 lb. and barley in the Hoos Field up to 56·8 lb.

## AGRICULTURAL HOLDINGS IN GREAT BRITAIN.

The total number of occupiers in Great Britain of agricultural holdings exceeding one acre in extent, from which returns are collected by the Board of Agriculture and Fisheries, is 513,259. In 1911, according to Part 1 of Vol. XLVI of the British Agricultural Statistics, this number was distributed by size of holdings as follows : One to five acres 110,596 ; five to fifty acres 234,040 ; fifty to three hundred acres 151,197 ; over three hundred acres 17,426. During the year 1910-11 the number of holdings of the smallest class (1·5 acres) increased in England and Wales by 2,085 and in the 5·50

acres class by 1,601. This is a total increase of 3,686 in the number of small holdings during the year 1910-11. From 1903 to 1908 small holdings in England declined steadily, but as a result of the special efforts of the past few years the tide has turned and since 1908 there has been an increase of 5,312 or nearly 2 p.c. This increase however is only net and does not represent the actual number of new small holdings created. Urban development accounts for the annual disappearance of a certain number of small holdings near towns; so that the creation of small holdings since 1908 has been sufficient not only to make good this wastage but also to increase substantially the total number.

## FROZEN MEAT TRADE WITH UNITED KINGDOM.

Messrs. Weddell & Co's. Review of the Frozen Meat Trade 1911 states that the demand in the United Kingdom for frozen meats was quite satisfactory on the average, and prices were only a shade lower than in 1910, which was a year of exceptionally high values. One of the principal causes of the reduction which did take place could not have been foreseen, viz., the forced marketing of home stock as a consequence of the prolonged drouth. But for this adverse factor imported meats might have been expected to reach a higher level owing to arrivals being moderate.

In the Census and Statistics Monthly for January 1911 statistics of the imports into the United Kingdom of chilled and frozen meats were given for the years 1901 to 1910. The following table gives similar figures showing the British imports for the year 1911 compared with 1910 and 1909:

| Description and country   | 1911      | 1910      | 1909      | Description and country   | 1911      | 1910      | 1909      |
|---------------------------|-----------|-----------|-----------|---------------------------|-----------|-----------|-----------|
| Chilled beef from—        | quarters  | quarters  | quarters  | Frozen mutton from—       | carcasses | carcasses | carcasses |
| North America             | 104,360   | 286,850   | 521,000   | Australia . . . .         | 1,962,048 | 2,723,148 | 1,327,141 |
| Argentina . . . .         | 2,151,170 | 1,593,001 | 1,066,134 | New Zealand . . .         | 1,795,259 | 1,991,115 | 1,869,599 |
| Total . . . .             | 2,255,470 | 1,879,851 | 1,587,134 | Argentina . . . .         | 2,603,409 | 2,454,401 | 2,382,984 |
|                           |           |           |           | Uruguay and Patagonia . . | 455,534   | 384,313   | 385,731   |
|                           |           |           |           | Total . . . .             | 6,816,250 | 7,552,977 | 5,915,455 |
| Frozen beef from—         | carcasses | carcasses | carcasses | Frozen lamb from—         | carcasses | carcasses | carcasses |
| Australia . . . .         | 521,382   | 537,442   | 269,588   | Australia . . . .         | 1,650,231 | 1,496,660 | 1,351,697 |
| New Zealand . . .         | 165,646   | 344,048   | 297,328   | New Zealand . . .         | 3,427,236 | 3,416,359 | 3,165,504 |
| Argentina . . . .         | 1,410,159 | 1,336,757 | 1,494,368 | Argentina . . . .         | 890,865   | 352,501   | 504,463   |
| Uruguay and Venezuela . . | 113,547   | 148,084   | 98,717    | Uruguay and Patagonia . . | 175,801   | 162,547   | 130,033   |
| Total . . . .             | 2,210,634 | 2,366,331 | 2,157,001 | Total . . . .             | 6,144,133 | 5,428,067 | 5,151,697 |

The arrivals of chilled beef from Canada during 1911 were only 126 tons as compared with 436 tons in 1910 and 679 tons in 1909. Reporting upon the general outlook Messrs. Weddell & Co. write as follows: "It is difficult

to understand why the Dominion of Canada not only fails to secure any increase in its cattle and sheep stocks commensurate with the increase in its population, but is actually unable to keep its live stock up to the former level. There seems no prospect of any export development from this source. Indeed the western States are actually importing mutton and lamb from Australia, which shipped 45,345 sheep and 1,243 lambs in 1911 to Vancouver."

It is anticipated that unless labour troubles interfere with the natural course of business there will be a strong consumptive demand for all classes of imported meat in 1912.

## COOLING PROCESSES FOR THE PRESERVATION OF FOOD PRODUCTS.

Cooling processes for the preservation of food products are not in such common use as the practice merits. Most people know their value, but the facilities are often not available, and men are often slow to practise what they know.

The winter season in Canada favours the harvesting of ice, and store houses may be erected at small cost for a season's supply. Where ice is not found in a state of nature it can be manufactured at a moderate cost. Therefore there are no forbidding circumstances against cold storage if men are persuaded of the use of it and will put reasonable plans into operation.

Fruits, fish, meats, butter and cheese, milk, eggs and a score of other products of the land and sea required for daily consumption are wasted every year in Canada for lack of cold storage, but which with adequate facilities might be saved in a wholesome state for the market at a profit every year of millions of dollars. Our apple orchards alone might readily win the price of fifteen millions of bushels. This will appear obvious when it is stated that under the good system which obtains in California the fruits of that state bring in from outside markets the large sum of \$30,000,000 a year.

In the provinces of Nova Scotia, Ontario and British Columbia there is no limit to the capacity of fruit production if means are taken to utilise soil and climate and to meet the requirements of foreign markets. But fruit is only one of many products in which cold storage would help the producer.

An important article on "The Necessity for Preservation of Food Products by Cold Storage" was recently presented by Dr. P. H. Bryce of Ottawa to the Canadian Public Health Association at Montreal, and has been published in the Public Health Journal. In closing some practical remarks on the subject Doctor Bryce says:

"Canadian apples are probably the finest in the world, and bring in April £2 and more for best qualities [in England]. Yet ordinary picked fruit is being slaughtered in October when fruit decays fast, whereas for at least six months millions of barrels if pre-cooled and kept in cold storage could be supplied to the world's market. If California can get \$30,000,000 for the fruits of a few counties, surely Canada ought to be able to save at least 5,000,000 barrels in a season, which at \$5 would yield \$25,000,000 and supply the best of all anti-scorbutic fruits to the people—a food absolutely demanded in the cold northern climates. Surely our capitalists can well afford to organise with the fruit growers to produce and conserve products of inestimable value to the people, both from the health and the commercial standpoints."



Doctor Bryce fails to mention how great a loss the farmers of Canada sustained on the fruit crop of say 1911 for the want of a pre-cooling process at the close of the season, when ripening took place under unfavourable conditions. Nor does he point out how much is lost through lack of the proper means of its application. Poultry, for example, are often worse than wasted by misuse of treatment. But the proper means of treatment is a long story.

## ARTICHOKES AS A FOOD FOR LIVE STOCK.<sup>1</sup>

In the *Journal d'Agriculture Pratique* of January 25 1912 MM. Vilmoren-Andrieux writing on new plants for field culture refer to a newly-introduced variety of the Jerusalem artichoke (*Topinambour rose*). This variety is distinguished by its rose colour, by its oblong and perfectly regular shape and by the total absence of the rocky unevenness met with in other varieties. It is also much richer in sugar contents, and the tubers being of good quality make an excellent food for live stock especially in combination with fodder and other dry foods. A large proportion of alcohol is obtainable by distillation from the tubers, whilst the green stalks may also be used as fodder for cows and sheep. These artichokes make a good vegetable for human consumption in winter. The plant, it is stated, succeeds well without trouble in any soil, does not freeze and is valuable for soils of medium fertility.

## THE WEATHER DURING FEBRUARY.

The Dominion Meteorological Service reports that in lower Ontario and western Quebec decidedly cold weather predominated during February, with a resultant mean temperature from 3° to 6° below the average; the mean was also subnormal in Nova Scotia and Prince Edward Island, the departure being about 1° or 2°. In Canada elsewhere more moderate conditions prevailed, with a temperature in excess of the normal, especially in Alberta, where in most districts positive departures were over 12°. In Quebec, Prince Edward Island, and very locally in northern New Brunswick and Ontario, the total precipitation was in excess of the average, while in other parts of Canada it was deficient, and in the western provinces only amounted to about one-third of the usual quantity. At the close of the month the ground was snow covered throughout Canada, except on the Pacific coast and the lower mainland of British Columbia where the snow had disappeared. Considerable snow has been deposited on the mountains of British Columbia; but the depth is in most places less than last year. In the western provinces the depth is generally about five inches; but in northeastern Saskatchewan and in Keewatin the snow on the ground is from 14 to 24 inches deep. The snow covering in Ontario varies in depth with the district, the Highlands, and eastern part of the upper country and the Ottawa valley, being covered

<sup>1</sup> See also *Journal of the British Board of Agriculture*, Vol. xviii, 1912, p. 926.

by from 20 to 36 inches, while in other districts the depth is from six to ten inches. In Quebec a depth of 26 inches at Montreal increased eastward to about 60 inches in the Gaspé peninsula. In the Maritime provinces a depth of about four feet in northern New Brunswick decreased to from four to eight inches along the shores of the Bay of Fundy and the mainland of Nova Scotia, while in Cape Breton Island and Prince Edward Island the depth was from 24 to 36 inches.

## COLONIAL AND FOREIGN PRODUCE IN BRITISH MARKETS.

**Wheat, etc.** On January 29 the following prices were quoted at Mark Lane per quarter of 496 lb.: Manitoba No. 2 42s 6d-43s, No. 3 41s 6d-42s, No. 4 39s 6d-39s 9d, No. 5 37s 6d-37s 9d, No. 6 34s 6d-35s, feed 29s 6d-30s, red winter 37s-37s 6d, Australian 38s 6d-39s, Russian finest 39s 6d-40s 6d, good 36s 6d-37s 6d, com. 34s 6d-35s 6d, Californian 37s 6d-38s 6d, Blue Stein 37s 6d-38s 6d, white Walla 37s-37s 6d, red Walla 36s 6d-37s, white Bombay 38s 3d-38s 6d, white Calcutta 37s 9d-38s, white Karachi 37s 3d-37s 6d, red Karachi 36s 9d-37s 3d. Buckwheat per 416 lb., Russian 27s-29s. Canadian split peas per 504 lb. 45s-46s, Indian split peas 50s-52s. Oats per 320 lb, Canadian 21s-22s, New Zealand 23s-24s.

**Flour.** On January 29 the prices at Mark Lane for imported flour per sack of 280 lb. were: Hungarian 38s-38s 6d, Pillsbury's Best 30s 6d-31s, Iron Duke 25s-25s 6d, American finest 31s-31s 6d, 1st pat. 30s-30s 3d, 2nd pat. 28s 3d-28s 9d, 1st bak. 24s 6d-25s, 2nd bak. 23s 6d-24s, low grade 20s-21s, Manitoba pat. 30s-31s, straights 27s-28s, Kansas best 28s-28s 6d, firsts 27s-27s 3d, seconds 26s-26s 6d, Californian 29s-30s, Argentine pat. 26s-27s, bak. 22s-23s, Australian 25s-25s 6d, French fancy 31s-31s 6d, superior 26s-27s, excelsior 24s-25s, Belgian 30s-31s, Galatz 38s-35s.

**Fresh Meats.** The average monthly prices in January, as published by the Board of Agriculture, were per 112 lb.: Canadian and U. S. A. port-killed, London 61s and 57s 6d; Birmingham 58s 6d and 53s 6d; Liverpool 59s and 53s 6d; Manchester 58s 6d. Argentine frozen hind quarters, London and Glasgow 36s 6d; Birmingham 36s; Liverpool, Manchester and Edinburgh 35s 6d; fore quarters, London 28s 6d; Birmingham, Edinburgh and Glasgow 27s 6d; Liverpool and Manchester 27s. Argentine chilled hind quarters, London and Edinburgh 47s; Birmingham, Liverpool and Glasgow 46s 6d; Manchester 48s; fore quarters, London 32s 6d; Birmingham 31s 6d; Liverpool and Manchester 29s 6d; Edinburgh and Glasgow 32s. Australian frozen hind quarters, London 36s; Birmingham 35s; Liverpool and Manchester 34s; Glasgow 34s 6d; fore quarters, London and Birmingham 28s; Liverpool and Manchester 25s; Glasgow 26s 6d. For the week ended February 1 the prices were: Canadian and U. S. A. port-killed, London 59s 6d and 58s 4d; Liverpool 58s 4d and 53s 8d. Argentine chilled hind quarters, London, Liverpool, Manchester, Dundee and Glasgow 51s 4d; Birmingham and Leeds 49s; Edinburgh

50s 2d. Australian frozen hind quarters, London 37s 4d ; Birmingham, Liverpool and Manchester 35s ; Glasgow 32s 8d.

**Bacon and Hams.** The average prices in January for Canadian bacon per 412 lb. were : London 53s and 50s 6d ; Bristol and Liverpool 52s 6d and 50s ; Glasgow 51s 6d. For the week ended February 1 the prices were : Canadian sides, London 54s and 51s ; Bristol 52s and 50s ; Liverpool 51s and 49s ; Glasgow 55s and 53s. Canadian Cumberland cuts, Liverpool 51s and 44s ; Glasgow 52s and 48s. Danish sides, London 58s and 54s ; Bristol 57s and 55s ; Liverpool 57s and 54s. Canadian long cut green hams, London 60s and 56s ; Bristol 62s and 58s ; Liverpool 62s and 56s ; Glasgow 58s. American long cut green hams, London 56s and 52s ; Bristol 54s and 50s ; Liverpool 53s 6d and 49s ; Glasgow 57s ; American short cut green hams, London 55s and 53s ; Bristol and Liverpool 56s and 53s ; Glasgow 57s and 55s.

**Cheese.** The average prices in December for Canadian cheese per 112 lb. were : London 75s 6d and 73s 6d ; Bristol 74s 6d and 73s ; Liverpool 74s and 72s 6d ; Glasgow 74s 6d. For the week ended February 1 the prices of Canadian cheese were : London 76s and 75s ; Bristol 75s and 74s ; Liverpool 74s 6d and 73s ; Glasgow 76s and 74s. New Zealand cheese, London 73s and 72s ; Bristol 73s 6d and 72s 6d ; Glasgow 74s 6d and 74s.

**Butter.** For January the prices for New Zealand butter per 112 lb. were : London 133s 6d and 130s 6d ; Bristol 136s and 132s 6d ; Liverpool 135s and 133s ; Glasgow 136s 6d and 135s. Australian, London 131s 6d and 128s 6d ; Bristol 134s and 131s 6d ; Liverpool 133s and 130s ; Glasgow 133s 6d and 131s. Argentine, London 130s and 127s ; Bristol 134s and 132s ; Liverpool 132s and 130s. For the week ended February 1 the prices of butter were : New Zealand, London 134s and 131s ; Bristol 134s and 132s ; Liverpool 133s and 131s ; Glasgow 134s. Australian, London 130s and 128s ; Bristol 133s and 130s ; Liverpool 131s and 128s ; Glasgow 132s and 130s. Argentine, London 130s and 128s ; Bristol 131s and 129s ; Liverpool 132s and 130s ; Glasgow 131s. No Canadian butter has been shipped to the United Kingdom since the first week of December, excepting 299 cwt. in the week ended January 27 and 1 cwt. at the end of February.

## PUBLICATIONS OF THE CENSUS AND STATISTICS OFFICE.

Copies of the undermentioned publications will so far as available be sent free on application to Archibald Blue, Chief Officer, Census and Statistics Office, Ottawa.

THE CANADA YEAR BOOK. Second Series, 1905-1910.

Each of these six Volumes contains a complete summary of the principal events of the year and the acts of the Dominion Parliament, with statistics of population, agriculture, forestry, minerals, manufactures, trade and commerce, public accounts, banking, post office, insurance, railways, canals, marine, fisheries, etc.

REPORT ON THE CENSUS OF POPULATION AND AGRICULTURE OF THE NORTHWEST PROVINCES: Manitoba, Saskatchewan and Alberta, 1906.

LONGEVITY AND SANITATION. Bulletin viii. The substance of addresses delivered by Archibald Blue before the McMaster Convocation and the American Public Health Association.

THE BEET SUGAR INDUSTRY. Bulletin ix. The result of an investigation of Sugar Beet production in Canada and the manufacture of the roots into refined sugar, with Appendix A consisting of the Hearings of the Customs Tariff Committee, 1905, and Appendix B, Beet Sugar Production in Posen, Germany. 75 pp., 3 illustrations.

OCCUPATIONS OF THE PEOPLE. Bulletin xi. The figures in this Bulletin are compiled from data of the Census of 1901.



# CENSUS AND STATISTICS MONTHLY

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PUBLISHED BY AUTHORITY OF HONOURABLE GEORGE E. FOSTER, MINISTER OF TRADE AND COMMERCE. CORRESPONDENCE RELATING TO THE CENSUS AND STATISTICS MONTHLY SHOULD BE ADDRESSED TO ARCHIBALD BLUE, CHIEF OFFICER OF THE CENSUS AND STATISTICS OFFICE, DEPARTMENT OF TRADE AND COMMERCE, OTTAWA, CANADA.

## CENSUS OF DAIRY INDUSTRIES, 1911.

The census records of butter, cheese and condensed milk produced in Canada in 1910 as enumerated last year show that there were 3,628 factories in operation. The quantity of butter made in the year was 59,875,097 pounds, having a value of \$15,682,564. This is 23,818,358 pounds more than in 1900, and the value is more by \$8,441,592. The quantity of cheese is 231,012,798 pounds, which is more than at the previous census by 10,179,529 pounds, but the value is less by \$600,776. The total value of butter, cheese and condensed milk in 1910 was \$39,143,089, and in 1900 it was \$29,731,922, being an increase of \$9,411,167 in ten years.

Taking butter alone the value of the factory product was \$7,240,972 in 1900 and \$15,682,564 in 1910, and the value of cheese alone was \$22,221,430 in 1900 and \$21,620,654 in 1910. The average price of factory butter was 20 cents per pound and of cheese 10 cents per pound, whilst in 1910 the average price of butter was 26.2 cents per pound and of cheese only 9 cents per pound.

A comparison of the quantities and values of the production of butter and cheese is given in the following tables by provinces for the census years 1901 and 1911 for the preceding years respectively.

**I. Census of Factory Butter.**

| Provinces                  | 1900       |           | 1910       |            |
|----------------------------|------------|-----------|------------|------------|
|                            | lb.        | \$        | lb.        | \$         |
| Alberta .....              | 406,120    | 82,630    | 2,149,121  | 533,422    |
| British Columbia .....     | 395,808    | 105,690   | 1,206,202  | 420,683    |
| Manitoba .....             | 1,557,010  | 292,247   | 2,050,487  | 511,972    |
| New Brunswick .....        | 287,814    | 58,589    | 849,633    | 212,205    |
| Nova Scotia .....          | 324,211    | 68,686    | 354,785    | 88,481     |
| Ontario .....              | 7,559,542  | 1,527,935 | 13,699,153 | 3,482,171  |
| Prince Edward Island ..... | 562,220    | 118,102   | 670,913    | 156,478    |
| Quebec .....               | 24,625,000 | 4,916,756 | 37,346,107 | 9,895,343  |
| Saskatchewan .....         | 339,014    | 70,037    | 1,548,696  | 381,809    |
| Totals .....               | 36,056,739 | 7,240,972 | 59,875,097 | 15,682,564 |

## II. Census of Factory Cheese.

| Provinces            | 1900        |            | 1910        |            |
|----------------------|-------------|------------|-------------|------------|
|                      | lb.         | \$         | lb.         | \$         |
| Alberta.....         | 27,693      | 3,970      | 193,479     | 23,473     |
| British Columbia...  | -           | -          | -           | -          |
| Manitoba.....        | 1,289,413   | 124,025    | 694,713     | 81,403     |
| New Brunswick.....   | 1,892,686   | 187,106    | 1,166,243   | 129,677    |
| Nova Scotia.....     | 568,147     | 58,321     | 264,243     | 29,977     |
| Ontario.....         | 131,967,612 | 13,440,987 | 157,631,823 | 14,845,661 |
| Prince Edward Island | 4,457,519   | 449,400    | 3,293,765   | 354,378    |
| Quebec.....          | 80,630,199  | 7,957,621  | 67,741,802  | 6,152,689  |
| Saskatchewan.....    | -           | -          | 26,730      | 3,396      |
| Totals.....          | 220,833,269 | 22,221,430 | 231,012,798 | 21,620,654 |

The increased price of factory butter led to a larger production in 1910 than in 1900, and this was made, especially in Quebec, at the cost of a lower production of cheese. The change was further induced by the lower rate of duty on cream in the United States, which encouraged larger exports to that country.

The number of condensed milk factories in operation increased from four in 1900 to twelve in 1910, and the value of product increased from \$269,520 to \$1,839,871. There are now six factories in Ontario with a product value of \$1,335,689, two in Nova Scotia with \$133,956, two in Quebec with \$275,000, one in British Columbia with \$44,326 and one in Prince Edward Island with \$50,900. In 1900 there were two factories in Nova Scotia and one each in Prince Edward Island and Ontario.

Census and Statistics Office  
April 1912.

ARCHIBALD BLUE  
Chief Officer.

**The Potato Canker.** The Dominion Botanist (Mr. H. T. Güssow) has recently issued a warning to farmers against the use of potatoes affected by the potato canker (*Chrysophlyctis endobiotica*), which, as explained in Bulletin 63 of the Dominion Experimental Farm at Ottawa and noted in the Census and Statistics Monthly for December 1909 (Vol. 2, p. 255), was believed to have been introduced into Newfoundland with seed tubers imported from Scotland. The disease is characterised by nodular excrescences, the outgrowths arising from where the eyes are situated. As the establishment of the disease in Canada would seriously compromise the potato-growing industry, farmers and consumers are warned to be particularly careful in using potatoes imported from Great Britain or the European continent. The Dominion Botanist at Ottawa should at once be advised where there are grounds for suspecting the appearance of the disease. The destruction of diseased potatoes should be effected by fire, and diseased potatoes should not under any circumstances be thrown upon the ground.

## CENSUS AND STATISTICS OFFICE.

The Census and Statistics Office, after having been attached for sixty years to the Department of Agriculture, was on the 1st of this month transferred by Order in Council to the Department of Trade and Commerce. The new Minister is the Hon. George Eulas Foster.

## COST OF GRAIN PRODUCTION IN CANADA, 1911.

During February the aid of our crop-reporting correspondents was sought for the purpose of instituting a statistical inquiry into the average cost of grain production in Canada and of the revenue derivable therefrom in the season of 1911. The inquiry was limited to wheat, oats, barley, corn and flax, and the schedules issued to correspondents requested for each of these crops information as to the average cost per acre of the different operations of field husbandry, the yield and value of the produce, the kind of previous crop, the value and disposal of straw and flax fibre, the value of land and the prevailing rate of interest for money borrowed upon its security. Each correspondent was requested to give average figures fairly representing the conditions in his neighbourhood and based upon his knowledge of those conditions as well as upon his own practice as a farmer. The following were, in part, the instructions given to correspondents for the filling up of the schedule :

In the cost of preparing ground for seed include the cost of applying manure (if any). In the cost of cultivation include all costs from the time that the crop has been planted until it is ready to harvest. In the cost of harvesting and preparing for market include all costs from the time that the crop is gathered until it is ready for use or for market. Include also in this item the cost of haulage to local elevator, depot or market. The cost of labour and teams, whether owned or hired, should be estimated upon the basis of the prevailing rate of wages paid, whether the actual work is done by owner or by hired labour.

Where land is rented the average rent paid per acre in the locality should be given in the schedule ; but where it is owned the rental value per acre will be best ascertained by calculation from the value of the land and the prevailing rate of interest for money borrowed on security of real estate. You are therefore requested kindly to give for your locality in the spaces provided (a) the value per acre of land including buildings and improvements and (b) the usual rate of interest. Under each crop state also in the space provided the nature of the previous crop : or, if the land was fallow, write "fallow".

The value of bye-products, i.e., straw and flax fibre, should not be included in the value of the crop per acre. The value of these products, where utilised as fodder or litter, will be counted as offset by the value of farmyard manure, which is not included amongst the items of cost.

It was recognised that an inquiry of this kind, new to most correspondents and presenting special difficulties, could scarcely meet with the same widespread response that is usually accorded to our ordinary crop-reporting schedules. Nevertheless the replies actually received, both by their numbers and quality, indicated an earnest desire on the part of correspondents to comply with the demands made of them. The following statement shows by provinces the number of correspondents to whom the schedule was despatched, the number of replies received, the number of

effective replies (or replies used) and the per cent proportion of effective replies to the total number of correspondents. A small number of the replies from each province could not for various reasons—chiefly misapprehension of instructions—be brought into the compilation.

| Province                | Correspondents<br>receiving<br>schedules <sup>1</sup> | Replies<br>received | Effective<br>replies | Proportion of effective<br>replies to the<br>number of<br>correspondents |
|-------------------------|---|---------------------|----------------------|--|
|                         | No.   | No.                 | No.                  | p.c.   |
| Canada.....             | 3,723   | 1,284               | 1,089                | 29   |
| Prince Edward Island... | 93  | 31                  | 22                   | 24   |
| Nova Scotia.....        | 234   | 96                  | 69                   | 29   |
| New Brunswick.....      | 125   | 49                  | 34                   | 27   |
| Quebec.....             | 721   | 177                 | 133                  | 18   |
| Ontario.....            | 967   | 236                 | 204                  | 21   |
| Manitoba.....           | 321   | 149                 | 131                  | 41   |
| Saskatchewan.....       | 726   | 338                 | 326                  | 45   |
| Alberta.....            | 456   | 179                 | 153                  | 34   |
| British Columbia.....   | 80  | 29                  | 17                   | 21   |

<sup>1</sup> Excluding those issued by the Experimental Farms.

In Tables I to III the average figures are given as they emerge from the compilation; but in their interpretation one must not lose sight of difficulties inseparable from an inquiry of this kind. Take for instance the cases where commercial fertilisers are applied as in Nova Scotia. The relatively high cost of these appears to add to the expense of production, with disproportionate results in the way of gain. Yet where these fertilisers consist, as we know they largely do, of calcareous substances such as gypsum or lime, their efficacy is not restricted to the season of application, and the costs should properly be spread over a series of years. Then, too, where some sort of rotation is followed, as in the older parts of Canada, it is difficult to arrive at the real costs incurred in the production of any particular crop without reference to its place in the rotation, and to elucidate this point inquiries extending over all the years of the rotation would be necessary. Again the influence of the particular kind of farming followed, whether mixed, dairying, fruit or purely arable, affects the problem, into which enter also other considerations readily present to the minds of practical men. Necessary limitations however duly considered the results tabulated below should prove of interest and value. They furnish for the first time in Canada by provinces definite information respecting the average costs and approximate profits of grain production.

In 1910 the Bureau of Statistics of the United States Department of Agriculture set on foot similar inquiries as to the cost of grain production in the different States of the Union. These are still proceeding, but the principal results of such of them as were then concluded were recorded in the Census and Statistics Monthly for November last (pages 297-299). This opportunity is taken of cordially acknowledging the courtesy of Mr. Victor H. Olmsted, Chief of the Bureau, in placing at the disposal of the Census and Statistics Office, when framing the schedules and instructions for issue



to correspondents, the results of valuable experience in connection with the inquiries made by his own Department.

In addition to the usual list of our crop-reporting correspondents about fifty schedules were issued to farmers in the neighbourhood of the Dominion Experimental Farms. These were selected by the Director and the Branch Superintendents of the Farms.

From Table I it will be seen that the profits from grain growing in Quebec for 1911 are apparently higher than in any other province except British Columbia, results which are difficult to reconcile with the known character of the season, although there is evidence that Quebec did not suffer from the drouth to so great an extent as Ontario. Comparison of the values of the cereal crops with those published in the Census and Statistics Monthly of December last (page 305) show however a substantial agreement except in the case of oats. If the December price of oats be applied to the average yield now returned (see Table II) the per acre value of the crop would be reduced from \$23.92 to \$18.45 and the profit consequently from \$9.97 to \$4.50.

In most cases the averages of the yields now returned are higher than those of December, probably because the replies upon which they are based represent a selection of farms of more than average value.

It should also be explained that information was requested as to the cost of commercial fertilisers where applied. Only however in Nova Scotia did the returns show that commercial fertilisers were at all in general use. They have not therefore, except for Nova Scotia, been included. For Nova Scotia the average costs and revenues have been given separately for farms using and for farms not using commercial fertilisers.

The replies received in answer to the question as to the nature of the previous crop do not readily admit of reduction to statistical form. Generally speaking however in the Maritime provinces potatoes or roots precede wheat and barley and pasture or sod the oat crop. In Quebec the three cereals are sown after roots, potatoes or pasture. In Ontario corn and peas are also grown, and these crops frequently precede the other cereals. In other cases the preceding crop is roots, potatoes or sod. In the western provinces the three principal cereals (wheat, oats and barley) appear to be mostly grown in succession upon the same soil, with occasional fallows. Flax is generally grown on the new breaking. Summer fallowing appears to be rather more prevalent in the southern than in the northern parts of these provinces.

The average results obtained from the data furnished by our correspondents in British Columbia cannot be regarded as of value equal to those received from the other provinces, where the conditions of grain growing are more uniform in character. The returns are comparatively few in number, those used being only seven for fall wheat, 12 for spring wheat, 16 for oats and eight for barley. Both yields and prices appear to be very high, while the item of rent is an unstable factor depending upon locality and in most cases upon the horticultural value for fruit growing. In the returns of fall wheat rents vary from \$1.50 to \$5, spring wheat \$1.50 to \$12, oats \$1.50 to \$16 and barley \$3 to \$16.

A correspondent from Alvaston in the Yale district of British Columbia writes that grain is now only grown in the course of preparing raw fruit

land for trees or bottom land for permanent hay meadows, and that an average acre of meadow hay brings a net return including rental value of \$40 per acre. A correspondent from Esquimalt in the same province states that straw is in great demand for fodder and that its value is \$15 per ton. Another correspondent states that he paid \$13 for 1,300 lb. of straw.

The question of the disposal of straw, as to which information was requested from all our correspondents, is left over for possible treatment in a future issue of the Census and Statistics Monthly.

PREVIOUS REFERENCES TO THE COST OF GRAIN PRODUCTION: Report of the Ontario Bureau of Industries, Toronto, 1886, pp. 166-167. Encyclopedia Britannica 10th ed., pp. 215-217. Bailey's Cyclopedia of American Agriculture, 1907, New York, Vol. II, p. 322. Report of the Scottish Commission on Agriculture, Edinburgh, 1909, pp. 131-133. Crop Reporter of the U. S. Department of Agriculture, Washington, April, May, June and October, 1911. Report of the Standing Committee on Agriculture and Colonisation, Ottawa, 1911, p. 16. Census and Statistics Monthly March 1911, Vol. 4, No. 34, pp. 66-68. November 1911, Vol. 4, No. 42, pp. 297-299.

**I. Average cost of production, value and profit per acre of Wheat, Oats, Barley, Flax and Corn for husking, in Canada and the Provinces, 1911.**

| Items                             | Fall wheat | Spring wheat | Oats  | Barley | Flax  | Corn for husking |
|-----------------------------------|------------|--------------|-------|--------|-------|------------------|
|                                   | \$ c.      | \$ c.        | \$ c. | \$ c.  | \$ c. | \$ c.            |
| Canada—                           |            |              |       |        |       |                  |
| Preparation.....                  | 3.93       | 3.10         | 3.03  | 2.97   | 3.08  | 4.31             |
| Seed .....                        | 1.62       | 1.74         | 1.27  | 1.34   | 1.51  | .88              |
| Seeding .....                     | 1.00       | 1.00         | .91   | 1.00   | .88   | 3.37             |
| Cultivation .....                 |            |              |       |        |       | 2.98             |
| Harvesting.....                   | 1.72       | 1.55         | 1.58  | 1.54   | 1.28  | 3.18             |
| Threshing.....                    | 2.09       | 2.32         | 2.68  | 2.25   | 2.60  | 3.52             |
| Wear and tear of implements       | .39        | .48          | .45   | .42    | .42   | .54              |
| Rental value.....                 | 2.82       | 2.68         | 2.69  | 2.67   | 2.75  | 3.10             |
| Total.....                        | 13.57      | 12.87        | 12.61 | 12.19  | 12.52 | 21.88            |
| Value of produce .....            | 20.61      | 16.93        | 16.69 | 17.87  | 19.85 | 32.12            |
| Profit.....                       | 7.07       | 4.06         | 4.08  | 5.68   | 7.33  | 10.24            |
| Prince Edward Island—             |            |              |       |        |       |                  |
| Preparation.....                  | -          | 1.91         | 1.93  | 1.80   | -     | -                |
| Seed .....                        | -          | 2.27         | 1.54  | 1.56   | -     | -                |
| Seeding and cultivation .....     | -          | 1.46         | 1.65  | 1.47   | -     | -                |
| Harvesting.....                   | -          | 1.29         | 1.27  | 1.30   | -     | -                |
| Threshing.....                    | -          | 1.59         | 1.60  | 1.64   | -     | -                |
| Wear and tear of implements       | -          | .41          | .42   | .40    | -     | -                |
| Rental value.....                 | -          | 2.86         | 2.83  | 2.90   | -     | -                |
| Total.....                        | -          | 11.79        | 11.24 | 11.07  | -     | -                |
| Value of produce .....            | -          | 19.08        | 16.60 | 16.12  | -     | -                |
| Profit.....                       | -          | 7.29         | 5.36  | 5.05   | -     | -                |
| Nova Scotia—                      |            |              |       |        |       |                  |
| Commercial fertilisers .....      | -          | 5.62         | 5.10  | 5.14   | -     | -                |
| Preparation (fertilisers).....    | -          | 3.85         | 4.27  | 4.18   | -     | -                |
| Preparation (no fertilisers)..... | -          | 3.65         | 3.98  | 4.05   | -     | -                |
| Seed .....                        | -          | 2.78         | 2.20  | 1.92   | -     | -                |
| Seeding and cultivation .....     | -          | 1.11         | 1.25  | 1.16   | -     | -                |
| Harvesting.....                   | -          | 3.16         | 2.31  | 2.07   | -     | -                |
| Threshing.....                    | -          | 2.05         | 2.23  | 2.13   | -     | -                |
| Wear and tear of implements       | -          | .40          | .42   | .38    | -     | -                |
| Rental value.....                 | -          | 2.34         | 2.27  | 2.31   | -     | -                |
| Total (fertilisers).....          | -          | 21.31        | 20.05 | 19.29  | -     | -                |
| Total (no fertilisers).....       | -          | 15.49        | 14.66 | 14.02  | -     | -                |

**I. Average cost of production, value and profit per acre of Wheat, Oats, Barley, Flax and Corn for husking, in Canada and the Provinces, 1911—con.**

| Items                             | Fall<br>wheat | Spring<br>wheat | Oats  | Barley | Flax  | Corn for<br>husking |
|-----------------------------------|---------------|-----------------|-------|--------|-------|---------------------|
|                                   | \$ c.         | \$ c.           | \$ c. | \$ c.  | \$ c. | \$ c.               |
| Nova Scotia—con.                  |               |                 |       |        |       |                     |
| Value of produce (fertilisers)    | —             | 24.33           | 22.50 | 23.87  | —     | —                   |
| Value of produce (no fertilisers) | —             | 20.00           | 18.71 | 17.90  | —     | —                   |
| Profit (fertilisers)              | —             | 3.02            | 2.45  | 4.58   | —     | —                   |
| Profit (no fertilisers)           | —             | 4.51            | 4.05  | 3.88   | —     | —                   |
| New Brunswick—                    |               |                 |       |        |       |                     |
| Preparation                       | —             | 3.00            | 3.00  | 3.00   | —     | —                   |
| Seed                              | —             | 2.20            | 1.81  | 1.67   | —     | —                   |
| Seeding and cultivation           | —             | 1.00            | 1.14  | 1.13   | —     | —                   |
| Harvesting                        | —             | 2.10            | 2.00  | 1.83   | —     | —                   |
| Threshing                         | —             | 1.68            | 1.90  | 1.62   | —     | —                   |
| Wear and tear of implements       | —             | .33             | .49   | .30    | —     | —                   |
| Rental value                      | —             | 4.00            | 3.15  | 2.90   | —     | —                   |
| Total                             | —             | 14.31           | 13.49 | 12.45  | —     | —                   |
| Value of produce                  | —             | 21.17           | 19.26 | 20.59  | —     | —                   |
| Profit                            | —             | 6.86            | 5.77  | 8.14   | —     | —                   |
| Quebec—                           |               |                 |       |        |       |                     |
| Preparation                       | —             | 3.08            | 4.00  | 3.11   | 2.47  | 4.05                |
| Seed                              | —             | 2.31            | 1.79  | 1.74   | 1.63  | 1.06                |
| Seeding                           | —             | 1.69            | 1.43  | 1.44   | 1.49  | 1.70                |
| Cultivation                       | —             | 1.76            | 1.86  | 1.71   | 2.65  | 3.01                |
| Harvesting                        | —             | 1.76            | 1.86  | 1.71   | 2.65  | 3.35                |
| Threshing                         | —             | 1.88            | 1.66  | 1.74   | 2.94  | 3.08                |
| Wear and tear of implements       | —             | .40             | .38   | .41    | .57   | .53                 |
| Rental value                      | —             | 3.12            | 2.83  | 3.13   | 2.88  | 3.20                |
| Total                             | —             | 14.24           | 13.95 | 13.28  | 14.63 | 20.00               |
| Value of produce                  | —             | 23.57           | 23.92 | 23.64  | 20.73 | 37.64               |
| Profit                            | —             | 9.33            | 9.97  | 10.26  | 6.10  | 17.64               |
| Ontario—                          |               |                 |       |        |       |                     |
| Preparation                       | 4.32          | 3.28            | 3.28  | 3.27   | 3.32  | 4.49                |
| Seed                              | 1.79          | 1.85            | 1.16  | 1.42   | 1.93  | .75                 |
| Seeding                           | 1.16          | 1.05            | 1.00  | 1.04   | .98   | .87                 |
| Cultivation                       | 1.76          | 1.72            | 1.58  | 1.58   | 2.75  | 2.93                |
| Harvesting                        | 1.70          | 1.57            | 1.76  | 1.52   | 1.55  | 3.05                |
| Threshing                         | .39           | .39             | .54   | .42    | .54   | 3.85                |
| Wear and tear of implements       | 2.98          | 2.85            | 2.85  | 2.82   | 2.93  | .54                 |
| Rental value                      | —             | —               | —     | —      | —     | 3.00                |
| Total                             | 14.10         | 12.71           | 12.17 | 12.07  | 14.00 | 19.48               |
| Value of produce                  | 22.36         | 16.16           | 14.76 | 18.43  | 21.55 | 28.13               |
| Profit                            | 8.26          | 3.45            | 2.59  | 6.36   | 7.55  | 8.65                |
| Manitoba—                         |               |                 |       |        |       |                     |
| Preparation                       | —             | 2.16            | 2.10  | 2.09   | 2.31  | —                   |
| Seed                              | —             | 1.43            | .93   | 1.05   | 1.30  | —                   |
| Seeding and cultivation           | —             | .80             | .79   | .78    | .71   | —                   |
| Harvesting                        | —             | 1.26            | 1.28  | 1.26   | 1.03  | —                   |
| Threshing                         | —             | 2.38            | 2.85  | 2.49   | 2.42  | —                   |
| Wear and tear of implements       | —             | .44             | .39   | .38    | .39   | —                   |
| Rental value                      | —             | 3.00            | 2.88  | 2.97   | 3.33  | —                   |
| Total                             | —             | 11.47           | 11.22 | 11.02  | 11.49 | —                   |
| Value of produce                  | —             | 16.67           | 16.00 | 17.00  | 22.00 | —                   |
| Profit                            | —             | 5.20            | 4.78  | 5.98   | 10.51 | —                   |

**I. Average cost of production, value and profit per acre of Wheat, Oats, Barley, Flax and Corn for husking, in Canada and the Provinces, 1911—con.**

| Items                       | Fall<br>wheat | Spring<br>wheat | Oats  | Barley | Flax  | Corn for<br>husking |
|-----------------------------|---------------|-----------------|-------|--------|-------|---------------------|
|                             | \$ c.         | \$ c.           | \$ c. | \$ c.  | \$ c. | \$ c.               |
| <b>Saskatchewan—</b>        |               |                 |       |        |       |                     |
| Preparation.....            | -             | 3.21            | 3.00  | 2.74   | 3.30  | -                   |
| Seed.....                   | -             | 1.33            | 1.00  | 1.04   | 1.45  | -                   |
| Seeding and cultivation.... | -             | .91             | .88   | .77    | .86   | -                   |
| Harvesting.....             | -             | 1.17            | 1.26  | 1.16   | .90   | -                   |
| Threshing.....              | -             | 2.81            | 4.11  | 2.92   | 2.97  | -                   |
| Wear and tear of implements | -             | .45             | .46   | .45    | .39   | -                   |
| Rental value.....           | -             | 2.30            | 2.36  | 2.21   | 2.73  | -                   |
| Total.....                  | -             | 12.18           | 13.07 | 11.29  | 12.60 | -                   |
| Value of produce.....       | -             | 13.60           | 14.30 | 14.37  | 19.41 | -                   |
| Profit.....                 | -             | 1.42            | 1.23  | 3.08   | 6.81  | -                   |
| <b>Alberta—</b>             |               |                 |       |        |       |                     |
| Preparation.....            | 3.15          | 3.13            | 2.88  | 2.86   | 3.39  | -                   |
| Seed.....                   | 1.24          | 1.56            | 1.00  | 1.00   | 1.60  | -                   |
| Seeding and cultivation.... | .75           | .71             | .70   | .65    | .65   | -                   |
| Harvesting.....             | 1.66          | 1.61            | 1.65  | 1.59   | 1.24  | -                   |
| Threshing.....              | 2.76          | 2.59            | 3.27  | 2.89   | 2.00  | -                   |
| Wear and tear of implements | .40           | .43             | .41   | .46    | .44   | -                   |
| Rental value.....           | 2.36          | 2.35            | 2.38  | 2.00   | 2.24  | -                   |
| Total.....                  | 12.32         | 12.38           | 12.29 | 11.45  | 11.56 | -                   |
| Value of produce.....       | 18.24         | 13.85           | 14.87 | 15.21  | 17.83 | -                   |
| Profit.....                 | 5.92          | 1.47            | 2.58  | 3.76   | 6.27  | -                   |
| <b>British Columbia—</b>    |               |                 |       |        |       |                     |
| Preparation.....            | 4.39          | 5.27            | 5.45  | 4.69   | -     | -                   |
| Seed.....                   | 2.61          | 2.34            | 2.12  | 2.44   | -     | -                   |
| Seeding and cultivation.... | 1.54          | 1.34            | 1.36  | 2.17   | -     | -                   |
| Harvesting.....             | 1.67          | 2.19            | 2.76  | 2.14   | -     | -                   |
| Threshing.....              | 2.54          | 3.07            | 3.51  | 3.61   | -     | -                   |
| Wear and tear of implements | .32           | .41             | .37   | .24    | -     | -                   |
| Rental value.....           | 3.51          | 5.06            | 6.80  | 7.25   | -     | -                   |
| Total.....                  | 16.58         | 19.68           | 22.37 | 22.54  | -     | -                   |
| Value of produce.....       | 28.00         | 36.00           | 34.00 | 36.00  | -     | -                   |
| Profit.....                 | 11.42         | 16.32           | 11.63 | 13.46  | -     | -                   |

**II. Average yields and values per acre of Spring Wheat, Oats and Barley, with average values of land and of straw, and prevailing rate of interest on security of real estate, in Canada and the Provinces, 1911.**

| Province           | Average yield of<br>crop |       |             | Average value of crop |                    |                    | Value<br>of<br>land | Value<br>of<br>straw | Rate<br>of in-<br>terest |
|--------------------|--------------------------|-------|-------------|-----------------------|--------------------|--------------------|---------------------|----------------------|--------------------------|
|                    | Spring<br>wheat          | Oats  | Bar-<br>ley | Spring<br>wheat       | Oats               | Barley             |                     |                      |                          |
|                    | bush.                    | bush. | bush.       | \$ c.                 | \$ c.              | \$ c.              | \$                  | \$                   | p.c.                     |
| Canada.....        | 21                       | 41    | 31          | 16.93                 | 16.69              | 17.87              | 35-37               | 3-4                  | 5-8                      |
| P. Edward Island.  | 19                       | 33    | 25          | 19.08                 | 16.60              | 16.12              | 39-44               | 3-4                  | 6                        |
| Nova Scotia.....   | 21                       | 35    | 26          | 24.33 <sup>1</sup>    | 22.50 <sup>1</sup> | 23.87 <sup>1</sup> | 29-32               | 4-5½                 | 6                        |
| New Brunswick...   | 22                       | 33    | 30          | 20.00 <sup>2</sup>    | 18.71 <sup>2</sup> | 17.90 <sup>2</sup> | 26-29               | 3-4                  | 6                        |
| Quebec.....        | 21                       | 35    | 29          | 21.17                 | 19.26              | 20.59              | 55-72               | 4                    | 6                        |
| Ontario.....       | 17                       | 31    | 27          | 23.57                 | 23.92              | 23.54              | 41-45               | 3-4                  | 5                        |
| Manitoba.....      | 21                       | 47    | 34          | 16.16                 | 14.76              | 18.43              | 32                  | 1                    | 8                        |
| Saskatchewan.....  | 20                       | 48    | 34          | 16.67                 | 16.00              | 17.00              | 23-24               | 1-2                  | 8                        |
| Alberta.....       | 24                       | 50    | 36          | 13.60                 | 14.30              | 14.37              | 23-26               | 1                    | 8                        |
| British Columbia.. | 23                       | 30    | 45          | 13.85                 | 14.87              | 15.21              | 130-167             | 3-6                  | 8                        |

<sup>1</sup> Commercial fertilisers. <sup>2</sup> No commercial fertilisers.



**III. Average yields and values per acre of Fall Wheat, Flax and Corn for husking, average values of land and of straw or fibre and prevailing rate of interest on security of real estate in Canada and in the Provinces, 1911.**

| Province          | Average yield of crop |       |                  | Average value of crop |       |                  | Value of land | Value of straw or fibre | Rate of interest |
|-------------------|-----------------------|-------|------------------|-----------------------|-------|------------------|---------------|-------------------------|------------------|
|                   | Fall wheat            | Flax  | Corn for husking | Fall wheat            | Flax  | Corn for husking |               |                         |                  |
|                   | bush.                 | bush. | bush.            | \$ c.                 | \$ c. | \$ c.            | \$            | \$                      | p.c.             |
| Canada.....       | 22                    | 12    | 54               | 20.64                 | 19.85 | 32.12            | 31-61         | 3-7                     | 5.8              |
| Quebec.....       | -                     | 12    | 43               | -                     | 20.73 | 37.64            | 54-71         | 7-8                     | 6                |
| Ontario.....      | 21                    | 11    | 62               | 22.36                 | 21.55 | 28.13            | 48-50         | -                       | 5                |
| Manitoba.....     | -                     | 13    | -                | -                     | 22.00 | -                | 37            | 1                       | 8                |
| Saskatchewan..... | -                     | 12    | -                | -                     | 19.41 | -                | 26            | 2                       | 8                |
| Alberta.....      | 26                    | 11    | -                | 18.24                 | 17.83 | -                | 23-26         | 1                       | 8                |

## DEPARTMENTAL NOTES.

**Experimental Farms and Stations.** At the Central Farm, Ottawa the temperatures registered during March range a little lower than for the corresponding period of last year, the highest being 44, the lowest -17 and the mean 19.34, compared with extremes of 46.2 and -7 and a mean of 46.2 in March 1911. The precipitation aggregates 1.42 inch, made up of 0.02 of an inch of rain and 14 inches of snow—compared with a total of 2.22 inches in the corresponding month of 1911, consisting of 0.26 of an inch of rain and 19.75 inches of snow. The bright sunshine recorded averages 6.8 hours a day as against 6.1 hours daily in March of last year.

The Division of Entomology is chiefly engaged at present in the work of inspecting imported nursery stock and eradicating the Brown-tail Moth in Nova Scotia and New Brunswick. The season's inspection in New Brunswick has disclosed a widespread infestation of the Brown tail Moth, and nests have been found in the counties of Charlotte, York, Sunbury, Queens, Kings and St. John, indicating that the insect has now firmly established itself in the province. Arrangements are being made for the carrying on of entomological investigations in the field by the establishment of field laboratories in certain of the provinces. The officer in charge of each field station will devote his entire time to the study of one or two of the most serious prevalent insect pests in the region in which he is located. In the case of the Apple Maggot or Railroad Worm, this will be studied in the three provinces of New Brunswick, Quebec and Ontario. An attempt will be made, if possible, to introduce the parasites of the Brown-tail Moth into Canada, by which means alone it is thought will a natural control ever be obtained. Parasites of the Larch Sawfly are also being introduced into Manitoba, and Mr. Swaine, in charge of forest insect investigations, will commence his field investigations in a few weeks.

J. A. Clark, Superintendent of the Station at Charlottetown, P.E.I., reports: "The first week in March was cold, with snow flurries; the weather then moderated. On the 10th the worst storm of the season occurred, with a snowfall of nine inches, all traffic being blocked for a day. This was followed by mild weather, which continued with rising temperatures until the close of the month. On the 16th and the 25th heavy rains were experienced, which took all the snow off the fields except where it was banked. The ice remained strong up to the end of the month and much hauling was done by way of the rivers. The scarcity of feed in Kings county has raised the price of feed locally, but there will be plenty to carry stock through in good shape."

Robert Robertson, Superintendent of the Farm at Nappan, N.S., reports: "March has been a typical Maritime province month, the temperature varying from 15 below zero on the 6th to 48 above on the 13th, with the greater part of the remainder of the month mild. Quite a severe snow storm was experienced on the 10th, when seven inches of snow fell. This was quickly followed by rain and mild weather, causing an unusually high spring flood. Sleighing broke up about the 12th. The ground becoming bare somewhat earlier than usual, young clover is liable to suffer damage by spring frosts. Fewer beef cattle have been fed this season than usual, owing to the scarcity of feed and the high price of feeders last fall. Those that were fed are now in good demand and record prices are being paid. The steers being fed under experiment at the Experimental Farm have made exceptionally good gains up to date, and a very satisfactory sale has been made for delivery early in May."

G. A. Langelier, Superintendent of the Station at Cap Rouge, Que., reports: "March has been cold, the temperature falling below zero on ten days out of the thirty-one. The month however has been bright, there being recorded 165.3 hours of sunshine, or 23 hours more than January and February combined. Farmers took advantage of this fine spell to haul fuel, logs, ice, and feed. At the Experimental Station 330 loads of shale were brought to the ornamental grounds for paths. Most of the live stock are doing well. One of the grade French Canadian cows has given over 9,000 lb. of milk since the 1st of July, or more than 1,000 lb. per month. This cow was bought for \$75, and will give enough milk to pay for her cost and her feed in one year. No doubt if her previous owner had weighed her milk he would still have her."

W. C. McKillican, Superintendent of the Farm at Brandon, Man., reports: "The weather during March has been steady and fine, with a noticeable absence of storms and winds. The bright sun soon melted what snow there was at the beginning of the month, and roads and fields have been pretty bare since. Cool weather has continued rather longer than usual, and at the end of the month the land is still frozen hard. The care of the live stock and preparatory work for spring, such as cleaning seed grain, have been the chief occupation at this Farm. There has been a very heavy correspondence, mostly with farmers asking for information or for improved kinds of seed."

Angus Mackay, Superintendent of the Farm at Indian Head, Sask., reports: "The month of March has gone by practically without storms of any

sort, and the weather on the whole has been favourable for all outdoor operations. The chief work on the Experimental Farm during the month has consisted of drawing stone and sand for the erection of buildings to replace those destroyed by fire in January, and for the erection of an outside office. Stock of all kinds have done well during the month. Four registered mares have been added to the list of horses on the Farm."

Wm. A. Munro, Superintendent of the Station at Rosthern, Sask., reports: "Two years ago seeding began here on March 24th, and this year there has been sleighing up to the end of the month and the weather has been unusually cold. Farmers for the most part have been engaged in cleaning their seed grain in preparation for sowing, but even in this they have been very much handicapped because of the very cold weather. There is so much demand for good seed, particularly Marquis wheat, that it cannot nearly be supplied."

R. E. Everest, Superintendent of the Station at Scott, Sask., reports: "March opened with low temperatures. Winter weather continued until the 21st of the month, when a few quite spring-like days intervened, followed by a short cold dip, which changed quickly on the last day to a pronounced thaw. A number of cars of seed grain have been unloaded at Scott and drawn out to some of the farms in readiness for seeding. At the Experimental Station the work has consisted chiefly in caring for the stock and making preparations for the spring season."

G. H. Hutton, Superintendent of the Station at Lacombe, Alta., reports: "March has been characterised by uniformly fine weather. Horses have wintered well outside without feed. A team of horses which had been turned out to rustle weighed, when brought in in March, 3,340 lb., or 70 lb. more than when weighed thirteen weeks before. The steers gained an average of 62.05 lb. each during the month and have now been sold to go April 3rd at 7 cents per lb. The snow has been gone for about two weeks and a number of farmers have commenced to work the land; but no work has been done on the Experimental Station as yet. The Honourable Minister of Agriculture has authorised the purchase of about 330 acres as an addition to this Station. This new area will permit of extensive experimental work with live stock being carried on, a work which should bring satisfactory results."

W. H. Fairfield, Superintendent of the Station at Lethbridge, Alta., reports: "The weather during the first three weeks of March was somewhat severe, but on the 21st it turned mild and before the end of the month farmers were starting work on the land. Winter wheat appears to have come through the winter in excellent condition, although April often being a trying month with this crop it is early to venture a very definite opinion; but the indications up to the present time have seldom been better. At the Station work on the land began on March 27th. The soil contains an abundance of moisture and it could scarcely be in better condition to receive the seed."

P. H. Moore, Superintendent of the Experimental Farm at Agassiz, B.C., reports: "March has been an excellent month for getting work done, and with a certain amount of precipitation has been experienced it is just time to start the grass and make early feed. The season is ten days in

advance of last year. The weather has allowed a good deal of land to be prepared for seeding, and some sowing has actually been done already. There is first class promise for feed for stock. Clover and other grasses have wintered well and are in good condition and making an exceptional stand. Feed has been plentiful, and live stock throughout the district is in very good condition."

The records of temperature, precipitation and sunshine at the several Experimental Farms and Stations for the month of March are given in the following table:

**Meteorological Record for March.**

| Experimental Farm<br>or Station at— | Degrees of temperature, F. |        |       | Precipitation<br>in<br>inches | Hours of sunshine |        |
|-------------------------------------|----------------------------|--------|-------|-------------------------------|-------------------|--------|
|                                     | highest                    | lowest | mean  |                               | possible          | actual |
| Ottawa, Ont.....                    | 44.0                       | -17.0  | 19.34 | 1.42                          | 370               | 211.0  |
| Charlottetown, P.E.I..              | 48.5                       | -9.2   | 25.88 | 3.63                          | 370               | 149.6  |
| Nappan, N.S.....                    | 48.0                       | -15.0  | 27.54 | 2.41                          | 370               | 1      |
| Cap Rouge, Que.....                 | 43.0                       | -14.2  | 15.28 | 2.40                          | 368               | 165.3  |
| Brandon, Man.....                   | 41.9                       | -25.2  | 15.10 | .27                           | 370               | 201.2  |
| Indian Head, Sask.....              | 42.0                       | -4.0   | 6.93  | .40                           | 370               | 156.4  |
| Rosthern, Sask.....                 | 38.7                       | -30.0  | 4.90  | .60                           | 369               | 222.7  |
| Scott, Sask.....                    | 46.0                       | -31.8  | 11.90 | .23                           | 367               | 199.0  |
| Lacombe, Alta.....                  | 54.8                       | -20.0  | 19.37 | .13                           | 370               | 203.7  |
| Lethbridge, Alta.....               | 63.3                       | -22.5  | 19.04 | .44                           | 370               | 230.9  |
| Agassiz, B.C.....                   | 65.0                       | 28.0   | 42.96 | 1.12                          | 370               | 202.7  |

<sup>1</sup> Not available.

J. H. GRISDALE, Director Experimental Farms.

Ottawa, April 9.

**Dairy and Cold Storage Branch.** The cow testing movement has apparently entered upon a new stage. It has required constant urging and active propaganda on the part of the officers of the Dairy Division to make any progress in the past; but with the beginning of the present season the requests to have cow testing initiated in different localities have been rather more numerous than it was possible to overtake, and a very large number of farmers are applying for the necessary forms to enable them to make the tests on their own account. In 1911 there were 1,209 herds tested in 188 associations, with 11,890 individual cows. This does not take into account the large number that are tested by the farmers themselves without connection with any of the associations.

The Dairy Record centres, of which six were established last year, have proved very successful, and eight or nine additional centres have already been started for the season of 1912. In these centres an expert is employed who gives his whole time to a limited district and he is responsible for the testing of the samples and the general promotion of the work. The weeding out process which follows intelligent information gained through cow testing has already resulted in a marked improvement in the average yield of the herds in localities where it has been actively followed up, and the record for the year 1911, which is now being prepared, will show some very



esting results. The importance of this work and what it may mean in the increased production of the country is not yet fully appreciated. The Minister has authorised a considerable extension of this work and approves of a vigorous policy in connection with it.

Plans are now being prepared in this office for the new Dairy Station at Brome, which is to replace the old creamery purchased by the Department at that place last fall. The building will be an up-to-date creamery with a full complement of apparatus for giving the best possible service. This station, like the one at Finch, will be operated on purely business lines as far as the creamery is concerned. The experimental work will be kept quite distinct from the creamery proper.

The following persons have been convicted of violations of the Fruit Marks Act since last report:

H. A. Spence, St. Croix, N.S.  
A. Curry, Falmouth, N.S.  
R. J. Graham, Windsor, N.S.

J. A. RUDDICK, Dairy and Cold Storage Commissioner.  
Ottawa, March 27.

**Seed Branch.** Some changes in the permanent staff of the Seed Branch have recently been made, looking to extending the work and making it more thorough and effective. A district officer has been appointed for British Columbia with headquarters at Vancouver. This is a new position as previously British Columbia has been under the general supervision of the representative for the prairie provinces. Mr. Alfred Eastham, B.S.A., who for some years has been connected with the Seed Branch staff as assistant seed analyst at the Calgary seed laboratory, has been transferred to Vancouver and given direct charge of the Seed Branch work in British Columbia. A representative for the province of Alberta has been appointed in the person of Mr. A. D. Campbell, B.S.A., district representative of the provincial Department of Agriculture at Morrisburg, Ont. Mr. Campbell will have headquarters at Calgary, Alta., and will take up his duties on June 1st. The province of Ontario has been divided into two districts, and Mr. W. J. W. Lennox, B.S.A., has been appointed district representative for western Ontario with headquarters at Guelph. A district representative has also been appointed for Prince Edward Island with headquarters at Charlottetown. Mr. Garnet Lelacheur, who has had extensive experience in field husbandry work at Macdonald College, Que., and at the experimental farm at Charlottetown, will have charge of the Seed Branch work on Prince Edward Island.

The system of inspecting and sealing registered seed produced by members of the Canadian Seed Growers' Association, approved at the last annual meeting of the association, is being carried out and with very satisfactory results. Members of the association who have registered seed for sale are required to send samples to the secretary of the association. These samples are analysed in the seed laboratory. If the sample is satisfactory in respect of purity and general quality a certificate of analysis and a sample of the grain are sent to the district representative of the Seed Branch for the

district where the grower lives, together with registration tags and metallic seals. The Seed Branch district officer is required to inspect all the grain in sacks, and if it conforms to the official sample in general quality and purity he is authorised to attach a registration tag to each sack, which is secured by metallic seal bearing the stamp of the association. This system has given excellent satisfaction, as it affords protection to both grower and producer.

The demand for registered seed has been very heavy this spring and it is possible to supply only a small proportion of the applications. During the past few years the production of high class seed grain has not kept pace with the constantly increasing demand. Excellent opportunities are now afforded farmers who have clean land to make a specialty of producing high class seed grain.

Seed inspection work is being carried on more extensively this spring than ever before and as the season advances there is clear evidence of a general improvement in the trade. This is the first season that the Seed Control Act has required red clover, alsike, timothy and alfalfa seed to be graded according to fixed standard of quality as Extra No. 1, No. 1, No. 2 or No. 3 when sold for seeding purposes. At the first of the season comparatively few of the retail dealers who secured their stock direct from farmers had their seeds graded, although there were very few lots exposed for sale that would not come up to the standards for No. 3 at least. Some of the large wholesale firms were also sending out a considerable proportion of their stock without being marked with the grade. Inspectors who are now covering territory the second time this season report that in most cases there has been a marked improvement in respect of the observance of the grading regulations since the season opened and they are now being complied with by most retailers. The wholesale firms are also sending out a much larger proportion of their seed with the grade marked. There is very little seed being sent out by wholesale firms that will not grade at least No. 3, although occasionally cases are found where the grade marked on the bag or invoice does not correspond with the analysis of the sample. Most of the violations of the Act for selling seed below the No. 3 standard are cases where comparatively clean local grown seed is offered without being tested. In eastern Ontario and Quebec a considerable quantity of timothy seed is being offered for sale in this way and occasionally a prohibited lot of clover seed is found in the seed producing districts of Ontario.

During March 2,508 samples were received at the Ottawa seed laboratory for purity or germination test. The seeds tested and graded were as follows : Red clover, total 628 : No. 1, 64, No. 2, 196, No. 3, 261, Rejected 107. Alsike, total 262 : No. 1, 17, No. 2, 72, No. 3, 107, Rejected 66. Timothy, total 720 : No. 1, 103, No. 2, 180, No. 3, 168, Rejected 269. Alfalfa, total 142 : No. 1, 22, No. 2, 60, No. 3, 57, Rejected 3. Mixtures, total 26 : No. 2, 3, No. 3, 7, Rejected 16.

GEO. H. CLARK, Seed Commissioner.

Ottawa, April 12.

## CROP REPORTS FROM OTHER COUNTRIES.

**Great Britain.** The report of the Board of Agriculture (March 1) states that the mild, though generally wet weather that prevailed after the first few days of February has been favourable to the winter crops, which are mostly looking vigorous and are well forward. The severe frosts during the first week, however, appear to have done damage in some districts, notably in the midlands, where both winter oats and beans suffered. A few cases are also mentioned where some re-sowing will have to be done owing to low-lying land having been flooded. The *Agricultural Gazette* of March 25 states that the end of March is approaching without seeing any considerable portion of spring grain put into the ground, the great quantity of grain which fell during the previous week having rendered work on the land impracticable. It is anticipated that most of the spring sowing this year will be done in April instead of in March as usual.

**British India.** The second general memorandum on the wheat crop of the season of 1911-12, published in the *Indian Trade Journal* of March 14, gives a revised estimate of the total area under wheat in British India, based upon returns relating to some 99.8 p.c. of the total reported area under wheat in India. The total area sown is now reported to be 29,444,000 acres as compared with 29,556,000 acres the revised figures of last year, and with 27,085,000 acres representing the average of the five years ended 1909-10. There is thus a decrease of 112,000 acres or 0.4 per cent as compared with last year, but an increase of 2,359,000 acres or 8.7 per cent as compared with the average. The present condition of the crop is reported to be good except in Bombay where the crop has suffered from deficient water-supply. A development of rust is however apprehended in the United Provinces.

According also to the second general memorandum on the crop of spring oilseeds the total acreage under rape and mustard for the season of 1911-12 is 3,308,300 acres compared with 3,919,600 acres last year, the net decrease being 611,300 acres or 15.6 p.c. The condition of the crop is reported to be generally good.

The total acreage under flaxseed is reported as 3,464,800 acres compared with 3,101,500 acres last year, an increase of 363,300 acres or 11.7 p.c. The present condition of the crop is reported to be generally good except in parts of Bombay.

**France.** The *Journal d'Agriculture Pratique* reports that the weather during the past winter has continued to be abnormally mild. The preparations for spring crops were at first favoured by the exceptional mildness; but latterly heavy rains have been of frequent occurrence and have hindered the seeding of spring cereals. Vegetation, owing to the exceptionally mild season, is greatly advanced beyond the normal stage and considerable apprehension is felt lest a recurrence of frost should cause a disastrous set back.

The sugar campaign is said to have finished with a production of sugar less than the previous year by nearly 203,000 Canadian tons. The sugar beet market is active and probably the areas to be sown to this crop will be larger than in 1911.

**Hungary.** The first report this spring of the Hungarian Agricultural Department (March 11) speaks very favourably of the condition of the winter crops and also of the spring crops where sown. The weather during the fall and winter was perfectly favourable for cultivation and seeding, and the crops have come well through the winter. The cold and copious rains last fall caused the destruction of injurious insects and field mice, and very few complaints as to damage from these causes have been received. Owing to the melting of the snow and the mildness of the weather, spring cultivation and seeding have commenced very early. The general condition of the crops is summed up not only as satisfactory but as very good compared with their condition in previous years at the same date.

**Rumania.** The Rumanian Agricultural Department under date of February 10 [o.s.] reports the following as the acreages sown to winter crops last fall as compared with the fall sown crops of 1910, the latter being placed within parentheses: wheat 5,041,000 (4,842,000), rye 280,500 (321,200), barley 90,400 (124,000), rape 207,000 (218,900). The area under winter wheat shows an increase of 199,400 acres. Each of the other crops shows a decrease.

## INTERNATIONAL INSTITUTE OF AGRICULTURE.

The Bulletin of agricultural statistics for March gives the latest data received up to March 20 as to the production of wheat in the four countries of the southern hemisphere, viz., Argentina, Chili, Australia and New Zealand. For these countries the total production of wheat for the agricultural year 1911-12 is now estimated at 290,469,000 bushels as against 273,062,000 bushels in 1910-11, the increase representing 6.4 p.c.

The figures published last month showing the area sown to winter cereals in the northern hemisphere have undergone but slight changes, with the exception of those for India, for which country more complete figures are available. The area sown to wheat in India is now given as 29,444,000 acres or 99.6 p.c. of the area sown in 1910. In Belgium, Denmark, France, Hungary, Luxemburg, Rumania, Switzerland, Canada, United States, India and Japan the total area sown to winter wheat amounts to 94,149,000 acres or 2.2 p.c. more than the area sown in 1910. This figure represents about 40 p.c. of the total area under winter and spring wheat in the northern hemisphere.

From some of the countries have been received a statement of the condition of winter crops numerically expressed according to the Institute's scale. In this scale 100 represents a condition which will give a yield per unit of area equal to the average yield of the past ten years, assuming that the crop will not be subjected to the effect of any extraordinary phenomena up to the time of harvest. Although expressed in numerical form the condition represented can only be regarded as approximate, being based solely upon appearance of the vegetation which is sometimes deceptive; and moreover the condition relates to a very early stage of development. The following are the figures of condition for each country that has supplied them: Wheat, Hungary (including Croatia and Slavonia) and Rumania



120, Luxemburg 118, Bulgaria 115, Belgium 105, Spain and Ireland 100, Denmark 99. Rye, Rumania 120, Luxemburg 112, Hungary and Bulgaria 115, Croatia and Slavonia 110, Belgium 105, Spain 100, Denmark 98. Barley, Hungary (including Croatia and Slavonia), Luxemburg and Rumania 120, Bulgaria 115, Belgium 105, Spain 100. Oats, Spain and Ireland 100.

Spring sowing has commenced almost everywhere under favourable conditions. In France the high temperature and frequent rains have so encouraged vegetation that winter cereals are from three to four weeks more advanced than in a normal season. In several regions sheep have been turned into the fields, so that they may eat off the young plants, thus checking growth and avoiding subsequent lodging. Weeds abound.

Supplementary notices as to the harvest of 1911 in the northern hemisphere include the production of the following countries, the quantities being converted from quintals to bushels of the Canadian legal weights: Denmark, wheat 4,469,000 (4,550,000), rye 19,713,000 (19,998,000), barley 23,025,000 (23,877,000), oats 46,900,000 (46,673,000). Italy, late corn (maggengo) 89,885,000 (97,515,000), early corn (cinquantino and quarantino) 3,795,000 (4,172,000), total corn 93,680,000 (101,687,000). The figures within parentheses are those of the previous year. The Portuguese Statistical Bureau reports that the area under wheat in Portugal in 1911 was 1,211,000 acres with a production of 11,850,000 bushels, a yield per acre of 9.79 bushels. These figures do not include the Azores or Madeira. The final returns of sugar beet in Austria show a production for 1911 of 4,685,000 short tons as compared with 7,784,000 in 1910, a decrease of 39.8 p.c. In Denmark for 1911 the sugar beet production was 794,000 tons against 814,000 tons in 1910, a decrease of 2.5 p.c.

A census of live stock was taken in Hungary (excluding Croatia and Slavonia) in the spring of 1911. The following are the numerical results compared with the previous census of 1895:

| Description                        | 1895      | 1911      | Increase (+) decrease (-) |          |                      |
|------------------------------------|-----------|-----------|---------------------------|----------|----------------------|
|                                    |           |           | Absolute                  | Per cent | per 1000 inhabitants |
| Horses .....                       | 1,972,930 | 2,000,611 | + 27,681                  | + 1.4    | - 13                 |
| Asses and mules .....              | 22,278    | 18,765    | - 3,513                   | -15.8    | -0.36                |
| Cattle (including buffaloes) ..... | 5,829,483 | 6,193,424 | + 363,941                 | + 6.1    | - 24                 |
| Sheep .....                        | 7,526,783 | 7,696,881 | + 170,098                 | + 2.3    | - 48                 |
| Pigs .....                         | 6,447,134 | 6,415,197 | - 31,937                  | - 0.5    | - 51                 |
| Goats .....                        | 286,392   | 331,383   | + 44,991                  | + 15.7   | -0.28                |

Although the increase in the number of cattle has not been proportionate to the increase of population, it should not be concluded that there has been a depreciation in this branch of production, for during the past 15 years there has been a considerable improvement in the quality of the cattle. The decrease in the number of pigs is explained by the prevalence of disease which has been responsible for large losses during the past 10 years.

## THE MONTREAL SCHOOL OF COMMERCE.

There has lately been established under the auspices of the Government of Quebec a School of Commerce at Montreal known in French as the "Ecole des Hautes Etudes Commerciales de Montréal". The school has for its main object the education and training of young men intending to follow a commercial career and hoping eventually to fill positions of high responsibility in the world of commerce, of industry or of finance. It undertakes also to train candidates for the higher branches of the civil service, and awards the diplomas of "Licentiate" and "Doctor" in commercial and maritime science.

An official organ of the school entitled "*Revue Economique Canadienne*" is published monthly under the editorship of the director, Professor A. J. de Bray, and the seventh number for March 1912 opens with an excellent and well illustrated article on the mining resources of the province of Quebec. From it we learn that the annual mineral production of the province of Quebec has increased in value from \$1,673,337 in 1898 to \$8,567,143 in 1911; also that the mineral products of highest value in Quebec last year were asbestos (\$2,939,006), cement (\$1,931,183), lime (\$1,081,059) and brick (\$1,135,501).

Another article in the same issue, signed by the editor himself, is on the teaching of statistics. It gives an interesting appreciation of the value of statistics correctly compiled and intelligently interpreted. Whether statistics can properly be termed a science in itself or whether only the hand-maid of other sciences has been disputed in the past; but there is little doubt that the present tendency is to accept the former proposition. Prof. de Bray leaves us in no doubt as to his own views on this point. He writes: "Statistics is a true science to which all others are indebted; it presents in numerical form indications which are becoming more and more indispensable to all branches of human activity." His article commences with a quotation from Mark Twain that there are two ways of deceiving one's fellow men, one by perjury and the other by statistics. To the same class of cynical humour may be assigned the dictum of Thiers quoted by Prof. Edgeworth at a recent meeting of the Royal Statistical Society of London, England: "Statistics is the art of stating precisely what one does not know." But a truer definition is that of an eminent French economist and statistician, the late Emile Levasseur, who spoke of statistics as "illuminating the footsteps of the future by exact knowledge of the present."

This is the important work to which the Montreal School of Commerce proposes to devote itself, and Prof. de Bray announces the establishment at the school of a chair of statistics with a course of study divided into two parts, one dealing with the theory of statistics and the other with applied statistics.

The need in Canada for trained statisticians must make itself increasingly felt with the development of the country and with the consequent presentation of complex social problems to the solution of which scientifically prepared statistics will prove more than ever indispensable.

## CLEAN HANDLING AND CAREFUL COOLING.

Judicious handling and careful refrigeration of perishable products are the two things most necessary for the conservation of food. The one and the other are alike indispensable, and without both it is not possible to get good results.

The United States Department of Agriculture conducts a branch known as the Food Research Laboratory, and during the past winter a valuable paper by one of its officers was read at the Convention of the Society of Refrigerating Engineers in New York city. Good handling was put first by the writer because the marketing of perishables shows it to be the most important factor. Experience has shown that without cleanliness no cooling process alone can give good results.

The Washington Laboratory has been employing a number of field workers in Tennessee studying the treatment of poultry and eggs, and the high temperature of this State gives the conditions of experiments their best test.

The first step is to prepare the chickens for killing. They are starved for twenty-four hours, so that readily putrefiable material may pass from the intestines, and in all work of the killing room cleanliness is the first order. The chickens are hung by the legs from a metal rack and the blood vessels of the neck are cut to drain the tissues as well as possible from blood. Then the feathers are picked off in a dry state, without tearing or rubbing, and the bodies are hung from the rack to provide for a free circulation of air. From the killing room the birds are with as little delay as possible wrapped in paper and removed to the chilling room, where a temperature of below 33 degrees F. is maintained.

No amount of cooling will get the chickens to market with the bloom and finish that is desirable without cleanliness. Blood left in the mouth or on the head will decompose in spite of good chilling; and the dirty feet of one chicken pressing against the flesh of one next to it will taint its fine flavour though kept cold continuously. Soiled skins lose their bright colour, and red blotches and flabby flesh will follow unfinished bleeding.

The writer of the paper gives the results of a summer's operations for a series of weekly shipments last year from Tennessee to New York. A carload of dry-picked and dry-packed poultry was sent north once a week, and only one carload arrived at the market during that period in bad order, which was a consequence of failure to ice the car. All the other cars arrived with the birds in surprisingly good condition, and were good food almost three weeks after killing, even during the hot month of July. But of course a uniformly good temperature was maintained from first to last. At no time were they frozen, and "the unbiased findings of the Laboratory showed that bacteriologically and chemically the changes in the composition of the flesh of these well handled, well refrigerated birds were actually less than in that of birds badly handled and on the market for half the time of the experimental shipments."

A few shippers provided with artificial chilling facilities shipped eggs north for a long part of the summer and found the business profitable. They

found that eggs subjected to unfavourable conditions would change en route, even though refrigerated, to such an extent that the packer could not realise upon them when they reached their market. But if they were chilled when fresh, only a small percentage of loss occurred. "All our experimental shipments of eggs", the writer says, "have confirmed and emphasised our observations on the results obtained by the industry. We find that such factors as dirty shells, wet nests, damp cellars, etc., cannot be overcome by refrigeration, and that the eggs must go to the cooler in good condition whether it be for prompt marketing or for long storage, if the maximum benefit of the low temperature is to be secured".

Cold storage as we have it in Canada is not as good as it should be. Especially is this the case as regards poultry and eggs. Some of us were born in the country and we know what a fresh egg is, and also a good chicken; and the cold storage man often causes us to regret that he has taken up a business which he does not understand. Every food product should be given clean and honest treatment.

## THE WEATHER DURING MARCH.

The Dominion Meteorological Service reports that during March the weather was unusually cold over the great part of the Dominion, with the largest departures below average in southern Ontario and southern Saskatchewan. Locally however, in eastern Manitoba and northward from northern districts in British Columbia and Alberta, the temperature was above the average, reaching a positive departure of 9° at Dawson City, Yukon. In British Columbia and the western provinces, with the exceptions noted above, the negative departures were from 2° to 6°; in Ontario the continuous cold weather resulted in a mean temperature of from 3° to 8° below the average, while in Quebec and the Maritime provinces the negative differences were from 1° to 4°. Precipitation during March exceeded the average very locally in Ontario and in eastern Quebec, northern New Brunswick and eastern districts of Nova Scotia. Elsewhere in Canada it was deficient, and in British Columbia and the western provinces to a marked extent. Practically no reports regarding the amount of snow on the ground in British Columbia have been received; but it is apparent that there is a considerable amount on the mountains, although it is probably less than at the end of February. In the western provinces there is comparatively little snow on the ground, the depth in eastern Saskatchewan and Manitoba being from two to four inches, while in other districts the ground is practically bare. A large amount of snow, between thirty and forty inches, lies on the ground in northern Ontario and over the greater part of Quebec; but this depth decreases southward to a trace near the shores of Lake Ontario and near the Bay of Fundy.



## COLONIAL AND FOREIGN PRODUCE IN BRITISH MARKETS.

**Wheat, etc.** On February 26 the following prices were quoted at Mark Lane per quarter of 496 lb.: Manitoba No. 2 43s 6d-43s 9d, No. 3 42s 6d-43s, No. 4 39s 9d-40s, No. 5 38s-38s 3d, No. 6 35s-35s 6d, feed 30s-30s 6d, red winter 37s-38s, Australian 39s 6d-40s, New Zealand 38s-38s 6d, Russian finest 41s-42s, good 38s-39s, com. 36s-37s, California 37s 6d-38s 6d, Blue Stem 37s 6d-38s 6d, white Walla 37s-37s 6d, red Walla 36s 6d-37s, white Bombay 40s 6d-41s, white Calcutta 40s-40s 6d, white Karachi 39s-40s, red Karachi 38s 6d-39s. Buckwheat per 416 lb., Russian 27s-29s, French 34s-35s, Canadian split peas 45s-46s, Indian split peas 50s-52s. Oats per 320 lb., Canadian 21s-22s, New Zealand 23s-24s.

**Flour.** On February 26 the prices at Mark Lane for imported flour per sack of 280 lb. were: Hungarian 38s 6d-39s, Iron Duke 25s 6d-26s, American finest 31s 6d-32s, 1st pat. 30s 6d-30s 9d, 2nd pat. 28s 9d-29s 3d, 1st bak. 25s-25s 6d, 2nd bak. 24s 24s 6d, low grade 20s 6d-21s 6d, Manitoba pat. 30s 6d-31s 6d, straights 27s 6d-28s 6d, Kansas best 28s-28s 6d, firsts 27s 6d-26s 9d, seconds 26s 6d-27s, Californian 29s 6d-30s 6d, Argentine pat. 26s-27s, Argentine bak. 22s-23s, Australian 26s-26s 3d, French fancy 32s 6d-33s, Belgian 31s-32s, Galatz 33s-35s.

**Fresh Meats.** The average official monthly prices in February were per 112 lb.: Canadian and U. S. A. port killed, London 59s 6d and 57s 6d; Liverpool 58s 6d and 54s 6d; Manchester 57s and 53s 6d; Glasgow second quality 47s. Argentine frozen hind quarters, London 37s; Birmingham 36s; Liverpool 36s 6d; Manchester 36s 6d; Edinburgh 37s; Glasgow 37s 6d; fore quarters, London, Liverpool and Manchester 28s 6d; Birmingham and Edinburgh 29s; Glasgow 30s. Argentine chilled hind quarters, London, Edinburgh and Glasgow 46s; Birmingham 45s 6d; Liverpool 44s; Manchester 44s 6d; fore quarters, London 33s; Birmingham 32s; Liverpool and Manchester 31s 6d; Edinburgh 33s 6d; Glasgow 34s. Australian frozen hind quarters, London and Glasgow 28s; Birmingham 29s 6d; Liverpool and Manchester 26s. For the week ended February 29 the prices were: Canadian and U. S. A. port-killed, London 60s 8d and 58s 4d; Liverpool 58s 4d and 56s. Argentine chilled hind quarters, London, Dundee and Glasgow 42s; Birmingham and Edinburgh 40s 10d; Leeds, Liverpool and Manchester 39s 8d. Australian frozen hind quarters, London, Birmingham and Glasgow 35s; Leeds, Liverpool and Manchester 32s 8d.

**Bacon and Hams.** The average official prices in February for Canadian bacon per 112 lb. were: London 58s and 55s; Bristol 55s 6d and 53s 6d; Liverpool 55s and 52s; Glasgow 58s and 56s. For the week ended February 29 the prices were: Canadian sides, London 59s and 56s; Bristol 58s and 56s; Liverpool 58s and 55s; Glasgow 59s and 57s. Canadian Cumberland cuts, Liverpool 54s and 47s; Glasgow 53s and 50s. Danish sides, London 64s and 61s; Bristol 63s and 61s; Liverpool 62s and 59s.

Canadian long cut green hams, London 66s and 60s; Bristol 62s and 58s; Liverpool 65s and 57s; Glasgow 56s. American long cut green hams, London 56s and 50s; Bristol 53s and 50s; Liverpool 53s 6d and 49s; Glasgow 52s; American short cut green hams, London 56s and 52s; Bristol 54s and 52s; Liverpool 53s 6d and 49s; Glasgow 52s.

**Cheese.** The average prices in February for Canadian cheese per 112 lb. were: London 76s and 74s 6d; Bristol 75s and 74s; Liverpool 74s 6d and 73s; Glasgow 76s and 74s. For the week ended February 29 the prices of Canadian cheese were: London 76s and 74s; Bristol 75s and 74s; Liverpool 74s 6d and 73s. New Zealand cheese, London 72s and 71s; Bristol 73s and 72s 6d; Glasgow 73s 6d.

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## PUBLICATIONS OF THE CENSUS AND STATISTICS OFFICE.

Copies of the undermentioned publications will so far as available be sent free on application to Archibald Blue, Chief Officer, Census and Statistics Office, Ottawa.

THE CANADA YEAR BOOK. Second Series, 1905-1910.

Each of these six Volumes contains a complete summary of the principal events of the year and the acts of the Dominion Parliament, with statistics of population, agriculture, forestry, minerals, manufactures, trade and commerce, public accounts, banking, post office, insurance, railways, canals, marine, fisheries, etc.

REPORT ON THE CENSUS OF POPULATION AND AGRICULTURE OF THE NORTHWEST PROVINCES  
Manitoba, Saskatchewan and Alberta, 1906.

LONGEVITY AND SANITATION. Bulletin VIII. The substance of addresses delivered by Archibald Blue before the McMaster Convocation and the American Public Health Association.

THE BEET SUGAR INDUSTRY. Bulletin IX. The result of an investigation of Sugar Beet production in Canada and the manufacture of the roots into refined sugar, with Appendix A consisting of the Hearings of the Customs Tariff Committee, 1905, and Appendix B, Beet Sugar Production in Posen, Germany. 75 pp., 3 illustrations.

OCCUPATIONS OF THE PEOPLE. Bulletin XI. The figures in this Bulletin are compiled from data of the Census of 1901.

FIFTH CENSUS OF CANADA, 1911. Special Report on area and population, 172 pp.

# CENSUS AND STATISTICS MONTHLY

Vol. 5

OTTAWA APRIL 1912

No. 47

PUBLISHED BY AUTHORITY OF HONOURABLE GEORGE E. FOSTER, MINISTER OF TRADE AND COMMERCE. CORRESPONDENCE RELATING TO THE CENSUS AND STATISTICS MONTHLY SHOULD BE ADDRESSED TO ARCHIBALD BLUE, CHIEF OFFICER OF THE CENSUS AND STATISTICS OFFICE, DEPARTMENT OF TRADE AND COMMERCE, OTTAWA, CANADA.

## CROPS AND LIVE STOCK IN CANADA.

Report for the month ended March 31 1912.

The reports of correspondents show that out of a yield of 215,851,300 bushels of wheat harvested last year 188,255,000 bushels, or 87 p. c., were merchantable, and that at the end of March 58,129,000 bushels, or 27 p. c. of the whole, were yet in farmers' hands. The quantity held by farmers in the Maritime provinces of March 31 was 329,000 bushels, in Quebec 350,000 bushels, in Ontario 3,874,000 bushels, in Manitoba, Saskatchewan and Alberta 53,528,000 bushels and in British Columbia 48,000 bushels. At the same date last year the quantity in hand in all Canada was 33,042,000 bushels, or 22 p. c. of the total crop of 149,989,600 bushels, of which 141,096,000 bushels, or 94 p. c., were of merchantable quality.

Oats, which last year gave a yield of 348,187,600 bushels, was merchantable to the extent of 310,074,000 bushels, or 89 p. c., and the quantity in hand at the end of March was 153,846,000 bushels, or 44.18 p. c. In the Maritime provinces there were in hand at that date 4,007,000 bushels, in Quebec 12,780,000 bushels, in Ontario 24,870,000 bushels, in Manitoba, Saskatchewan and Alberta 111,735,000 bushels and in British Columbia 454,000 bushels. In the preceding year the quantity in hand out of a total harvest of 323,449,000 bushels was 127,587,000 bushels, or 39.44 p. c., and there was a total of 301,773,000 bushels, or 93.29 p. c., of merchantable quality.

The barley yield of 1911 was 40,641,000 bushels, and of this quantity there was in hand at the end of March 13,235,000 bushels, or 32.56 p. c. The merchantable yield was 36,683,000 bushels, or 90.26 p. c. The barley crop of 1910 was 45,147,000 bushels, and the quantity on hand at the end of March last year was 13,135,000 bushels, or 29 p. c. The merchantable quantity of that crop was 41,505,000 bushels, or 91.93 p. c. Ontario's crop last year was 13,760,000 bushels and that of the three Northwest provinces 24,043,000 bushels.

The merchantable yield of corn last year was 84 p. c. of the crop, of buckwheat 84 p. c., of potatoes 80 p. c., of turnips and other roots 85 p. c. and of hay and clover 88 p. c., as compared with last year's percentages of

corn 84, buckwheat 87, potatoes 77, turnips and other roots 87 and hay and clover 88. The quantities on hand at the end of March were, in bushels, corn 3,659,000, compared with 4,734,000 in 1911, buckwheat 1,728,000 against 1,750,000, potatoes 20,404,000 against 23,564,000 and turnips and other roots 14,055,000 against 16,159,000. Of hay and clover there were on hand at the end of March last 3,134,000 tons, compared with 5,287,000 tons on hand at the end of March 1911.

The condition of live stock at the end of March, expressed in the percentage of a standard representing a healthy and thrifty state and denoted by 100, was for horses 96, milch cows 92·58, other cattle 91·53, sheep 93·40 and swine 94. Only in Prince Edward Island for cattle, in Nova Scotia for milch cows, in Ontario for cattle and in British Columbia for cattle other than milch cows and for sheep do the figures representing condition fall below a percentage of 90.

Census and Statistics Office  
April 29 1912.

ARCHIBALD BLUE  
Chief Officer.

#### 1. Statistics of the 1911 Harvest of Canada and the Provinces.

| Field crops          | Total production in 1911 | In farmers hands March 31 1912 |             | Yield of 1911 harvest merchantable |             |
|----------------------|--------------------------|--------------------------------|-------------|------------------------------------|-------------|
|                      | bush.                    | bush.                          | p.e.        | p.e.                               | bush.       |
| Canada—              |                          |                                |             |                                    |             |
| Wheat. ....          | 215,851,300              | 26·03                          | 58,129,000  | 87·22                              | 188,255,000 |
| Oats. ....           | 348,187,600              | 44·18                          | 153,846,000 | 89·05                              | 310,074,000 |
| Barley. ....         | 40,641,000               | 32·56                          | 13,235,000  | 90·26                              | 36,683,000  |
| Rye. ....            | 2,694,400                | 24·50                          | 660,000     | 89·07                              | 2,400,000   |
| Buckwheat. ....      | 8,155,500                | 21·19                          | 1,728,000   | 84·08                              | 6,857,000   |
| Corn. ....           | 18,712,700               | 19·49                          | 3,659,000   | 84·65                              | 15,891,000  |
| Flaxseed. ....       | 12,921,000               | 27·71                          | 3,581,000   | 73·36                              | 9,479,000   |
| Potatoes. ....       | 66,023,000               | 30·90                          | 20,404,000  | 80·21                              | 52,955,000  |
| Turnips, etc. ....   | 84,933,000               | 16·53                          | 14,055,000  | 85·10                              | 72,279,000  |
|                      | tons                     |                                | tons        |                                    | tons        |
| Hay and clover. .... | 12,694,000               | 24·69                          | 3,134,000   | 88·66                              | 11,255,000  |
| P. E. Island—        | bush.                    |                                | bush.       |                                    | bush.       |
| Wheat. ....          | 579,560                  | 36·67                          | 213,000     | 88·05                              | 510,000     |
| Oats. ....           | 5,239,600                | 28·76                          | 1,507,000   | 82·50                              | 4,323,000   |
| Barley. ....         | 117,000                  | 25·29                          | 30,000      | 81·53                              | 95,000      |
| Buckwheat. ....      | 74,100                   | 22·39                          | 17,000      | 82·64                              | 61,000      |
| Potatoes. ....       | 5,409,600                | 37·27                          | 2,016,000   | 75·67                              | 4,093,000   |
| Turnips, etc. ....   | 3,433,000                | 16·05                          | 551,000     | 79·76                              | 2,738,000   |
|                      | tons                     |                                | tons        |                                    | tons        |
| Hay and clover. .... | 289,000                  | 24·26                          | 70,000      | 85·47                              | 247,000     |
| Nova Scotia—         | bush.                    |                                | bush.       |                                    | bush.       |
| Wheat. ....          | 208,000                  | 23·92                          | 50,000      | 84·17                              | 176,000     |
| Oats. ....           | 2,471,000                | 26·33                          | 651,000     | 85·96                              | 2,124,000   |
| Barley. ....         | 104,000                  | 24·70                          | 41,000      | 88·92                              | 146,000     |
| Rye. ....            | 15,400                   | 17·83                          | 3,000       | 65·00                              | 10,000      |
| Buckwheat. ....      | 172,400                  | 18·70                          | 32,000      | 82·59                              | 142,000     |



## 1. Statistics of the 1911 Harvest of Canada and the Provinces—con.

| Field crops         | Total production in 1911 | In farmers' hands March 31 1912 | Yield of 1911 harvest merchantable |
|---------------------|--------------------------|---------------------------------|------------------------------------|
|                     | bush.                    | p.c.                            | bush. p.c. bush.                   |
| Nova Scotia—con.    |                          |                                 |                                    |
| Corn.....           | 5,700                    | 20.50                           | 1,000 90.90 5,000                  |
| Potatoes.....       | 4,884,000                | 32.00                           | 1,563,000 71.65 3,499,000          |
| Turnips, etc.....   | 4,399,000                | 18.91                           | 832,000 85.77 3,773,000            |
|                     | tons                     |                                 | tons                               |
| Hay and clover..... | 706,000                  | 22.49                           | 159,000 88.62 626,000              |
| New Brunswick—      | bush.                    |                                 | bush.                              |
| Wheat.....          | 270,000                  | 24.31                           | 66,000 91.62 247,000               |
| Oats.....           | 5,727,000                | 32.29                           | 1,849,000 84.14 5,292,000          |
| Barley.....         | 74,000                   | 19.46                           | 14,000 87.60 65,000                |
| Buckwheat.....      | 1,633,000                | 22.85                           | 373,000 89.15 1,456,000            |
| Potatoes.....       | 8,627,000                | 29.72                           | 2,564,000 89.46 7,718,000          |
| Turnips, etc.....   | 3,879,000                | 19.14                           | 742,000 87.32 3,387,000            |
|                     | tons                     |                                 | tons                               |
| Hay and clover..... | 835,000                  | 26.56                           | 222,000 91.17 761,000              |
| Quebec—             | bush.                    |                                 | bush.                              |
| Wheat.....          | 1,260,000                | 27.81                           | 350,000 85.44 1,077,000            |
| Oats.....           | 37,512,000               | 34.07                           | 12,780,000 84.14 31,563,000        |
| Barley.....         | 2,413,000                | 22.61                           | 546,000 85.27 2,068,000            |
| Rye.....            | 321,000                  | 19.72                           | 63,000 83.74 266,000               |
| Buckwheat.....      | 2,496,000                | 22.95                           | 573,000 80.64 2,013,000            |
| Corn.....           | 766,000                  | 18.60                           | 142,000 80.21 614,000              |
| Potatoes.....       | 17,435,000               | 26.90                           | 4,690,000 73.22 12,766,000         |
| Turnips, etc.....   | 4,298,000                | 17.52                           | 753,000 84.42 3,628,000            |
|                     | tons                     |                                 | tons                               |
| Hay and clover..... | 5,742,000                | 28.26                           | 1,623,000 86.62 4,974,000          |
| Ontario—            | bush.                    |                                 | bush.                              |
| Wheat.....          | 19,252,000               | 20.12                           | 3,874,000 88.86 17,107,000         |
| Oats.....           | 82,679,000               | 30.08                           | 24,870,000 83.65 69,161,000        |
| Barley.....         | 13,760,000               | 21.36                           | 2,939,000 88.02 12,112,000         |
| Rye.....            | 1,766,000                | 17.90                           | 316,000 90.58 1,600,000            |
| Buckwheat.....      | 3,780,000                | 19.39                           | 733,000 84.26 3,185,000            |
| Corn.....           | 18,001,000               | 19.53                           | 3,516,000 84.84 15,272,000         |
| Flaxseed.....       | 118,000                  | 23.01                           | 27,000 87.82 104,000               |
| Potatoes.....       | 15,624,000               | 22.97                           | 3,589,000 76.96 12,024,000         |
| Turnips, etc.....   | 60,077,000               | 14.68                           | 8,907,000 84.48 51,260,000         |
|                     | tons                     |                                 | tons                               |
| Hay and clover..... | 4,583,000                | 19.18                           | 879,000 90.74 4,159,000            |
| Manitoba—           | bush.                    |                                 | bush.                              |
| Wheat.....          | 60,275,000               | 22.46                           | 13,638,000 94.94 57,225,000        |
| Oats.....           | 57,893,000               | 50.16                           | 29,039,000 96.53 55,884,000        |
| Barley.....         | 14,447,000               | 35.38                           | 5,111,000 94.95 13,717,000         |
| Flaxseed.....       | 1,123,000                | 24.98                           | 281,000 85.00 955,000              |
| Potatoes.....       | 5,122,000                | 39.70                           | 2,033,000 90.81 4,651,000          |
| Turnips, etc.....   | 1,579,000                | 18.75                           | 296,000 94.33 1,489,000            |
|                     | tons                     |                                 | tons                               |
| Hay and clover..... | 237,000                  | 37.21                           | 88,000 94.23 223,000               |

## I. Statistics of the 1911 Harvest of Canada and the Provinces—con.

| Field crops         | Total production in 1911 | In farmers' hands March 31 1912 |            | Yield of 1911 harvest merchantable |            |
|---------------------|--------------------------|---------------------------------|------------|------------------------------------|------------|
|                     | bush.                    | p.c.                            | bush.      | p.c.                               | bush.      |
| Saskatchewan—       | bush.                    |                                 | bush.      |                                    | bush.      |
| Wheat.....          | 97,665,000               | 27.42                           | 26,780,000 | 86.35                              | 84,334,000 |
| Oats.....           | 97,962,000               | 52.40                           | 51,332,000 | 92.27                              | 90,370,000 |
| Barley.....         | 5,145,000                | 47.87                           | 2,607,000  | 90.23                              | 4,913,000  |
| Flaxseed.....       | 10,688,000               | 25.88                           | 2,766,000  | 72.85                              | 7,786,000  |
| Potatoes.....       | 4,505,000                | 45.74                           | 2,061,000  | 93.33                              | 4,295,000  |
| Turnips, etc.....   | 2,841,000                | 39.62                           | 870,000    | 91.33                              | 2,595,000  |
|                     | tons                     |                                 | tons       |                                    | tons       |
| Hay and clover..... | 28,060                   | 39.51                           | 11,000     | 91.00                              | 25,000     |
| Alberta—            | bush.                    |                                 | bush.      |                                    | bush.      |
| Wheat.....          | 36,143,000               | 36.55                           | 13,210,000 | 75.77                              | 27,386,000 |
| Oats.....           | 56,961,000               | 55.06                           | 31,364,000 | 87.25                              | 49,791,000 |
| Barley.....         | 4,151,000                | 46.90                           | 1,947,000  | 84.55                              | 3,510,000  |
| Rye.....            | 564,000                  | 49.37                           | 278,000    | 92.89                              | 524,000    |
| Flaxseed.....       | 973,000                  | 52.07                           | 507,000    | 65.14                              | 634,000    |
| Potatoes.....       | 4,417,000                | 42.74                           | 1,888,000  | 90.54                              | 3,999,000  |
| Turnips, etc.....   | 3,827,000                | 28.86                           | 1,104,000  | 89.08                              | 3,409,000  |
|                     | tons                     |                                 | tons       |                                    | tons       |
| Hay and clover..... | 274,000                  | 29.76                           | 82,000     | 87.75                              | 240,000    |
| British Columbia—   | bush.                    |                                 | bush.      |                                    | bush.      |
| Wheat.....          | 198,000                  | 24.23                           | 48,000     | 97.50                              | 193,000    |
| Oats.....           | 1,740,000                | 26.12                           | 454,000    | 95.19                              | 1,656,000  |
| Barley.....         | 70,000                   | 16.86                           | 12,000     | 96.25                              | 67,000     |

## II. Statistics of the Harvest of Canada for 1909, 1910 and 1911 compared.

| Field crops         | Total production |             |             | In farmers' hands March 31 |             |             |
|---------------------|------------------|-------------|-------------|----------------------------|-------------|-------------|
|                     | 1911             | 1910        | 1909        | 1912                       | 1911        | 1910        |
| Canada—             | bush.            | bush.       | bush.       | bush.                      | bush.       | bush.       |
| Wheat.....          | 215,851,300      | 149,989,600 | 166,744,000 | 58,129,000                 | 33,012,000  | 30,484,000  |
| Oats.....           | 348,187,600      | 323,449,000 | 353,466,000 | 153,846,000                | 127,587,000 | 141,499,000 |
| Barley.....         | 40,641,000       | 45,147,000  | 55,398,000  | 13,235,000                 | 13,135,000  | 16,517,000  |
| Rye.....            | 2,694,400        | 1,543,500   | 1,715,000   | 660,000                    | 323,000     | 351,000     |
| Buckwheat.....      | 8,155,500        | 7,243,000   | 7,806,000   | 1,728,000                  | 1,759,000   | 1,835,000   |
| Corn.....           | 18,772,700       | 18,726,000  | 19,258,000  | 3,659,000                  | 4,734,000   | 3,604,000   |
| Flaxseed.....       | 12,921,000       | -           | -           | 3,581,000                  | -           | -           |
| Potatoes.....       | 66,023,000       | 74,048,000  | 99,087,200  | 20,404,000                 | 23,564,000  | 43,289,000  |
| Turnips, etc.....   | 84,933,000       | 95,207,000  | 107,724,600 | 14,055,000                 | 16,159,000  | 17,166,000  |
|                     | tons             | tons        | tons        | tons                       | tons        | tons        |
| Hay and clover..... | 12,694,000       | 15,497,000  | 11,877,100  | 3,134,000                  | 5,287,000   | 2,793,000   |

### II. Statistics of the Harvest of Canada for 1909, 1910 and 1911 compared—con.

| Field crops—con. | Yield of harvest merchantable |             |             | Per cent of total yield merchantable in |       |       | Per cent of total yield on hand |       |       |
|------------------|-------------------------------|-------------|-------------|---|-------|-------|---------------------------------|-------|-------|
|                  | 1911                          | 1910        | 1909        | 1911                                    | 1910  | 1909  | 1912                            | 1911  | 1910  |
|                  | bush.                         | bush.       | bush.       | p. c.                                   | p. c. | p. c. | p. c.                           | p. c. | p. c. |
| Canada—          |                               |             |             |   |       |       |                                 |       |       |
| Wheat.....       | 188,255,000                   | 141,096,000 | 159,868,000 | 87.22                                   | 94.07 | 95.87 | 26.93                           | 22.02 | 18.28 |
| Oats.....        | 310,074,000                   | 301,773,000 | 321,190,000 | 89.05                                   | 93.29 | 90.86 | 44.18                           | 39.44 | 40.03 |
| Barley.....      | 36,683,000                    | 41,505,000  | 51,449,000  | 90.26                                   | 91.93 | 92.87 | 32.56                           | 29.09 | 29.81 |
| Rye.....         | 2,400,000                     | 1,281,000   | 1,543,000   | 89.07                                   | 82.99 | 89.58 | 24.50                           | 20.92 | 20.46 |
| Buckwheat....    | 6,857,000                     | 6,423,000   | 6,825,000   | 84.08                                   | 88.66 | 87.42 | 21.19                           | 24.15 | 23.50 |
| Corn.....        | 15,891,000                    | 15,662,000  | 15,606,000  | 84.65                                   | 83.63 | 81.04 | 19.49                           | 25.28 | 18.71 |
| Flaxseed.....    | 9,479,000                     | -           | -           | 73.36                                   | -     | -     | 27.71                           | -     | -     |
| Potatoes.....    | 52,955,000                    | 57,249,000  | 79,140,000  | 80.21                                   | 77.31 | 79.86 | 30.90                           | 31.82 | 43.68 |
| Turnips, etc..   | 72,279,000                    | 82,652,000  | 92,833,000  | 85.19                                   | 86.81 | 86.17 | 16.55                           | 16.97 | 15.93 |
| Hay and clover   | tons                          | tons        | tons        |   |       |       |                                 |       |       |
|                  | 11,255,000                    | 13,794,000  | 9,993,000   | 88.66                                   | 88.72 | 84.14 | 24.69                           | 34.11 | 23.51 |

### III. Comparative Condition of Live Stock, March 31, 1910-11-12.

| Live stock       | Per cent condition of live stock |       |       | Live stock        | Per cent condition of live stock |       |       |
|------------------|----------------------------------|-------|-------|-------------------|----------------------------------|-------|-------|
|                  | 1912                             | 1911  | 1910  |                   | 1912                             | 1911  | 1910  |
|                  | p. c.                            | p. c. | p. c. |                   | p. c.                            | p. c. | p. c. |
| Canada—          |                                  |       |       | Ontario—          |                                  |       |       |
| Horses.....      | 96.01                            | 95.37 | 93.98 | Horses.....       | 93.07                            | 95.84 | 92.60 |
| Milch cows....   | 92.58                            | 93.29 | 91.42 | Milch cows....    | 89.57                            | 94.00 | 90.58 |
| Other cattle.... | 91.53                            | 90.87 | 89.30 | Other cattle....  | 86.53                            | 92.98 | 88.55 |
| Sheep.....       | 93.40                            | 93.77 | 92.43 | Sheep.....        | 91.54                            | 94.11 | 91.26 |
| Swine.....       | 94.06                            | 94.36 | 92.77 | Swine.....        | 90.68                            | 95.00 | 89.86 |
| P. E. Island—    |                                  |       |       | Manitoba—         |                                  |       |       |
| Horses.....      | 93.00                            | 97.34 | 95.21 | Horses.....       | 98.10                            | 94.21 | 94.69 |
| Milch cows....   | 88.00                            | 94.04 | 89.75 | Milch cows....    | 95.44                            | 88.73 | 88.33 |
| Other cattle.... | 86.48                            | 91.91 | 86.12 | Other cattle....  | 96.03                            | 84.79 | 86.07 |
| Sheep.....       | 91.28                            | 93.12 | 90.44 | Sheep.....        | 96.23                            | 90.56 | 91.69 |
| Swine.....       | 90.24                            | 90.20 | 97.75 | Swine.....        | 97.44                            | 92.98 | 89.98 |
| Nova Scotia—     |                                  |       |       | Saskatchewan—     |                                  |       |       |
| Horses.....      | 96.53                            | 97.55 | 95.51 | Horses.....       | 99.02                            | 94.27 | 95.26 |
| Milch cows....   | 85.73                            | 97.11 | 92.68 | Milch cows....    | 93.56                            | 90.96 | 91.27 |
| Other cattle.... | 91.70                            | 94.62 | 89.82 | Other cattle....  | 93.21                            | 88.56 | 90.67 |
| Sheep.....       | 92.83                            | 95.25 | 91.25 | Sheep.....        | 94.86                            | 93.46 | 96.50 |
| Swine.....       | 94.04                            | 95.22 | 93.46 | Swine.....        | 95.81                            | 93.43 | 93.48 |
| New Brunswick—   |                                  |       |       | Alberta—          |                                  |       |       |
| Horses.....      | 95.75                            | 96.94 | 95.69 | Horses.....       | 96.40                            | 93.16 | 95.36 |
| Milch cows....   | 93.75                            | 94.85 | 91.48 | Milch cows....    | 96.66                            | 89.75 | 95.79 |
| Other cattle.... | 92.52                            | 93.73 | 89.86 | Other cattle....  | 95.41                            | 85.00 | 92.79 |
| Sheep.....       | 91.14                            | 93.40 | 91.72 | Sheep.....        | 97.70                            | 91.27 | 96.41 |
| Swine.....       | 94.35                            | 94.10 | 90.00 | Swine.....        | 97.26                            | 94.67 | 96.96 |
| Quebec—          |                                  |       |       | British Columbia— |                                  |       |       |
| Horses.....      | 95.74                            | 95.71 | 93.40 | Horses.....       | 94.96                            | 94.52 | 91.25 |
| Milch cows....   | 94.32                            | 95.95 | 93.19 | Milch cows....    | 94.55                            | 91.80 | 83.75 |
| Other cattle.... | 92.51                            | 93.77 | 90.65 | Other cattle....  | 86.58                            | 87.94 | 91.66 |
| Sheep.....       | 94.93                            | 94.05 | 94.95 | Sheep.....        | 88.21                            | 94.66 | 73.75 |
| Swine.....       | 93.55                            | 94.89 | 95.89 | Swine.....        | 92.23                            | 96.06 | 92.50 |

## NOTES OF REPORTS FROM THE PROVINCES.

**Maritime Provinces.** The winter has been long and exceptionally cold, but live stock have come through in good condition. The dry weather of last year caused some shortage of hay. Prices are high and prospects are therefore favourable.

**Quebec.** Live stock in general have wintered well; but cases of strangles are mentioned south of the St. Lawrence and in the Montreal counties. In the latter also the condition of the horses is affected by the scarcity of oats. In the eastern counties a correspondent remarks upon the great encouragement derived from the keeping of good dairy cows, especially fine large shorthorns. He also mentions a great demand for black faced sheep. Our correspondent, M. J. F. X. Cloutier, of Lamartine, L'Islet, brings under notice the prolificness of two cross-bred Merino ewes, each of which has dropped healthy triplets this spring, one of them having also dropped triplets in 1911.

**Ontario.** From all parts of the province, except northern Ontario, a great scarcity of fodder is reported. This was due to the heat and drouth of last year; but the difficulty has been accentuated by the length and excessive coldness of the past winter. Farmers have had to buy in large supplies both of grain and fodder. One correspondent in southern Ontario remarks that cattle fed on silage are in good condition, but where the silo is absent stock have been somewhat stinted. In northern Ontario supplies of fodder have on the other hand been plentiful, and large quantities of hay have been shipped out. In some cases more hay would have been shipped if cars could have been obtained for the purpose. Potatoes are generally scarce and high priced, and owing to the intense cold frost has invaded cellars which in ordinary years are free from it.

**Northwest Provinces.** The winter has been mild and very favourable for the wintering of live stock, which have come through as a rule in splendid condition. There are occasional complaints of strangles, distemper or influenza amongst horses, and some losses have occurred through pneumonia. Supplies of fodder have been plentiful, and in many cases have been supplemented by grain unfortunately frozen last year. From northern Saskatchewan a correspondent reports that much live stock have been grazed all the winter in fields of standing wheat without apparent injury to the stock. Some correspondents, especially in southern Saskatchewan, complain of the preference given by threshing machine owners to wheat, barley and oats to the detriment of flax threshing. Much flax would have been saved, it is stated, if it could have been threshed. In general it was flax sown late that was caught by the early frosts. In northern Alberta a large demand has arisen for pigs to be fed on tough wheat, and brood sows are stated to be selling at double value. In northern Alberta also spring ploughing had begun at the end of March, and prospects were favourable for an early spring. In southern Alberta considerable areas of



grain are reported as still in stook. Threshing of these was in progress, and in some cases difficulty was experienced from the stooks having frozen to the ground. In other cases where spring threshing from the stook was in progress the grain was said to be turning out well.

**British Columbia.** In this province the weather of March has been favourable for spring cultivation, and at the Agassiz Experimental Farm the grass is reported as coming along in good shape for the time of year.

### YIELD OF FLAXSEED IN THE NORTHWEST PROVINCES, 1911.

On January 13 last the Census and Statistics Office published estimates of the yield of flaxseed in 1911 based upon the returns made by correspondents at the end of December. The areas reported as sown to flax were those of the census of 1911, and there is no reason to doubt their substantial accuracy. The total yields were derived from the multiplication of these areas by the average yields per acre of harvested areas, as estimated by our correspondents on December 31.

It will however be remembered that the ripening of grain in the Northwest provinces was greatly hindered by the unusually rainy autumn, and this condition prevented also the curing and housing of much grain that had ripened and had been cut. With the setting in of severe weather it became apparent that large quantities of flax had either been destroyed while standing or could not be got into condition for threshing. The accuracy therefore of the figures of total yield, as reported to the Census and Statistics Office at the end of December, came under question.

In order to test the point our crop-reporting correspondents were asked at the end of March to state what percentage of the area sown to flax in 1911 was not harvested. The replies received from the three Northwest provinces indicate that in Manitoba about 20, in Saskatchewan about 40, and in Alberta about 57 p.c. of the areas sown to flax were not harvested. Deducting these proportions from the areas sown, as returned by the Census of June 1, the revised estimate amounts to 7,730,000 bushels as the yield of flaxseed in the Northwest provinces, which is 5,054,000 bushels less than the estimate reported at the end of December. The revised yield and value of flaxseed in 1911 will therefore be by provinces as follows:

| Province           | Area harvested | Yield per acre | Total yield | Weight per measured bushel | Average price per bush. | Total value |
|--------------------|----------------|----------------|-------------|----------------------------|-------------------------|-------------|
|                    | acres          | bush.          | bush.       | lb.                        | \$                      | \$          |
| Canada .....       | 682,622        | 11.52          | 7,867,000   | 53.29                      | 1.507                   | 11,855,000  |
| Quebec .....       | 1,719          | 11.31          | 19,000      | 53.81                      | 1.706                   | 32,000      |
| Ontario .....      | 8,367          | 14.06          | 118,000     | 52.25                      | 1.893                   | 223,000     |
| Manitoba .....     | 62,231         | 14.44          | 899,000     | 55.31                      | 1.760                   | 1,582,000   |
| Saskatchewan ..... | 570,030        | 11.25          | 6,413,000   | 53.89                      | 1.603                   | 9,639,000   |
| Alberta .....      | 40,275         | 10.39          | 418,000     | 53.43                      | 1.202                   | 502,000     |

It will be understood that these figures are only approximate, as it is impossible to state exactly the acreage sown to flax that was not harvested owing to failure of the crop.

In a letter received early in March by the Census and Statistics Office from a firm of linseed users it was stated that the flaxseed receipts at Winnipeg were then only about 2,500,000 bushels and also that it was estimated that only about half of the crop had been marketed. This would mean a total crop of about 5,000,000 bushels. The revised estimate in the above table now places the production for the whole of Canada at 7,867,000 bushels. If we deduct from this quantity, say, 27 p.c. as the proportion not of merchantable quality, in accordance with the estimate in column 5 of table 1, we get a total for Canada of about 5,740,000 bushels of which about 5,650,000 bushels represent the merchantable yield of the Northwest provinces.

### POTATO CANKER IN CANADA.

In previous issues of the Census Monthly (Vols. 2, 1909, p. 255; 5, 1912, p. 50) warnings have appeared against the potato canker (*Chrysophyctis endobiotica*). Mr. H. T. Güssow (Dominion Botanist) now reports the actual discovery of this disease in Canada amongst potatoes shipped from England. In "Farmers' Circular No. 1", dated May 7 1912 and obtainable from the Central Experimental Farm at Ottawa, it is stated that "such potatoes if used for seed will almost certainly be the means of establishing this disease in Canada". A new Order in Council under the Destructive Insect and Pest Act renders illegal the planting of potatoes imported from Europe.

### DEPARTMENTAL NOTES.

**Experimental Farms and Stations.** At the Central Farm, Ottawa, the temperatures recorded during April are on the whole very similar to those of the corresponding period of last year—the highest being 67, the lowest 7 and the mean 39·07, compared with extremes of 81·2 and 3·6 and a mean of 39·44 in 1911. The precipitation aggregates 2·8 inches, made up of 2·6 inches of rain and 2 inches of snow, as against a total of 1·47 inch in the previous year, consisting of 1·07 inch of rain and 4 inches of snow. The bright sunshine of the month aggregates 7·82 hours a day, compared with 8·58 hours daily in April 1911.

The annual distribution of free samples of high class seed grain from the Farm at Ottawa to farmers throughout Canada is now almost finished. The number of samples sent this year is somewhat smaller than usual, partly on account of the more stringent regulations which have been made with a view to confining the distribution as far as possible to those farmers who would take good care of the seed, and partly on account of a shortage of material for sending out. The unfavourable weather at some of the Branch Farms where the grain for distribution is raised, and the high standard of purity recently adopted for the seed sent out from Ottawa, made it impossible this year to obtain a sufficiently large quantity to meet all the requests that were received in good time. It is believed however that the superior material distributed will make the distribution more beneficial than before, even though the number of farmers supplied may be

less. The greatest demand this year has been for Marquis wheat, of which over five thousand samples have been distributed. These have been sent almost exclusively to the prairie provinces. Manchurian barley and Arthur peas have also been in considerable demand, although the quantity of the peas available was too small to furnish the number of samples needed. A considerable supply of Manchurian barley was available, enough to meet all the requests received within the time limit. The total number of samples of grain sent out this season is about thirteen thousand.

J. A. Clark, Superintendent of the Station at Charlottetown, P.E.I., reports: "The first week in April was quite cold and the sleighing remained fair until the 5th. The weather gradually became warmer until after the middle of the month. Sweet peas were sown on the 17th. Snow fell again on the 19th and the weather has continued backward. Very little growth has occurred, even the maples having hardly started. The crocuses began blooming on the 23rd. At the Experimental Station a new piggery is to occupy the site of the old barn, which has been removed. The roads have been graded and some levelling done, but at the close of the month the farm land still remained untouched. The summer service with the mainland opened on the 22nd, one week earlier than last year."

Robert Robertson, Superintendent of the Farm at Nappan, N.S., reports: "The weather during April has been more than usually cold, there being only seven nights during the whole month on which frost has not been recorded. It has also been quite dull, but no great amount of rain or snow fell—only 2.04 inches of precipitation in all. Besides taking care of the live stock, the main work during the month has been the getting out and cutting of the season's wood, cleaning seed grain, sending out potato samples and generally preparing for seeding. With the weather unusually cold there is a general appearance of a late spring. The bees were put out on the 8th."

G. A. Langelier, Superintendent of the Station at Cap Rouge, Que., reports: "April has been rather cold and the snow disappeared very slowly, sleighs giving place to wheels only at the latter end of the month. The ice bridge on the St. Lawrence River, right in front of the Experimental Station, was solid until the 28th, which no doubt had a tendency to keep the temperature down. At the Station the work consisted mostly of the care of stock, fixing roads, and the cutting of wood for fuel. Nothing has been done on the land in this district up to the end of the month."

W. C. McKillican, Superintendent of the Farm at Brandon, Man., reports: "The weather during April has been quite normal, with no very outstanding peculiarities. The snow had all gone at the beginning of the month, and the land was ready for cultivation about the 10th. A snow-storm from the 13th to the 14th delayed farming operations for about a week. The last ten days of the month have been suitable for work. The land is moist and crop prospects are good if there is sufficient fine weather to get seeding done in time. The work on the Experimental Farm has consisted chiefly of preparing the land for seed and in seeding. It is interesting to note that, despite a severe winter with very little snow, the clover and alfalfa fields have come through in first class condition."

Angus Mackay, Superintendent of the Farm at Indian Head, Sask., reports: "April on the whole has been quite favourable for seeding, which, commencing during the first week in some districts, was general the second week, and it is estimated that now, at the close of the month, 85 p. c. of the wheat has been sown and about 10 p.c. of the oats. On two occasions high winds were experienced, causing a great deal of soil to drift on old summer-fallowed land. At the Experimental Farm wheat seeding was begun on the 8th, while peas and barley and part of the oat crop were put in during the last week. Frosts at night have retarded the growth of clover and grass, but all have come through the winter safely. Fall wheat has stood better than usual, not over 20 p.c. being killed. An addition to the implement house and a new granary have been erected during the month. The usual spring distribution of young trees and shrubs has been made and the sending out of the samples of potatoes commenced."

W. A. Munro, Superintendent of the Station at Rosthern, Sask., reports: "Snow was off the ground early in April and at this Station wheat seeding began on the 10th and was completed on the 19th. Oat seeding has been finished, also some of the barley. The soil seems to contain sufficient moisture, and, taken altogether, the season is starting out under very favourable conditions. A drop in temperature to 17 degrees on the 26th injured some tender plants in the hot beds; but so far as known the field crops have not suffered. In this section a considerable quantity of wheat was left in the stook or in the stack last autumn, because of weather conditions preventing its being threshed. Most of this however was threshed during the first two weeks of April, and in nearly all cases showed a grade equal to that from the same source in the fall."

R. E. Everest, Superintendent of the Station at Scott, Sask., reports: "April has been very favourable for spring work. The early part of the month was continuously fine, but towards its close the weather became somewhat cool and cloudy. In this district seeding has been general since the 15th and a number now report being through sowing. At the Station harrowing commenced on the 11th, and the seeding of spring wheat on the 13th. The ground works freely and the grain is going into a good moist seed-bed. Outside work has been engaging attention throughout the month, either on farm or garden. The Dominion Horticulturist was here from the 25th to the 27th, during which time a considerable amount of work was accomplished in the way of tree planting and much more was mapped out. This is expected to add greatly to the beauty and value of the Station."

G. H. Hutton, Superintendent of the Station at Lacombe, Alta., reports: "April work has been much facilitated by uniformly fine weather, little time being lost in the fields by reason of snow or rain. Work on the land was begun on the 4th and seeding commenced on the 13th. At the end of the month wheat seeding had been finished, together with two or three fields and all the plots of oats and barley. Seeding operations have been delayed because of the lack of fall ploughing, but spring ploughing has been proceeding satisfactorily and quite a large area has been turned over and is almost ready for seeding. When once the land is dry enough for work it is working up well, but it appears to be drying rather slowly this spring. A carload of steers delivered on April 3rd to the P. Burns Company, of



Calgary, at 7 cents per pound, subject to a 5 p.c. shrunk, showed a gain of 280 lb. from November 1st to April 3rd and a profit over feed of \$15.56 per head."

W. H. Fairfield, Superintendent of the Station at Lethbridge, Alta., reports: "Climatic conditions during the month of April have been very propitious for seeding. The soil was moist owing to the generous rains during the latter part of the summer and the fall of last year, so that the seed has gone into the ground under favourable conditions. By the end of the month there was probably about 75 p.c. of the seeding done in the southern part of the province. In this same territory winter wheat is in excellent condition and the prospects for a good yield of this crop are good. At the Experimental Station seeding of grain was completed during the month, with the exception of a few small plots, and most of the spring grain was up by April 30th. A heavy wind, experienced on the 30th for most of the day, blew the soil off some of the plots and did more or less injury to a considerable part of the grain."

P. H. Moore, Superintendent of the Farm at Agassiz, B. C., reports: "April on the whole has been quite dull, without much rain, except during the first and last weeks, when 1.08 and 1.15 inch, respectively, fell. No frost was experienced until after the 15th, and the weather has been fairly warm since. It has been a very good month for the crops, and nearly all the grain has been sown and some planting done. The clover has made very good growth and will soon be fit for pasture. Stock is improving; the horses are standing the extra month of work well and the cows and sheep are in first class shape."

The records of temperature, precipitation and sunshine at the several Experimental Farms and Stations for the month of April are given in the following table:

**Meteorological Record for April.**

| Experimental Farm<br>or Station at— | Degrees of temperature, F. |        |       | Precipitation<br>in<br>inches | Hours of sunshine |        |
|-------------------------------------|----------------------------|--------|-------|-------------------------------|-------------------|--------|
|                                     | highest                    | lowest | mean  |                               | possible          | actual |
| Ottawa, Ont. ....                   | 67.0                       | 7.0    | 39.07 | 2.58                          | 406               | 234.6  |
| Charlottetown, P. E. ....           | 62.0                       | 12.0   | 37.72 | 3.16                          | 408               | 163.1  |
| Napan, N. S. ....                   | 66.0                       | 17.0   | 37.64 | 2.04                          | 407               | 1      |
| Cap Rouge, Que. ....                | 60.0                       | 5.2    | 31.35 | 2.90                          | 409               | 215.2  |
| Brandon, Man. ....                  | 71.9                       | 14.0   | 41.26 | 1.56                          | 414               | 226.4  |
| Indian Head, Sask. ....             | 78.0                       | 12.0   | 40.60 | .70                           | 416               | 194.5  |
| Rosthern, Sask. ....                | 63.0                       | 16.8   | 39.21 | .67                           | 419               | 251.4  |
| Scott, Sask. ....                   | 68.5                       | 12.2   | 40.65 | 1                             | 418               | 235.9  |
| Lacombe, Alta. ....                 | 63.3                       | 17.9   | 41.85 | 1.26                          | 420               | 196.2  |
| Lethbridge, Alta. ....              | 71.0                       | 17.4   | 44.33 | .20                           | 413               | 209.9  |
| Agassiz, B. C. ....                 | 64.0                       | 29.0   | 46.13 | 4.26                          | 413               | 59.8   |

<sup>1</sup> Not available.

J. H. GRISDALE, Director Experimental Farms

Ottawa, May 10.

**Dairy and Cold Storage Branch.** The following is a copy of the annual report for the year ended March 31 last of Mr. A. W. Grindley, Liverpool, chief cargo inspector in Great Britain for the Canadian Department of Agriculture :

" During the past year there has been no change in the staff of cargo inspectors employed in Great Britain, and their work has been carried on in a most satisfactory manner. All Canadian perishable food products landed at the ports of Liverpool, Manchester, London, Bristol and Glasgow have been carefully watched and detailed reports regularly forwarded to Ottawa. Besides the regular printed forms, which show how and where the goods are carried and the condition in which they are discharged at the various ports, the inspectors have made from time to time special reports relative to the packing, marking, etc., of Canadian food products exported to Great Britain. During the apple season the inspectors attend as many of the sales as possible.

" I am pleased to report that all officials belonging to the different shipping companies, as well as the members of the fruit and provision trades at the ports where Canadian cargo inspectors are located, extend every courtesy to the representatives of the Canadian Department of Agriculture.

#### APPLES.

" Climatic influences last year caused most of the apples by December to show a spent or over-ripe condition, similar to what is expected in normal seasons about the first of March, the result being that before Christmas, when prices generally stiffen, the Liverpool market sagged off fully two shillings per barrel on apples which had been held in ordinary warehouses. Apples, however, which had been carefully selected and kept in cold storage stood up well, were of fine appearance and were crisp and juicy. This well selected fruit, which had been held in cold storage, was in keen demand by the best class of buyers, and realised good prices throughout the season.

" Immense quantities of small lots of mixed varieties are still exported from Canada. These small mixed lots hurt the general tone of the market, as important buyers will not give them their attention, the result often being a dull dragging market with declining prices.

" The export of selected apples, properly packed in boxes containing about 40 lb. net of fruit, should be encouraged, as there is a growing demand for the box package, if supplied at a reasonable price to the consumer.

" Prizes are now offered at British fruit shows for apples packed in such commercial packages as barrels and boxes, properly graded and packed, and during the past season apples from Kent, well graded and packed neatly in boxes, were, on the same market in Liverpool, quickly cleared at high prices when competing against Canadian and United States apples packed in barrels.

#### A SUCCESSFUL SHIPMENT OF PEACHES.

" One shipment of peaches received here last fall turned out so successful in every way as to prove that with peaches of proper quality and in proper

condition, when started and kept under proper supervision all along the line, success can be guaranteed. I refer to a consignment of Canadian peaches, which were carefully selected and packed in an ideal manner under the supervision of Mr. W. W. Moore, chief of the Markets Division. These peaches were shipped from Jordan, Ontario, to Montreal in a refrigerator car on September 13 1911, thence in cold storage by the ss. Megantic sailing on September 16. They were discharged at Liverpool on September 26 and forwarded in a refrigerator car to the "Festival of Empire Exhibition", Crystal Palace, London, and were on display on September 27, or 14 days after leaving Jordan. The thermograph record showed a temperature while at sea of 36°, which was allowed to rise to 44° before the ship's refrigerator chamber was opened. These peaches were kept on exhibition on an open stand for exactly one month, and would have kept longer but for a spell of warm, muggy weather. Every link in the chain connected with this consignment appears to have been as nearly perfect as possible: quality, variety and size of fruit, style of packing, rapidity of transportation from packing house in Canada to Crystal Palace, London, and finally the sound and proper degree of ripeness in which the peaches reached their destination. A commercial consignment which came at the same time and under similar conditions had among them some peaches which had been picked too green, and they never matured properly, being sour, dry and lacking in colour and flavour. Other consignments received at Liverpool by different steamers and re-shipped by rail to various markets were forwarded by slow trains and not in iced cars, and by missing the proper market day at Covent Garden realised lower prices than would otherwise have been the case.

#### CHEESE.

"Last year, Mr. G. G. Publow, chief instructor and sanitary inspector for eastern Ontario, visited Great Britain and made very complete inquiries relative to the British end of the Canadian cheese trade. Visits from such experienced and practical men as Mr. Publow should be encouraged, not only in connection with cheese, but also with reference to fruit and other Canadian products.

"Some complaints are made regarding Canadian cheeses being too large and heavy. These complaints come from men all along the line who have to lift up or take down cheeses piled six or seven high, and these heavy weights, from 80 to 100 lb., are also objectionable in many of the retail shops in Great Britain which are in charge of women and girls: 75 to 80 lb. are popular sizes. Over 80 lb. is too heavy for one man to handle and he often lets it drop as the easiest way of getting it down, the result being a broken box and perhaps a damaged cheese. As there is a limited demand for large cheeses to place in show windows, it might be advisable to use the New Zealand type of crate for heavy cheeses, i.e., place two cheeses in a crate strongly made of slats. The New Zealand crate is very seldom broken, the weight being sufficient to require two men to handle it, so there is no careless rough handling such as the average Canadian cheese box has to meet during transportation.

"Complaints are still heard regarding the shortage of actual weights of cheese when compared with the weight stencilled on the box; even after a liberal allowance is made for average shrinkage, cheeses have been ten lb. lighter than the marked weight. I have yet to see a weight stencilled which is less than the cheese weighs; the errors are always on the short side. All cheese boxes should be stencilled with "Canadian Produce", together with the factory mark and weight.

It would be a good thing if all cheese factories and creameries had a number registered at Ottawa and stencilled it plainly on all boxes of butter and cheese. This would enable cargo inspectors to report specifically to Ottawa those who were committing frauds of any kind, such as plugged cheese, false weights, etc. At present we find the most reliable shippers using marks which can easily be identified, but shippers of inferior goods send them forward with no mark by which they can be traced. These unmarked or badly marked packages often fall on the hands of the shipping company concerned, which has to dispose of the goods as best it can.

"Under the "Fruit Marks Act" frauds of any kind can readily be traced to the parties responsible, as it is compulsory to stencil the full name and address of the packer upon the package. A registered number stencilled on boxes of cheese or butter would answer the same purpose and take up little space, as the number could be placed in the centre of a stencil plate also bearing the words "Canadian Produce."

"The responsibility should come forward with the package, so that inspectors could do effective work without causing unnecessary irritation when endeavouring to trace the maker or shipper of the goods at fault.

"The British Government may amend the Merchandise Marks Act, making it compulsory to mark country of origin. As it now stands articles bearing no marks are allowed to enter: so Canada would only be protecting her own produce by having a Marks Act by which cheese and butter could be identified as readily as a box or a barrel of Canadian apples, or as readily as the dairy products of foreign countries which are exported to Great Britain.

"We find at the different ports in Great Britain, as well as in the warehouses of the importers, boxes coming from certain districts and bearing certain well-known marks delivered in good condition, while we see boxes bearing other brands, which have been handled under exactly the same conditions and delivered at the same time, a high percentage of which are delivered in a broken and ragged condition. We again find boxes well made and of good quality but which do not fit the cheese, being too large in diameter or too deep. Such misfits are very liable to be broken, and if the cheese is more than a trifle higher than the box the cheese itself is liable to be damaged before being delivered at the retail shop. These two faults, poor quality of boxes and badly fitted boxes, must be remedied at the factory. The cargo inspectors in Great Britain find a considerable percentage of the cheese discharged from the holds of the various steamers "roped," showing that they have been broken before being stowed on the steamer at Montreal, Quebec, Halifax, St. John or at American ports. After cargo has been broken into at the British ports a considerable percentage of boxes are broken during the rush work of discharging cargo. Nearly if not all of this damage is done in the holds of the steamer. Where 80 to 100 lb. cheeses



are stowed six or seven high the average dock labourer, unless under constant supervision, prefers to get the top cheese down by any method except carefully lifting it down. This is how and where the bulk of the cheese boxes are broken at the British end of the line.

"Very few boxes are broken after leaving the hold of the vessel, and what breakage does occur can hardly be prevented under the present conditions of discharging cargo at the ports of Glasgow, Bristol, Liverpool and Manchester. As a rule we find a smaller percentage of breakage at London, chiefly due to the mechanical appliances used for discharging and conveying boxes direct from the ship's hold into the warehouse at the Surrey Commercial Docks.

"A patent ship elevator-conveyor, manufactured in London, is used by a number of shipping and railway companies where rapid loading and discharging of cargo is desired. This elevator-conveyor works continuously, and consequently it loads or discharges more rapidly than cranes or derricks which work intermittently. The ship's winch drive can be utilised to work this elevator-conveyor if electric power is not available.

"With properly made and well fitted boxes to begin with, with proper care and close supervision where manual labour is necessary, and with mechanical and up-to-date appliances where possible for loading and discharging, breakage and damage to cargo would be reduced to the minimum."

J. A. RUDDICK, Dairy & Cold Storage Commissioner.

Ottawa, April 30.

**Seed Branch.** On April 11 John H. Wheeler, farmer, of Lynedoch, Ont., pleaded guilty to the charge of violating the Seed Control Act and was fined. The offence was selling to another farmer clover seed that was prohibited from sale for seeding purposes on account of the large proportion of noxious weed seeds contained. For some time there has been a popular misconception on the part of some farmers and seed dealers that farmers are exempt from the Seed Control Act and may legally sell seed of any quality among themselves. This case should emphasise the fact that this is not correct. Farmers are exempt from the regulations requiring all timothy, red clover, alsike and alfalfa seed to be graded when offered for sale for seeding purposes on their own premises, but they are not allowed to sell any seed that is below the standard for grade No. 3, no matter what representations regarding the good quality or the lack of it may be made. In this regard farmers are on exactly the same basis as seed dealers. They may sell seed that will not grade to wholesale seedsmen or local seed dealers for re-cleaning purposes, but they are liable to prosecution if they sell it to their neighbours or to a retail dealer when it is understood that the seed is to be retailed without further cleaning.

A bulletin entitled "Wild Oats and False Wild Oats: Their Nature and Distinctive Characters" has been published by this Branch and is now available for free distribution at the Publications Branch of the Department of Agriculture. The material for this bulletin was prepared by Mr. Norman Criddle, assistant seed analyst at the Calgary seed laboratory, and

gives the results of several years' work in growing and carefully observing various types of wild oats and the peculiar forms known as false wild oats. For some time there has been considerable controversy, especially in western Canada, regarding whether or not certain forms of oats showing most of the characters of wild oats should be classed as wild oats. Mr. Criddle's work clearly shows that these forms resemble in their general characters the cultivated varieties in which they occur and should not be considered as dangerous weeds, as they do not possess the undesirable characters which make wild oats so objectionable. The bulletin is illustrated by drawings showing different types of wild oats and false wild oats and the distinguishing points of each.

The report of the Calgary seed laboratory for the year ended March 31 1912 shows that during this period the number of samples tested has been very much greater than in any previous year, amounting to 9,178, which is within 78 samples of the total number previously tested since the Alberta laboratory was established in January 1907. During the year ended March 31 1911 1,281 samples were tested. Of the total number of samples received last year 8,792 were tested for germination. The great volume of work connected with germination was due to the unfavourable harvest conditions last fall, the early fall frosts resulting in much injury to grain for seeding purposes, especially oats and barley. A considerable proportion of the oats, although apparently well filled and plump, failed to germinate. Fortunately, through judicious advertising, this state of affairs soon became recognised among farmers, and in consequence it became the general practice to have samples tested for germination before deciding on the grain that should be used for seed. The following statement shows the number of the different kinds of grain tested and gives a summary of the results:

| Kind of seed | Total | Below 63 p.c. | Above 63 and below 75 p.c. | Between 75 and 90 p.c. | Between 90 and 100 p.c. |
|--------------|-------|---------------|----------------------------|------------------------|-------------------------|
|              | No.   | No.           | No.                        | No.                    | No.                     |
| Wheat.....   | 1,272 | 109           | 65                         | 237                    | 861                     |
| Oats.....    | 4,961 | 1,814         | 711                        | 1,361                  | 1,075                   |
| Barley.....  | 687   | 130           | 68                         | 173                    | 316                     |
| Flax.....    | 194   | 23            | 24                         | 48                     | 99                      |

In addition to the germination work there has been a marked increase in the number of samples tested for purity. In 1911 there were 113 samples compared with 720 in the year just closed.

From September 1 1911 to April 30 1912 10,101 samples were received at the Ottawa seed laboratory for purity or germination test, an increase of 75 p.c. over the number received during the same period the previous season. During April 1912 1,749 samples were received, an increase of 72 p.c. over the same month last year. The samples tested for purity and

graded were red clover, total 461, No. 1 51, No. 2 147, No. 3 163, rejected 100; alsike, total 218, No. 1 13, No. 2 50, No. 3 87, rejected 68; timothy, total 653, extra No. 1 1, No. 1 77, No. 2 148, No. 3 155, rejected 272; alfalfa, total 108, No. 1 4, No. 2 53, No. 3 44, rejected 7; clover mixtures, total 16, No. 2 3, No. 3 2, rejected 11.

GEO. H. CLARK, Seed Commissioner.

Per E. D. E.

Ottawa, May 3.

## CROP REPORTS FROM OTHER COUNTRIES.

**Great Britain.** The Board of Agriculture reports (April 1) that while the very wet weather which prevailed during the first three weeks of March has often told adversely on crops of wheat on heavy and low-lying lands, and discoloration is common, the wheat generally is still looking very healthy and vigorous, and is forward for the time of year. A few instances occur where the seed has perished, but as a rule there is a full plant. The area under wheat on April 1 is estimated as being greater than last year in all parts of Great Britain, except the southeast of England, Wales and the east of Scotland. The total area under the crop for the 1912 harvest is probably not quite 2 per cent more than in 1911 for the country as a whole. Winter oats and beans are usually very promising crops. The continuous wet weather of March delayed the sowing of spring grain practically everywhere. The sunnier days and drying winds in the last week of the month much improved conditions, and considerable progress was then possible on the lighter working soils, but many heavy soils were still too sodden to work at the end of the month, and spring sowings are in arrears. Those crops which were sown early however are coming up well.

**Victoria.** The Government Statist reports (March 28) that the total area under wheat for 1911-12 was 2,468,454 acres, including 304,388 acres cut for hay, as compared with 2,638,115 acres, including 240,026 acres cut for hay in 1910-11. The produce in grain was 20,891,877 bushels in 1911-12, compared with 34,813,019 in 1910-11, an average yield per acre of 9.65 bushels in 1911-12 against 14.52 bushels in 1910-11. The requirements for seed and consumption in 1912 are estimated at 9,000,000 bushels. Of oats the yield in 1911-12 was 4,585,326 bushels from 302,238 acres against 9,699,127 bushels from 392,681 acres in 1910-11, an average per acre of 15.17 bushels in 1911-12 against 24.70 bushels in 1910-11.

**Germany.** The first crop report this season of the Imperial Statistical Bureau states (April 6) that the past winter has been fairly mild and free from snow. The favourable weather has allowed good progress to be made with spring cultivation. Autumn sown crops have come well through the winter; and their condition is generally favourable and well advanced for the time of year. The rye crops are in many places however too rank, and subsequent lodging is therefore possible. Numerically the condition of the winter crops is 2.3 compared with 2.4 at the beginning of December, winter spelt 1.9 (2.0) and winter rye 2.2 (2.4). Scale 1 = very good, 2 = good, 3 = average.

**Austria.** The report of the Austrian Department of Agriculture states the condition on April 1 as 2 for winter wheat, 1·8 for rye and 3·1 for clover in the following scale: 1 = very good, 2 = above average, 3 = average and 4 = below average. Almost everywhere wheat and rye have wintered well, and except in the case of a few late sown and mouse-injured areas, the crops show good development. Red clover and alfalfa, in spite of the good winter weather, show the effects of last year's drouth and injuries from mice.

**Hungary.** The Hungarian Agricultural Department reports (April 6) that from the beginning of April heavy rains and snow, with violent squalls and gales, have prevailed over large parts of the country, the heaviest falls of rain being in the mountainous districts of the north. In some of the western districts large properties are under water, and if the floods are not abated it is feared that both fall and spring sown crops will be greatly damaged if not entirely destroyed. In many places spring oats and barley have not yet been sown and in some parts farmers fear that it will be impossible to sow oats at all this year. In spite of this unfavourable weather however the fall crops of wheat, rye and barley have developed so well and vigorously under the fine autumn and winter that their condition remained good and they have sustained no great damage. In fact in several districts the winter crops are so fine, green, vigorous and compact that it has been necessary to lighten them by the sickle. Cold weather in April came just in time to check too rapid growth. Live stock have come well through the winter and their health is generally good.

**Russia.** H. M. Consul General at Odessa reports (April 17) that spring is setting in late and gradually. Windy weather and cold nights continue, keeping vegetation back, which makes a good opinion difficult; but as far as can be judged the crops have wintered satisfactorily, at least in the Odessa consular district. They are generally more satisfactory in the western parts of it, i.e., in Bessarabia and Kherson, than in the eastern parts, Ekaterinoslav, Taurida and Don Territory. A little further north, in the provinces of Podolia, Volhynia, Kiev and Kharkov, the crops seem good. Further north it is still early to form an opinion. From the vice-consular district of Nicolaieff it is reported (April 4) that the winter sown grain plants are in good condition. The winter was not severe, and good falls of snow have left plenty of moisture. The spring crops are now being got in under good conditions.

**Turkey.** H. M. Vice-Consul at Smyrna reports (March 26) that in his district the sowings of winter wheat, barley and oats have been up to the usual average and carried out under excellent conditions. Preparation for summer crops was going forward slowly owing to insufficient rainfall. For more than 30 years the province has suffered from locusts unchecked, for all the efforts against this pest have been either too spasmodic or else futile. This year however the Inspector General of Agriculture succeeded in obtaining a grant of money by which up to the middle of February 280,000 okes of locust eggs were gathered in and destroyed, and



operations are still going on. These measures, though they have not yet completely saved the threatened crops, have done a vast deal towards lessening the evil, but some damage may still be expected. (A Turkish oke = 2.8326 lb., so that 280,000 okes are equivalent to about 396 short tons).

**United States.** The Crop Reporting Board of the U.S. Department of Agriculture reports that on May 1 the area of winter wheat to be harvested was about 25,744,000 acres, or 3,418,000 acres (11.7 p.c.) less than the area harvested in 1911 and 6,469,000 acres (20.1 p.c.) less than the area sown last fall (32,213,000 acres). The average condition of winter wheat on May 1 was 79.7, compared with 80.6 on April 1, 86.1 on May 1 1911 and 85.2 the average for the past ten years on May 1. A condition of 79.7 p.c. on May 1 is indicative of a yield per acre of approximately 14.4 bushels, assuming average variations to prevail thereafter. On the estimated area to be harvested 14.4 bushels per acre would produce 370,714,000 bushels, or 13.9 p.c. less than in 1911, 14.6 p.c. less than in 1910, and 11.3 p.c. less than in 1909. The out-turn of the crop will probably be above or below the figures given above according as the change in conditions from May 1 to harvest is above or below the average change. The average condition of rye on May 1 was 87.5 compared with 87.9 on April 1, 90.0 on May 1 1911 and 89.2 the average for the past ten years on May 1. The average condition of meadow hay lands on May 1 was 85.7, compared with 84.7 on May 1 1911 and a ten-year average on May 1 of 88.6. The average condition of pastures on May 1 was 81.7, compared with 81.3 on May 1 1911 and a ten-year average on May 1 of 86.4. Stocks of hay on farms May 1 are estimated as 3,888,000 tons (8.2 p.c. of crop) against 7,546,000 tons (12.4 p.c.) on May 1 1911. Of spring ploughing 52.8 p.c. was completed up to May 1, compared with 71 p.c. on May 1 1911 and a ten-year average on May 1 of 67.6. Of spring planting 48.9 p.c. was completed up to May 1, compared with 60 p.c. on May 1 1911 and a six-year average on May 1 of 55.2.

**Argentina.** H. M. Consul at Rosario reports (March 19) that the quantity of wheat, linseed and maize for export, after allowing for the country's requirements, is estimated at 3,200,000 tons of wheat, 500,000 tons of linseed and 700,000 tons of oats. The wheat and linseed crops, which early in December promised an exceptionally good yield, sustained considerable damage from too much rain. The maize crop now being harvested is probably the largest the country has yet produced, and under a continuance of favourable conditions the quantity for export may possibly exceed eight million tons. Owing to unseasonable weather and the interruption to traffic caused by the recent strike of engine drivers of the various railways the shipment of grain has only recently commenced.

**Fruit Production of California.** According to a report of H. M. Consul General at San Francisco the total value of the production of deciduous fruits in the state of California in 1910 was \$25,000,000.

## INTERNATIONAL INSTITUTE OF AGRICULTURE.

The Bulletin of agricultural statistics reports the condition of winter crops on April 1st as follows :

| Country                   | Winter wheat   |                |                | Winter rye     |                |                | Winter barley  |                |                |
|---------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
|                           | Apr. 1<br>1912 | Apr. 1<br>1911 | Mar. 1<br>1912 | Apr. 1<br>1912 | Apr. 1<br>1911 | Mar. 1<br>1912 | Apr. 1<br>1912 | Apr. 1<br>1911 | Mar. 1<br>1912 |
| Belgium.....              | 110            | 105            | 105            | 107            | 110            | 105            | 106            | 105            | 105            |
| Bulgaria.....             | 120            | -              | 115            | 120            | -              | 115            | 120            | -              | 115            |
| Denmark.....              | 91             | 104            | 99             | 97             | 108            | 98             | -              | -              | -              |
| Spain.....                | -              | -              | 100            | -              | -              | 100            | -              | -              | 100            |
| Hungary.....              | 110            | -              | 120            | 105            | -              | 115            | 110            | -              | 120            |
| Croatia and Slavonia..... | 110            | -              | 120            | 105            | -              | 110            | 110            | -              | 120            |
| Luxemburg.....            | 102            | 100            | 118            | 103            | 100            | 112            | 102            | 102            | 120            |
| Netherlands.....          | 111            | 108            | -              | 104            | 111            | -              | 100            | 108            | -              |
| Romania.....              | 120            | -              | 120            | 120            | -              | 120            | 120            | -              | 120            |
| Switzerland.....          | 102            | 95             | -              | 102            | 94             | -              | 102            | 100            | -              |
| United States.....        | 93.6           | 95.9           | -              | 97.7           | 99             | -              | -              | -              | -              |
| Japan.....                | 95             | 100            | -              | -              | -              | -              | 95             | 100            | -              |
| Lower Egypt.....          | 105            | -              | -              | -              | -              | -              | 100            | -              | -              |
| Upper Egypt.....          | 119            | -              | -              | -              | -              | -              | 116            | -              | -              |
| Tunis.....                | 100            | -              | -              | -              | -              | -              | 75             | -              | -              |

In this table 100 represents a condition promising a yield equal to the average yield of the past ten years, supposing that the crop will not be subjected to the effects of any extraordinary phenomena up to the time of harvest. The condition of winter oats in Luxemburg, Switzerland and Tunis is given as 100.

Revised figures for Croatia and Slavonia show that the areas sown to winter crops were 741,000 acres wheat, 161,000 acres rye and 133,000 acres barley.

Up to April 20 preparatory work and spring sowing had made good progress in most countries of Europe, though in some, Austria, Denmark, France and Great Britain for instance, delays had been caused by snow or rain.

The final returns of the harvest of 1911 in Japan show a yield of 24,851,000 bushels of wheat from 1,223,000 acres, compared with 23,728,000 bushels from 1,165,000 acres in 1910. The production of barley is 95,037,000 bushels from 3,102,000 acres, compared with 89,665,000 bushels from 3,176,000 acres in 1910. Oats yielded 4,155,000 bushels from 110,000 acres against 4,012,000 bushels from 97,000 acres in 1910.

The Argentine Ministry of Agriculture has reported 295,852,000 bushels as the estimated production of corn in 1911-12, and the final returns of the wheat harvest in Australia are 72,789,000 bushels from 7,445,000 acres, an average yield per acre of 9.78 bushels.

According to a live stock census taken in Croatia and Slavonia on March 24 the numbers of live stock were, as compared with 1910 in parentheses : Horses 350,036 (311,359), asses and mules 3,173 (3,485), cattle 1,134,664 (908,780), pigs 1,163,493 (882,973), sheep 850,161 (595,902), goats 95,592 (22,418).

## UTILISATION OF FLAX FIBRE IN CANADA.

During a recent visit to Ottawa Mr. W. J. Robinson, a British subject resident at Chicago, and an authority on the growth and manipulation of flax, was good enough to furnish this Office for publication in the *Census and Statistics Monthly* with a statement respecting a newly-discovered process, which, it is claimed, renders possible the utilisation of the flax straw now annually wasted and the establishment in Canada of an important linen manufacturing industry.

"The only obstacle," Mr. Robinson said, "in the way of producing good spinning and weaving fibre from the flax grown in Canada and the United States for seed alone lies in the question of a proper method of retting the flax, in order to get away from the deleterious gums, which make it impossible of use by the cordage and linen manufacturer. Many attempts have been made at different periods of history to accomplish this result by other than the water or dew retting methods in use; but every succeeding attempt has proved more discouraging than the last. It has remained for a prominent American chemist, viz., Dr. R. R. Roberts, of Washington, D. C., who has devoted over 30 years of his life to the solution of this problem, to invent a very simple, chemical process and one that is reasonably inexpensive, by which the flax straw grown in America and Canada can be converted into a commercially spinable and weavable fibre, and by which is put within the pale of certainty the development of the linen business in Canada and the United States. The time consumed under the water or dew retting process varies from ten days to several weeks according to temperature and weather conditions, and frequently the entire crop is lost; but this chemical retting process does the entire work in a little less than five hours and is under such control that it is impossible for the flax fibre to suffer during its manipulation.

"The process has been under investigation for two years at enormous outlay by some of the most prominent financial and business interests in the United States. The fibre has been shipped to Ireland and spun into yarns and woven into cloth with the result that Irish spinners have pronounced this fibre, produced from Canadian flax grown in the province of Ontario, to be as good as the best Russian flax that they have been able to obtain and to be capable of being manufactured into table linens, napkins, towels, dress goods, underwear and all forms of linen textile and cordage. They are not only anxious to have the fibre shipped over into Europe for their use there, but are looking to Canada to find locations for linen mills where they can come out and found an industry which is probably more important from an agricultural and commercial standpoint than any other industry which could come to this country. Canada is absolutely dependent upon the few southern States which grow cotton for all its vegetable fibre textiles, and the inauguration of this industry would make it possible for linen mills to spring up all over the Dominion and bring to Canada a type of immigration from the north of Ireland and from Scotland which the

country has never been able to obtain before, because these people who have been trained in the linen business and knowing nothing else were afraid to come to Canada where the industry to which they had been trained from their youth was unknown.

"Canada in 1911 grew 1,500,000 tons of flax straw, which straw would have yielded under manipulation 300,000 tons of commercially spinable flax fibre. This fibre at Canadian prices would have yielded last year \$60,000,000 in Canadian exports. The seed alone on the flax grown yielded only \$11,855,000, while the entire value of rye, peas, buckwheat, mixed grains and flax in 1911 was only \$33,948,000.

"It is hoped that the Government will make a close investigation into these statements and these figures and try to obtain for Canada the results possible under the inauguration of a flax and linen industry in the Dominion, which would affect every part of the country, because, as has been proved, flax for seed and fibre can be grown in every part of the Dominion of Canada that has been broken to agriculture from the Atlantic to the Pacific."

### PRICES OF CANADIAN COMMODITIES, 1911.

A report by Mr. R. H. Coats on the wholesale prices of commodities during the year 1911 has been published by the Labour Department in continuation of the report for 1910 and the special report covering the period 1890-1909, both of which were noticed in the Census and Statistics Monthly (Vol. 3, 1910, p. 199 and Vol. 4, 1911, p. 235).

For 1911 the index number representing the average prices of commodities in percentage of those of the base-period 1890-1899 was 127.3. The prices of 1911 were therefore 27.3 p.c. higher than the average prices of the closing decade of the nineteenth century and were also higher than those of any of the past 22 years.

The following statement exhibits the monthly movement of prices during 1911 in three agricultural groups and for all commodities:

(Number of commodities 261. Average prices 1890-1899=100.)

| Month          | Group I<br>Grains and<br>fodder | Group II<br>Animals and<br>meats | Group III<br>Dairy<br>products | All<br>commodities |
|----------------|---------------------------------|----------------------------------|--------------------------------|--------------------|
| January.....   | 128.7                           | 160.0                            | 162.4                          | 126.1              |
| February.....  | 130.5                           | 152.8                            | 140.1                          | 126.3              |
| March.....     | 131.6                           | 150.3                            | 133.0                          | 126.3              |
| April.....     | 139.2                           | 146.6                            | 131.8                          | 126.4              |
| May.....       | 141.4                           | 142.7                            | 117.2                          | 126.1              |
| June.....      | 137.2                           | 145.0                            | 115.7                          | 126.1              |
| July.....      | 142.0                           | 147.7                            | 118.0                          | 126.9              |
| August.....    | 142.8                           | 151.1                            | 122.6                          | 127.2              |
| September..... | 150.1                           | 151.4                            | 130.5                          | 128.0              |
| October.....   | 160.6                           | 148.1                            | 141.6                          | 128.9              |
| November.....  | 165.2                           | 137.8                            | 154.7                          | 129.4              |
| December.....  | 160.0                           | 136.6                            | 165.0                          | 129.4              |
| All.....       | 145.0                           | 146.7                            | 136.2                          | 127.3              |



In the following statement are compared the index numbers for the years 1909, 1910 and 1911 of some of the principal agricultural products as apart from their respective groups :

(Average prices 1890-1899=100.)

| Products                        | 1909  | 1910  | 1911  | Products                             | 1909  | 1910  | 1911  |
|---------------------------------|-------|-------|-------|--------------------------------------|-------|-------|-------|
|                                 | p.c.  | p.c.  | p.c.  |                                      | p.c.  | p.c.  | p.c.  |
| Wheat, No. 1 northern.          | 140.5 | 129.5 | 123.7 | Apples.....                          | 150.5 | 134.1 | 197.0 |
| Wheat, No. 2 white Ontario..... | 143.0 | 120.7 | 111.5 | Cattle, western prime.....           | 112.4 | 134.8 | 138.6 |
| Flour, straight rollers.....    | 136.7 | 120.7 | 111.5 | Cattle, butchers' choice steers..... | 147.5 | 160.9 | 154.4 |
| Flour, strong bakers.....       | 123.2 | 117.5 | 107.1 | Beef, dressed.....                   | 168.2 | 205.1 | 198.8 |
| Flour, winter wheat pat.        | 124.5 | 118.0 | 105.3 | Veal, dressed.....                   | 142.6 | 154.1 | 150.0 |
| Flour, Man. 1st pat.....        | 123.9 | 124.0 | 113.9 | Mutton, dressed.....                 | 121.7 | 112.3 | 104.6 |
| Oats, No. 2 white western.....  | 133.3 | 115.2 | 120.6 | Hogs, selects.....                   | 152.2 | 170.9 | 138.0 |
| Oats, white Ontario.....        | 150.7 | 119.0 | 129.1 | Hogs, dressed.....                   | 166.8 | 186.0 | 153.3 |
| Oatmeal.....                    | 143.3 | 123.7 | 129.9 | Bacon.....                           | 146.0 | 179.7 | 149.7 |
| Barley, western.....            | 160.9 | 144.9 | 194.6 | Hams.....                            | 131.1 | 162.2 | 140.9 |
| Barley, No. 2 Ontario.....      | 145.1 | 131.7 | 170.6 | Pork.....                            | 157.1 | 180.0 | 143.5 |
| Corn, No. 3 yellow.....         | 164.6 | 148.3 | 141.4 | Fowls.....                           | 188.3 | 170.0 | 162.3 |
| Peas, No. 2 Ontario.....        | 158.4 | 142.8 | 155.4 | Turkeys.....                         | 185.8 | 169.8 | 185.8 |
| Rye, No. 2 Ontario.....         | 140.0 | 131.4 | 144.6 | Butter, creamery solids.....         | 120.1 | 116.2 | 114.6 |
| Hay.....                        | 135.0 | 141.3 | 135.1 | Butter, dairy prints.....            | 124.4 | 134.9 | 127.5 |
| Straw.....                      | 133.8 | 125.3 | 112.7 | Cheese, western coloured.....        | 124.4 | 131.1 | 129.6 |
| Flax fibre.....                 | 117.2 | 122.4 | 133.6 | Eggs, storage.....                   | 171.5 | 168.1 | 157.1 |
| Potatoes, Montreal.....         | 133.6 | 160.8 | 200.4 | Milk at Montreal.....                | 127.8 | 127.9 | 127.9 |
| Potatoes, Toronto.....          | 142.8 | 103.3 | 202.4 | Milk at Toronto.....                 | -     | 139.1 | 138.8 |
| Turnips.....                    | 93.7  | 110.6 | 113.2 | Wool, Ontario, washed.....           | 106.6 | 113.5 | 106.9 |
|                                 |       |       |       | Wool, " unwashed.....                | 107.5 | 119.0 | 124.5 |

"The year," states the report, "was one of general trade prosperity and industrial expansion in Canada. The heavy immigration movement, the very pronounced activity in railway construction and other building operations, the enlarged outputs of manufacturing establishments and the increased volume of trade, foreign and domestic—in which fields the returns of the year uniformly indicated a marked advance over those of 1910—all united in causing an exceptionally keen demand for materials, with resultant enhancement in prices. In foodstuffs, at the same time, the unfavourable crop reports of the summer and autumn months worked similar tendencies. Grains advanced sharply, and though there was a decline in live animals and meats this was attributed to feed shortage and cannot be regarded as an alleviation of fundamental conditions. Moreover, imported foods, including sugar, were on decidedly higher levels. The financial tone was favourable, and the gold production the largest recorded. From a cost of living standpoint, therefore, notwithstanding declines in cotton, rubber, and a few other articles, the year must be regarded as having through this double influence of crop shortage and accelerated consumption, distinctly intensified the situation which had previously given rise to such widespread comment, though industrially and commercially it constitutes on the whole a very favourable record."

## THE MINERAL OUTPUT OF ONTARIO, 1911.

(Statement furnished by Mr T. W. Gibson, Deputy Minister of Mines, Ontario.)

The products of the mines and mineral works of Ontario for the year 1911 had a value of \$41,975,427, based on the selling price at the point of production in the form produced. As compared with 1910 this was an increase of \$2,661,532. Up to 1905 non-metallic products constituted the bulk of the output, but since that time the rise of Cobalt and the extension of Sudbury have placed Ontario in the front rank as a producer of silver and nickel respectively, and have increased the proportion of metals which amounted to about 70 per cent of the total production. Ontario in fact at the present time is pre-eminently the metalliferous province of the Dominion, her production of metals being considerably greater in value than that of all the other provinces combined.

The silver output of Ontario in 1911 was 31,507,880 oz., the total for Canada being about 2,000,000 oz. more. Ontario's yield comes from the mines of Cobalt, which since their opening in 1904 have yielded in all 125,572,069 oz. of silver, having a value of \$64,317,458. The principal producing mines in 1911 were the Nipissing, Crown Reserve, La Rose, Coniagas, O'Brien, McKinley-Darrage-Savage, Kerr Lake, Buffalo, Temiskaming, Trethewey, Beaver, Hudson Bay, Wetlaufer Lorrain, Cobalt Lake and Cobalt Townsite. A feature of the year was the growth in shipments of bullion from the mine, bars being sent out containing 3,141,976 oz., as compared with 980,633 oz. in 1910. The concentration of low grade ores is now a regular practice, concentrates shipped amounting to 9,375 tons as against 6,845 tons in 1910. This development of treatment processes has had the natural effect of reducing the gross shipments from the camp, which were 26,653 tons in 1911 as compared with 34,282 tons in 1910. The mines of Cobalt are now operated almost wholly by hydraulically generated electric power derived from the falls on the Montreal and Matabitchuan Rivers. The works for treating the Cobalt silver ores at Copper Cliff, Deloro, Thorold and Orillia handled 9,330 tons in 1911, recovering therefrom 17,756,651 oz. of silver. Cobalt oxide aggregating 62,859 lb. was shipped for consumption mostly in Europe and the United States, and 388,139 lb. of the mixed oxides of cobalt and nickel. Including the refineries, 3,494 employees were engaged in the silver industry last year, earning wages amounting to \$2,921,751. Dividends to the extent of \$8,733,958 were paid to shareholders in silver mining companies in 1911, making a total since mining began in 1904 of \$31,122,867 not including privately owned mines or close corporations.

The nickel mines of the Sudbury district are operated by two companies, the Canadian Copper Co. and the Mond Nickel Co. The former obtained its ores from the Creighton, Crean Hill and No. 2 Mines; the latter from Victoria No. 1 and Garson. From these there were raised in 1911 a total of 612,511 tons of ore. The quantity smelted was 610,788 tons, yielding 32,607 tons of Bessemer matte. The matte contained 17,049 tons of nickel, worth \$3,664,474, and 8,966 tons of copper, worth \$1,281,118. The

employees of the two companies numbered 2,439, to whom were paid \$1,830,526. There were used for fuel 98,038 tons of coke valued at \$703,589, and 24,011 cords of wood worth \$78,076. No other important source of nickel has as yet been discovered in America, and the Sudbury mines now enjoy, and for some time have enjoyed a practical monopoly in the production of nickel on this continent. There are two other nickel areas in Ontario, one at Cobalt where the ores carry an appreciable proportion of this metal, and the other in Dundonald township on the Temiskaming and Northern Ontario Railway where nickeliferous pyrrhotite of the Sudbury type has been found. The nickel contents of the Cobalt ores are at present worth nothing to the mine owners, though undoubtedly a proportion finds its way into use, while in Dundonald the deposits have not yet been sufficiently developed to permit of an estimate being made of their extent and value. The geology of the region by no means forbids the hope that it may prove to contain valuable nickel deposits.

Of iron ore 175,061 tons were produced in 1911 from the Helen, Moose Mountain and Atikokan mines. A large deposit of sideritic ore is being opened up at Magpie by the Lake Superior Corporation. This ore will require preliminary roasting. The production of pig iron amounted in 1911 to 526,610 tons. Of the ores smelted 637,631 tons were of domestic and 84,814 tons of foreign origin.

The yield of gold in Ontario is not as yet important, but the mines of Porcupine, now beginning to be worked, may be expected to swell the figures of production. The Hollinger and Dome mines suffered heavily in the disastrous forest fires of 1911, the stamp mills and buildings at both places being entirely destroyed. These plants have been rebuilt, and the Dome mine 40-stamp mill began to run in March 1912. The Hollinger and some other properties are also to begin production or have already begun. Power for operating the mines and works is obtained from Sandy Falls on the Mattagami River, and the Wawaitin Falls on the same stream are also being developed.

Petroleum has been steadily lessening in yield for a number of years, the output in 1911 being 10,102,801 imperial gallons, a decrease of over 900,000 gallons for the year. Natural gas, on the other hand, shows an increased production from year to year. In 1911 it amounted in value to \$2,186,762 as compared with \$1,490,334 in 1910. A very large proportion of the northern shore of Lake Erie is now producing gas.

Building materials, including brick, stone, lime and Portland cement were in active demand during 1911 and there was an increased output. Stone suitable for roadmaking is now being sought in certain parts of the province, and marble of excellent quality is being marketed from quarries at Bancroft in the county of Hastings.

Many other products of minor importance such as iron pyrites, talc, corundum, graphite, feldspar, gypsum, salt, etc., are the bases of industries of more than local importance which are capable of much development.

## THE WEATHER DURING APRIL.

The Dominion Meteorological Office reports that mild weather predominated in the western provinces during April, with a resultant mean temperature generally about 3° above the average; elsewhere in Canada, with local exceptions in the Cariboo district of British Columbia and the extreme southwestern counties of Ontario, where the average was slightly exceeded, the normal value was not reached. The negative differences were greatest over upper Ontario, the Ottawa and St. Lawrence valleys, and in most localities were more than 3°. Precipitation was very generally in excess of the average in Canada during April, but in Vancouver Island and the Kamloops district of British Columbia, Saskatchewan and Nova Scotia, the usual amount was not recorded. The excess was pronounced in Alberta, where the fall was almost twice the normal in many localities. At the close of the month the ground was bare of snow in most places, but in the bush region of upper Ontario there was a depth of from four to twelve inches, and in the Gaspé peninsula of Quebec about four inches.

The mean temperature for April was nearly normal throughout British Columbia, being slightly in excess in the Cariboo district, and slightly in defect elsewhere. In the western provinces the weather of April was characterised by high temperatures and an excess of precipitation in Alberta and Manitoba and a deficiency in Saskatchewan. In Ontario cold weather predominated during April, and, with the exception of the southwestern counties, the mean temperature was below average. In upper Ontario, the Ottawa and St. Lawrence valleys the cold was pronounced, and negative departures from the average were more than 3°. The precipitation was generally much in excess of the average, and at the close of the month there was some snow on the ground in the bush regions of the upper country. A subnormal mean temperature and an excess of precipitation summarises the weather of April in Quebec. There was a great quantity of snow on the ground on the first of the month, but it rapidly disappeared as the season progressed, and at the close of the month there was very little visible. In New Brunswick during the greater part of April fair, cold, backward and at times wintry weather prevailed. In Nova Scotia unseasonable weather prevailed during April, with cool conditions and a deficiency of precipitation. Cold, backward weather characterised April in Prince Edward Island, and no farming operations have as yet been undertaken except in a few localities.

## COLONIAL AND FOREIGN PRODUCE IN BRITISH MARKETS.

**Wheat, etc.** On March 25 the prices for imported wheats at Mark Lane per quarter of 496 lb. were as follows: Manitoba No. 2 44s-44s 3d, No. 3 43s-43s 3d, No. 4 40s-40s 3d, No. 5 38s-39s, No. 6 34s-35s, feed, 28s-29s, red winter 37s-38s, Australian 39s-41s, New Zealand 38s-39s, Russian finest 42s-43s, good 39s-40s, com. 37s-38s, Californian 37s 6d-38s 6d, Blue Stem 37s 6d-38s 6d, white Walla 37s-37s 6d, white Bonny 40s 6d-41s, white Calcutta 40s 40s 6d, white Karachi 39s-40s, red Karachi 38s 6d-39s.



Buckwheat per 416 lb., Russian 27s-29s, French 34s-35s. Split peas per 504 lb., Canadian 44s 45s. Indian 49s 51s. Oats per 320 lb., New Zealand 23s-24s, Canadian 21s-22s.

**Flour.** On March 25 the prices at Mark Lane for imported flour per sack of 280 lb. were: Hungarian 38s 6d-39s, Pillsbury's best 30s-31s, Iron Duke 25s 9d-26s, American finest 32s-3d-32s 9d, 1st pat. 31s 3d-31s 6d, 2nd pat. 29s 6d-30s, 1st bak. 25s 6d-25s 9d, 2nd bak. 24s 9d-25s 3d, low grade 20s 9d-21s 9d, Manitoba pat. 31s 3d-32s 3d, straights 28s 3d-29s 3d, Kansas best 29s 3d-29s 6d, firsts 28s 3d-28s 6d, seconds 27s 3d-27s 9d, Californian 30s-31s, Argentine pat. 26s-27s, bak. 22s-23s, Australian 26s-26s 3d, French fancy 32s 6d 33s, Belgian 31s-32s, Galatz 33s-35s.

**Fresh Meats.** The average official monthly prices in March were per 112 lb.: Canadian and U.S.A. port-killed, London 61s 6d and 59s 9d; Liverpool 61s and 56s 6d. Argentine frozen hind quarters, London 36s and 29s; Birmingham 35s 6d and 28s 6d; Liverpool and Manchester 35s 6d and 28s 6d; Edinburgh 35s 6d and 29s 6d; Glasgow 38s and 29s 6d. Argentine chilled hind quarters, London and Manchester 46s 6d; Birmingham 46s; Liverpool 45s; Edinburgh 47s; Glasgow 48s; fore quarters, London and Birmingham 32s 6d; Liverpool and Manchester 31s; Edinburgh 33s; Glasgow 34s 6d. Australian frozen hind quarters, London 34s 6d; Birmingham 35s; Liverpool and Manchester 33s; Glasgow 35s 6d; fore quarters, London 28s 6d; Birmingham 29s 6d; Liverpool and Manchester 26s; Glasgow 29s. For the week ended March 28 the prices were: Canadian and U.S.A. port-killed, London 60s 8d and 58s 4d; Liverpool 60s 8d and 56s 4d. Argentine chilled hind quarters, London and Liverpool 46s 8d; Birmingham, Leeds, Manchester, Dundee and Glasgow 49s; Edinburgh 47s 10d. Australian frozen hind quarters, London and Birmingham 35s; Leeds 33s 10d; Liverpool and Manchester 32s 8d; Glasgow 39s 8d.

**Bacon and Hams.** The average official prices in March for Canadian bacon per 112 lb. were: London 58s and 55s 6d; Bristol 58s and 56s 6d; Liverpool 57s and 55s; Glasgow 59s and 57s. For American long cut hams the monthly average prices for March were: London 57s 6d and 53s; Bristol 54s and 50s 6d; Liverpool 55s and 52s; Glasgow 56s. For the week ended March 28 the prices were: Canadian sides, London and Liverpool 58s and 55s; Bristol and Glasgow 59s and 57s. Canadian Cumberland cuts, Liverpool 57s and 53s; Glasgow 56s and 52s. Danish sides, London and Bristol 63s and 59s; Liverpool 61s and 59s. Canadian long cut green hams, London 66s and 60s; Bristol 65s and 61s; Liverpool 67s and 61s; Glasgow 60s and 59s. American long cut green hams, London 59s and 55s; Bristol 56s and 52s; Liverpool 57s 6d and 54s 6d; Glasgow 58s. American short cut green hams, London 58s and 56s; Bristol 58s and 54s; Liverpool 58s 6d and 55s 6d; Glasgow 58s.

**Cheese.** The average prices in March for Canadian cheese per 112 lb. were: London 76s 6d and 75s 6d; Bristol 76s 6d and 75s; Liverpool 76s and 74s; Glasgow 76s 6d. For the week ended March 28 the prices of Canadian cheese were: London 78s and 77s; Bristol 77s and 76s; Liverpool 77s and 75s; Glasgow 77s. New Zealand cheese, London 75s and 74s 6d; Bristol 76s and 75s; Glasgow 77s.

## PUBLICATIONS OF THE CENSUS AND STATISTICS OFFICE.

Copies of the undermentioned publications will so far as available be sent free on application to Archibald Blue, Chief Officer, Census and Statistics Office, Ottawa.

THE CANADA YEAR BOOK. Second Series, 1905-1910.

Each of these six Volumes contains a complete summary of the principal events of the year and the acts of the Dominion Parliament, with statistics of population, agriculture, forestry, minerals, manufactures, trade and commerce, public accounts, banking, post office, insurance, railways, canals, marine, fisheries, etc.

REPORT ON THE CENSUS OF POPULATION AND AGRICULTURE OF THE NORTHWEST PROVINCES Manitoba, Saskatchewan and Alberta, 1906.

LONGEVITY AND SANITATION. Bulletin viii. The substance of addresses delivered by Archibald Blue before the McMaster Convocation and the American Public Health Association.

THE BEET SUGAR INDUSTRY. Bulletin ix. The result of an investigation of Sugar Beet production in Canada and the manufacture of the roots into refined sugar, with Appendix A consisting of the Hearings of the Customs Tariff Committee, 1905, and Appendix B, Beet Sugar Production in Posen, Germany. 75 pp., 3 illustrations.

OCCUPATIONS OF THE PEOPLE. Bulletin xi. The figures in this Bulletin are compiled from data of the Census of 1901.

FIFTH CENSUS OF CANADA, 1911. Special Report on area and population, 172 pp.

# CENSUS AND STATISTICS MONTHLY

Vol. 5

OTTAWA MAY and JUNE 1912

No. 48

PUBLISHED BY AUTHORITY OF HONOURABLE GEORGE E. FOSTER, MINISTER OF TRADE AND COMMERCE. CORRESPONDENCE RELATING TO THE CENSUS AND STATISTICS MONTHLY SHOULD BE ADDRESSED TO ARCHIBALD BLUE, CHIEF OFFICER OF THE CENSUS AND STATISTICS OFFICE, DEPARTMENT OF TRADE AND COMMERCE, OTTAWA, CANADA.

## CROPS AND LIVE STOCK IN CANADA.

Report for the two months ended May 31 1912.

From reports of correspondents at the end of April it was estimated that about 31·50 p.c. of the area sown to fall wheat had been winter-killed, the proportions being 28·72 p.c. in Ontario and 38·50 p.c. in Alberta. This represents a total deduction from the area sown of 326,000 acres (226,000 acres in Ontario and 100,000 acres in Alberta), and leaves the area now under this crop at 781,000 acres for the whole of Canada.

In the Maritime provinces spring seeding on April 30 had only begun here and there, most of the ground being still under snow. Very little progress had been made by the same date in Quebec, the amount of seeding done representing not more than about 3 or 4 per cent. In Ontario about 15 p.c. of the total seeding had been completed, but this applied chiefly to the western and southern parts of the province. In the Northwest provinces the wet condition of the ground, coupled with cold weather and the small amount of fall ploughing completed last year, caused seeding operations to be backward. In Manitoba 50·13, in Saskatchewan 71·54 and in Alberta 61·26 p.c. of the seeding of spring wheat was completed by the end of April; and of total seeding done the percentage proportions were Manitoba 36·63, Saskatchewan 49·30 and Alberta 51·50.

Hay and clover meadows in Canada were reported on April 30 to have been winter-killed to the extent of nearly 14 p.c.

The report for April 30 on the condition of live stock showed a high average for the Dominion, being over 90 p.c. of a standard. West of Ontario the figures exceeded 90 for all descriptions of live stock. In Ontario for milch cows and other cattle, in Quebec for horses and milch cows and in Prince Edward Island for milch cows and other cattle the percentage figures of condition fell below 90, the range being from 83 to 88.

According to the reports made by correspondents on May 31 the spring this year throughout the greater part of Canada has been cold, wet and backward. Continuous rains, especially in Nova Scotia, New Brunswick and Quebec, have greatly interfered with the spring seeding, and at the end of May large areas in these three provinces, and in parts of Ontario, particularly on low lying lands, were still unseeded. It is impossible therefore to

base upon the data at present available complete estimates of the areas sown to this year's principal field crops, and consequently the figures of 1912 in Table III represent only preliminary estimates which are subject to revision at the end of June, when fresh returns after completion of the seeding will be made by correspondents of the Office.

Condition at the end of May, as measured against a standard of 100 representing the promise of a full crop, is high for all the products reported on excepting fall wheat, the per cent condition of which, viz., 71.46, compared with 72.62 on April 30, is lower than that of any of the three previous years at the same date. This crop suffered from the exceptionally severe winter in Ontario and from the lack of sufficient snow protection in Alberta, whilst the cold, wet spring has been adverse to recovery and good growth. The condition of spring wheat is 94.21 against 96.69 last year, oats 91.67 against 94.76, barley 91.08 against 93.49, rye 87.24 against 90.26, peas 83.85 against 92.15, mixed grains 87.72 against 93.84. The condition of hay and clover is 96.10, compared with 74.63 at the end of April and 91.45 at the end of May 1911. Alfalfa, where grown, shows this year an average condition of 90.65. For the three Northwest provinces the areas, as estimated on May 31, are: Wheat 9,122,000 acres, oats 5,097,000 acres and barley 837,000 acres. The condition of these cereals in the Northwest provinces is over 95 p. c. of the standard, except for fall wheat in Alberta, where it is 76.62 p. c. In Saskatchewan the area under fall wheat is estimated at 53,000 acres, and its per cent condition on May 31 was 93.28.

Census and Statistics Office,  
June 14 1912.

ARCHIBALD BLUE  
Chief Officer.

**I. Percentage of Spring Seeding completed and Condition of Meadows,  
April 30, 1912.**

| Provinces                 | Spring<br>wheat | Oats  | Barley | Total<br>seeding | Condition<br>of meadows |
|---------------------------|-----------------|-------|--------|------------------|-------------------------|
|                           | p.c.            | p.c.  | p.c.   | p.c.             | p.c.                    |
| Canada.....               | 33.62           | 13.26 | 8.78   | 25.14            | 74.63                   |
| Prince Edward Island..... | .00             | .00   | .00    | .00              | 73.00                   |
| Nova Scotia.....          | .00             | .00   | .00    | .00              | 90.85                   |
| New Brunswick.....        | .00             | .00   | .00    | .00              | 81.67                   |
| Quebec.....               | 3.12            | 3.83  | 2.37   | 5.09             | 50.07                   |
| Ontario.....              | 12.73           | 13.89 | 11.79  | 15.15            | 80.46                   |
| Manitoba.....             | 50.13           | 17.30 | -      | 36.63            | 88.49                   |
| Saskatchewan.....         | 71.54           | 16.98 | 23.32  | 49.30            | 87.82                   |
| Alberta.....              | 61.26           | 29.46 | 25.82  | 51.50            | 95.60                   |
| British Columbia.....     | 76.15           | 68.78 | 60.00  | 62.79            | 97.72                   |



## II. Report on Standard Condition of Live Stock, April 30, 1912.

| Provinces                 | Horses | Milch cows | Other cattle | Sheep | Swine |
|---------------------------|--------|------------|--------------|-------|-------|
|                           | p.c.   | p.c.       | p.c.         | p.c.  | p.c.  |
| Canada.....               | 94.84  | 92.12      | 90.13        | 91.90 | 94.50 |
| Prince Edward Island..... | 96.76  | 87.51      | 85.54        | 91.41 | 96.83 |
| Nova Scotia.....          | 96.10  | 94.15      | 90.83        | 92.57 | 93.68 |
| New Brunswick.....        | 96.81  | 91.79      | 91.17        | 90.52 | 95.65 |
| Quebec.....               | 88.00  | 87.04      | 93.23        | 93.28 | 93.71 |
| Ontario.....              | 91.52  | 86.83      | 83.02        | 90.55 | 91.58 |
| Manitoba.....             | 97.90  | 94.18      | 93.25        | 96.61 | 97.31 |
| Saskatchewan.....         | 94.36  | 93.07      | 91.22        | 91.34 | 95.99 |
| Alberta.....              | 95.31  | 95.58      | 94.48        | 97.67 | 96.86 |
| British Columbia.....     | 96.78  | 95.52      | 91.38        | 96.00 | 94.14 |

## III. Statistics of Field Crops, with Areas of 1912 as estimated on May 31.

| Field crops           | Acres in crops |           | Per cent of standard condition |       |        |       |
|-----------------------|----------------|-----------|--------------------------------|-------|--------|-------|
|                       | 1912           | 1911      | 1912                           | 1911  | 1910   | 1909  |
| Canada—               |                |           |                                |       |        |       |
| Fall wheat.....       | 781,000        | 1,172,119 | 71.46                          | 80.63 | 87.65  | 82.15 |
| Spring wheat.....     | 9,145,000      | 9,265,040 | 94.21                          | 96.69 | 91.49  | 92.15 |
| Oats.....             | 9,486,000      | 9,233,550 | 91.67                          | 94.76 | 93.95  | 92.32 |
| Barley.....           | 1,429,000      | 1,463,569 | 91.08                          | 93.49 | 92.94  | 91.49 |
| Rye.....              | 138,000        | 153,272   | 87.24                          | 90.26 | 88.12  | 87.90 |
| Peas.....             | 234,000        | 288,310   | 83.85                          | 92.15 | 93.01  | 90.59 |
| Mixed grains.....     | 522,000        | 563,846   | 87.72                          | 93.84 | 94.72  | 91.71 |
| Hay and clover.....   | 7,934,000      | 8,059,720 | 96.10                          | 91.45 | 97.64  | 90.36 |
| Alfalfa.....          | 112,000        | 107,833   | 90.65                          | —     | —      | —     |
| Prince Edward Island— |                |           |                                |       |        |       |
| Spring wheat.....     | 31,000         | 30,090    | 100.88                         | 95.89 | 102.04 | 92.81 |
| Oats.....             | 176,000        | 175,826   | 101.93                         | 95.67 | 101.67 | 95.30 |
| Barley.....           | 4,400          | 4,561     | 101.56                         | 97.66 | 96.46  | 95.20 |
| Peas.....             | 70             | 74        | 97.50                          | 95.77 | 99.67  | 91.30 |
| Mixed grains.....     | 7,400          | 7,418     | 99.22                          | 98.52 | 100.49 | 98.62 |
| Hay and clover.....   | 199,000        | 207,866   | 91.51                          | 82.28 | 109.71 | 90.30 |
| Alfalfa.....          | 30             | 33        | 90.00                          | —     | —      | —     |
| Nova Scotia—          |                |           |                                |       |        |       |
| Spring wheat.....     | 12,000         | 13,118    | 96.66                          | 92.05 | 100.00 | 92.00 |
| Oats.....             | 96,400         | 98,129    | 96.67                          | 93.84 | 101.64 | 90.04 |
| Barley.....           | 5,500          | 5,978     | 92.09                          | 93.16 | 97.95  | 92.40 |
| Rye.....              | 900            | 919       | 75.78                          | 96.00 | 92.31  | 86.00 |
| Peas.....             | 200            | 209       | 95.16                          | 89.70 | 94.40  | 95.70 |
| Mixed grains.....     | 4,000          | 4,356     | 96.35                          | 96.60 | 97.56  | 89.50 |
| Hay and clover.....   | 478,000        | 485,776   | 99.47                          | 86.45 | 105.20 | 89.00 |
| Alfalfa.....          | 30             | 32        | 83.89                          | —     | —      | —     |
| New Brunswick—        |                |           |                                |       |        |       |
| Spring wheat.....     | 12,600         | 13,245    | 97.50                          | 92.46 | 99.55  | 90.00 |
| Oats.....             | 189,000        | 198,457   | 96.58                          | 93.21 | 102.63 | 89.50 |
| Barley.....           | 2,300          | 2,613     | 94.44                          | 85.59 | 93.60  | 82.80 |
| Rye.....              | 140            | 162       | 91.25                          | —     | —      | —     |
| Peas.....             | 600            | 643       | 96.43                          | 83.18 | 96.80  | 90.14 |
| Mixed grains.....     | 1,300          | 1,453     | 93.42                          | 89.73 | 96.33  | 89.95 |

### III. Statistics of Field Crops with Areas of 1912 as estimated on May 31.—con.

| Field crops          | Acres in crops |           | Per cent of standard condition |        |        |        |
|----------------------|----------------|-----------|--------------------------------|--------|--------|--------|
|                      | 1912           | 1911      | 1912                           | 1911   | 1910   | 1909   |
| New Brunswick—con.   |                |           |                                |        |        |        |
| Hay and clover. .... | 558,000        | 588,839   | 100·00                         | 86·66  | 108·11 | 79·80  |
| Alfalfa. ....        | 100            | 117       | 81·25                          | —      | —      | —      |
| Quebec—              |                |           |                                |        |        |        |
| Spring wheat. ....   | 66,500         | 71,086    | 82·27                          | 95·04  | 94·76  | 90·15  |
| Oats. ....           | 1,264,000      | 1,430,677 | 81·90                          | 92·50  | 97·74  | 93·71  |
| Barley. ....         | 92,000         | 106,010   | 86·43                          | 91·60  | 94·33  | 93·00  |
| Rye. ....            | 16,500         | 20,440    | 79·88                          | 89·63  | 91·17  | 86·16  |
| Peas. ....           | 28,000         | 33,048    | 78·07                          | 90·55  | 91·53  | 88·80  |
| Mixed grains. ....   | 117,000        | 130,950   | 79·33                          | 92·15  | 96·15  | 93·68  |
| Hay and clover. .... | 3,018,000      | 3,022,089 | 96·77                          | 95·42  | 105·16 | 91·69  |
| Alfalfa. ....        | 10,000         | 10,387    | 86·05                          | —      | —      | —      |
| Ontario—             |                |           |                                |        |        |        |
| Fall wheat. ....     | 561,000        | 814,746   | 67·52                          | 77·26  | 92·56  | 83·37  |
| Spring wheat. ....   | 115,000        | 126,526   | 89·05                          | 97·37  | 93·86  | 86·23  |
| Oats. ....           | 2,629,000      | 2,734,110 | 88·36                          | 92·42  | 92·53  | 88·27  |
| Barley. ....         | 486,000        | 521,391   | 87·96                          | 93·09  | 92·15  | 87·72  |
| Rye. ....            | 87,400         | 98,887    | 86·46                          | 87·91  | 86·74  | 86·92  |
| Peas. ....           | 263,000        | 252,032   | 83·16                          | 92·91  | 93·79  | 90·22  |
| Mixed grains. ....   | 381,000        | 408,471   | 81·26                          | 94·42  | 93·11  | 90·59  |
| Hay and clover. .... | 3,215,000      | 3,345,497 | 92·08                          | 87·92  | 95·44  | 90·61  |
| Alfalfa. ....        | 86,000         | 83,342    | 90·96                          | —      | —      | —      |
| Manitoba—            |                |           |                                |        |        |        |
| Fall wheat. ....     | 3,100          | 2,961     | 87·44                          | —      | —      | —      |
| Spring wheat. ....   | 2,706,000      | 2,976,773 | 96·67                          | 98·20  | 91·42  | 98·30  |
| Oats. ....           | 1,286,000      | 1,260,736 | 97·47                          | 96·49  | 91·53  | 96·90  |
| Barley. ....         | 463,000        | 433,067   | 98·16                          | 98·27  | 92·13  | 96·08  |
| Rye. ....            | 8,400          | 9,393     | 93·56                          | 96·00  | 80·71  | 91·30  |
| Peas. ....           | 400            | 398       | 96·66                          | 98·57  | 91·88  | 100·00 |
| Mixed grains. ....   | 1,900          | 1,820     | 94·00                          | 100·00 | 97·08  | 98·75  |
| Hay and clover. .... | 143,000        | 142,959   | 97·90                          | 99·01  | 83·88  | 91·97  |
| Alfalfa. ....        | 2,500          | 2,802     | 89·14                          | —      | —      | —      |
| Saskatchewan—        |                |           |                                |        |        |        |
| Fall wheat. ....     | 53,000         | 34,457    | 93·28                          | —      | —      | —      |
| Spring wheat. ....   | 4,874,000      | 4,670,203 | 95·60                          | 97·92  | 95·91  | 98·90  |
| Oats. ....           | 2,360,000      | 2,124,057 | 96·08                          | 98·46  | 91·77  | 99·34  |
| Barley. ....         | 184,000        | 172,253   | 96·24                          | 93·33  | 92·57  | 97·85  |
| Rye. ....            | 2,700          | 2,167     | 96·25                          | 91·11  | 95·27  | 96·25  |
| Peas. ....           | 300            | 394       | 95·00                          | 100·00 | 89·07  | 102·50 |
| Mixed grains. ....   | 2,800          | 2,847     | 92·50                          | 95·76  | 96·00  | 96·25  |
| Hay and clover. .... | 21,000         | 18,603    | 101·04                         | 98·03  | 70·84  | 98·47  |
| Alfalfa. ....        | 1,000          | 1,019     | 95·75                          | —      | —      | —      |
| Alberta—             |                |           |                                |        |        |        |
| Fall wheat. ....     | 161,000        | 316,910   | 76·62                          | 85·70  | 70·74  | 74·86  |
| Spring wheat. ....   | 1,325,000      | 1,299,989 | 95·68                          | 97·45  | 95·38  | 99·17  |
| Oats. ....           | 1,451,000      | 1,178,410 | 94·47                          | 98·45  | 87·48  | 100·09 |
| Barley. ....         | 190,000        | 156,418   | 97·59                          | 97·60  | 90·10  | 98·61  |
| Rye. ....            | 21,000         | 20,659    | 97·59                          | 101·25 | 84·30  | 98·33  |
| Peas. ....           | 400            | 459       | 96·81                          | 101·11 | 89·17  | 102·00 |
| Mixed grains. ....   | 4,900          | 4,904     | 98·94                          | 99·23  | 80·35  | 94·66  |
| Hay and clover. .... | 188,000        | 165,165   | 99·19                          | 99·95  | 81·00  | 98·59  |
| Alfalfa. ....        | 8,400          | 7,033     | 91·60                          | —      | —      | —      |

### III. Statistics of Field Crops with Areas of 1912 as estimated on May 31.—con.

| Field crops          | Acres in crops |        | Per cent of standard condition |      |      |      |
|----------------------|----------------|--------|--------------------------------|------|------|------|
|                      | 1912           | 1911   | 1912                           | 1911 | 1910 | 1909 |
| British Columbia—    |                |        |                                |      |      |      |
| Fall wheat .....     | 2,900          | 3,045  | 94 15                          | —    | —    | —    |
| Spring wheat .....   | 3,700          | 4,010  | 99 94                          | —    | —    | —    |
| Oats .....           | 35,000         | 33,148 | 99 56                          | —    | —    | —    |
| Barley .....         | 1,600          | 1,678  | 99 50                          | —    | —    | —    |
| Rye .....            | 530            | 645    | 100 00                         | —    | —    | —    |
| Peas .....           | 1,000          | 1,143  | 93 67                          | —    | —    | —    |
| Mixed grains .....   | 1,600          | 1,627  | 103 33                         | —    | —    | —    |
| Hay and clover ..... | 84,000         | 82,916 | 100 63                         | —    | —    | —    |
| Alfalfa .....        | 3,800          | 3,068  | 99 09                          | —    | —    | —    |

## NOTES OF REPORTS FROM THE PROVINCES.

**Prince Edward Island.** The spring is somewhat backward, but plenty of rain has fallen, and the conditions generally are promising. Pasture and hay crops are specially good. Fruit trees at the end of May were just coming into bloom. Cherry trees in some parts were in full bloom. Some damage was caused by frosts about the 22nd and 23rd of the month.

**Nova Scotia.** Cold and rainy weather has greatly delayed seeding operations. In some cases not half of the seeding was done by the end of May, and from one district it is reported that seeding will continue until June 10. Frosts on the 22nd and 23rd caused a set back to clover. Meadows and pastures are in good condition. A correspondent reports that in his district only half the usual seeding of hay and clover will be done this year in consequence of the high price of the seed. The appearance of the orchards is everywhere excellent, and heavy blooms give promise of a full crop.

**New Brunswick.** The weather has been cold during May, and the spring is very backward. Heavy rains too have prevented seeding, and at the end of May a great deal of land still remained unsown. Frosts about the middle of the month did some damage. Fruit prospects are variously reported as promising or poor, but it is rather too early to speak positively.

**Quebec.** Seeding has been greatly delayed by continuous rains. At the end of May there still remained large areas unseeded, or that will have to be re-sown. The season is about 15 days late, and in many districts from 25 to 75 p.c. of the seeding was not done at the end of May. In some few cases it had not been possible to seed at all by that date. Grass, clover and orchard crops promise well; but the tent caterpillars are again more than ordinarily numerous and there appears to be no concerted action to control them. The Superintendent at the Cap Rouge Experimental Farm reports that winter frosts of from 20° to 24° below zero damaged the young fruit trees, and heavy snow broke off the branches of the old ones.

**Ontario.** Heavy and continuous rains have occurred in all parts of the province during May, and seeding has everywhere been retarded. In eastern Ontario a considerable area remained unseeded at the end of May; in central Ontario there was still some grain to be sown and crops, where sown, were suffering from too much moisture. "Those who adopted the old plan of running furrows through the fall wheat fields in autumn", writes a correspondent, "have been more than repaid for their trouble". Drowning out and re-sowing are frequently reported from western Ontario, and both there and in the southern counties much fall wheat has had to be ploughed up and re-sown in consequence of winter-killing and the unfavourable spring. A correspondent in southern Ontario mentions that fall wheat was sown late to escape the Hessian Fly, and the plant was not therefore strong enough to withstand the severe winter. Pastures and orchards are reported as doing well. Insect pests appear to be under better control than in Quebec, and the tent caterpillars are not so frequently complained of. Nevertheless a correspondent in south Essex states that the orchards there are nearly out of business owing to the San José Scale. In northern Ontario the cold and wet are frequent subjects of complaint, although hopeful conditions prevail generally. A correspondent from Parry Sound reports that dogs are playing havoc with sheep, and that one farmer had 16 lambs killed by dogs in one night.

**Manitoba.** A cold April and wet May have caused seeding operations to be very late. At the end of May a great deal of barley and oats was still unown, and correspondents report pretty generally that in consequence of the wet season much land will be sown to barley and oats that would otherwise have been put into wheat; also in some cases from the same cause there will be more summer fallow this year. Our correspondent at Swan River, Mr. C. A. Lewis, writes that the "continued wet has suited the fall wheat crop in the valley, which never looked better or gave brighter promise of a full crop." On the whole the condition of crops appears better to the south than to the north of the province, where the wet weather has told more severely. Small fruits and garden produce are reported as promising well.

**Saskatchewan.** Though the season is late the general prospects for the wheat crop are favourable. A large proportion of the area intended for barley was not seeded by the end of May, and in some parts more barley and flax are being sown instead of wheat. Sowing on the stubble is also being more largely practised owing to the impossibility of ploughing last fall. In the northern parts of the province complaints are very frequently made that crops sown have failed to germinate or have germinated badly in consequence of the use of poor seed. Much of this seed was only threshed in the spring after standing in the stook or in the stack all the winter. A good deal of re-seeding has therefore been necessary. Small fruits and garden produce promise well. A correspondent in southern Saskatchewan writes: "All Canadian thistles in this district seem to be winter-killed. I have examined about 50 patches this week on different farms and they all seem to be rotten right down to the roots. Whether they will come up later on or not remains to be seen."



**Alberta.** Upon the whole the conditions for spring sown crops in this province are excellent. Frosts early in the season delayed seeding in some parts and wet weather in others, but lateness of the spring is not altogether a general feature. One correspondent for instance reports an early spring and states that it is from two to three weeks ahead of last year; another writes that this year's spring is the most favourable one in the history of his locality. Fall wheat was badly winter-killed through lack of sufficient snow protection, the snow melting too early in the spring. Its condition too is poor. This applies more particularly to northern Alberta. In the south of the province, though there are still complaints of winter-killing, the fall wheat appears to have wintered better, and there are several records of the promise of a full crop. In northern Alberta much of the seed sown has proved to be of weak vitality. Two correspondents state that the farmers in their localities failed to send samples of their seed grain to the Government laboratory for germination tests, and they suffered in consequence. Cutworms are still a source of great damage; they are reported as injuring gardens in northern and crops in southern Alberta. The following is quoted from the report of our correspondent at Macleod: "The only drawback this spring has been the prevalence in some parts of cutworms. These have destroyed several fields running into hundreds of acres. They are much worse than last year, and there will be many who will be afraid to sow next year at all unless some remedy other than poisoned bran can be found. A study of the moth stage and the egg deposits would mean much to some extensive wheat growers here who are now in despair."

**British Columbia.** Excellent conditions have prevailed throughout the spring and the crops, both grain and fruit, show bright prospects. Fruit promises to yield bumper crops. Mr. B. G. Hamilton, our correspondent at Windermere, a mining division in East Kootenay, writes that "though the district is sparsely settled large tracts are being rapidly colonised by irrigation companies. Crop prospects are up to the standard of other years. The approximate acreage of oats is 1,000 and of timothy, clover and alfalfa 2,000, an increase in each case over last year. Altogether the development is encouraging." A correspondent at Surrey, New Westminster, reports a large decrease in the amount of grass and clover sown this year owing to the high cost of seed.

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**Agricultural Entomology.** The Division of Entomology of the Dominion Experimental Farms has recently issued three bulletins on entomological subjects, all of them of practical interest to farmers. Bulletin 2 on the Honey Bee is a guide to Canadian apiculture by the Dominion Entomologist, Dr. Hewitt. Bulletin 3 on Cutworms and Army-Worms gives the results of special researches by Mr. A. Gibson, Chief Assistant Entomologist. Bulletin 4 by Dr. Hewitt summarises the progress of the study and control of Canadian insect pests from 1863 to the present day. Copies of these bulletins are obtainable on application to the Publications Branch of the Department of Agriculture, Ottawa.

## DEPARTMENTAL NOTES.

**Experimental Farms and Stations.** At the Central Farm, Ottawa, the temperatures recorded during May are very much lower on the whole than for the corresponding period a year ago, the highest being 82 the lowest 33 and the mean 56·25, compared with extremes of 93·9 and 24 and a mean of 62·98 for this month last year. It has also been exceptionally wet, rain falling on seventeen days out of the thirty-one, and aggregating 5·15 inches as against 2·8 inches in May 1911. The heaviest precipitation was on the 24th, when 1·44 inch fell. As was to be expected under these conditions the number of hours of bright sunshine recorded is less than usual, averaging 6·59 hours a day compared with 9·02 hours daily in May of the previous year.

At the Experimental Farm the seeding of grain, which was begun on the 26th of April (three days later than last year), was finished on the 14th of May, just in time not to be delayed by the wet spell which has prevailed since that date to the end of the month. Notwithstanding the very unfavourable weather during the latter part of the month, the root crop has been got in, also twenty-five acres of Indian corn, while the planting of a four-acre field of potatoes was started on the 31st.

An Auditorium has just been completed at the Central Farm. This building, which is octagonal in shape, has been erected to serve the double purpose of an assembly and luncheon hall for large parties of visitors, special culinary and dining facilities being provided in a convenient part of it. The Auditorium is expected to fill a long felt want as regards the comfort of those visiting the Farm on the occasion of organised excursions of farmers.

J. A. Clark, Superintendent of the Station at Charlottetown, P.E.I., reports: "The early part of May was backward and the ground dried out slowly. At this station the first grain was sown on the 11th. A number of heavy rains delayed work on the farm somewhat; but in the central and eastern portions of the province fully two-thirds of the seeding was done during the month. Work on the land in some parts of Prince County has been very much delayed on account of heavy rains, and up to the 31st considerable areas have not been touched. The leaves and blossoms have been three to four days later in bursting out than last season. The abundance of moisture and the heat experienced during the last week of May have brought vegetation out wonderfully, and at the close there are prospects of good crops. The hay and pastures, where not killed by last season's drouth, are in excellent condition. Rain fell on nine different days during the month. On the night of the 22nd 4·5 degrees of frost were registered. This wilted, but did not kill the clovers and alfalfa, which are in excellent condition."

Robert Robertson, Superintendent of the Farm at Nappan, N.S., reports: "The weather during the first three weeks of May was rather backward and dry, with just enough rain to make seeding impossible but not sufficient to result in good growth. Seeding became general about the 15th. From the 24th to the end of the month the weather has been almost continuously wet, very much retarding seeding operations on the

Experimental Farm, but resulting in very satisfactory growth in the case of grass and as regards the grain previously sown. No roots have as yet been put in, although the ground has been ready twice, but each time enough rain has fallen to stop work. The rainfall of the month totals 2.74 inches, most of this being experienced during the concluding week. The highest temperature that has been recorded is 77, registered on the 27th. Very few cattle have as yet been turned out to pasture. Nor are seeding operations in this district as far advanced as usual at the end of May. Fruit trees are coming into blossom very rapidly."

G. A. Langelier, Superintendent of the Station at Cap Rouge, Que., reports: "May has been one of the worst in years. It rained on fourteen different days from the 7th to the 31st. And as there was absolutely nothing done before the former date seeding was delayed, and at the close of the month it is still raining, with not more than 25 p.c. of the grain sown in this district. The precipitation amounts to only an inch less than experienced last year in May, June and July combined, and fields which are generally dry are now flooded. Unless the weather is very fine and warm in September the crop of oats will be extremely small. Hay and pastures will of course be better than the average, as both have now such a good start that the ground will be shaded and kept moist even with a drouth. Fourteen different kinds of hedges and also a great number of evergreens and ornamental shrubs were planted during the latter part of the month."

W. C. McKillican, Superintendent of the Farm at Brandon, Man., reports: "May has been remarkable for the variety of the weather experienced generally. The lowest temperature recorded, viz., 21 degrees, was the same as in May 1911. There was a daily shower of rain from the 1st to the 10th, averaging 0.16 of an inch per day, and during this period the sunshine averaged four hours daily. As was inevitable under such conditions, with the temperature ranging from 35° to 72°, there was a scarcity of growth. Frost was recorded on three days, one degree on the 8th, eleven degrees on the 13th and five degrees on the 15th. High winds, chiefly from the north-east and east, were a feature throughout the month. Work on the Farm during May included ploughing, seeding, the cleaning up of lawns and walks, the bagging and shipping of inoculated soil for alfalfa, etc."

Angus Mackay, Superintendent of the Farm at Indian Head, Sask., reports: "Very heavy rains fell early in May and more or less precipitation was experienced during the entire month. The records kept here do not show so much rain in any previous May since the Farm started. On the whole the growth has been satisfactory, and at present the grain in the district and on the Experimental Farm is looking exceedingly well. Alfalfa suffered considerably by heavy frosts at night, some varieties being killed and others more or less injured. Fruit bushes are full of bloom, with lilacs and other shrubs promising to be very attractive. Roots, corn and potatoes, also flax, were got in from the 15th to the 25th. A new granary and a new implement building have been erected during the month. About one-third of the land intended for summer-fallow was ploughed during May, although unfavourable weather delayed this and other farm work a great deal."



W. A. Munro, Superintendent of the Station at Rosthern, Sask., reports : "During the first and last weeks of May there was a considerable amount of rainfall, which has done much to develop the grasses in particular. By the end of the first week of the month wheat seeding was finished in this district, and barley and oat seeding on spring ploughing by the end of the third week. Thus far the season seems a most favourable one. In a number of localities, where care had not been taken in the selection of good seed, some seeding has had to be done a second time. This difficulty has not been experienced where germination tests were made with the seed before sowing."

R. E. Everest, Superintendent of the Station at Scott, Sask., reports : "May for the first few days was somewhat cool. Since the 6th the temperatures have been higher, and a fair rainfall also being experienced, conditions have been very favourable for the growth of grain. Speaking generally the cereal crops are a good uniform stand, and at the close of the month the wheat is waving in the breeze. Throughout this district a considerable area has been sown to flax. The tendency this year has been to sow earlier than in previous seasons. Later seeding of flax has been resorted to in some instances on land where wheat failed in germination owing to the grain used for seed having been exposed over winter in threshed piles. Farmers now are turning their attention to breaking new land. The work engaging attention at this Station has included the continuing of seeding operations during the early part of the month, followed by tree planting and the putting in of potato, corn and root crops."

G. H. Hutton, Superintendent of the Station at Lacombe, Alta., reports : "Weather conditions during May have been favourable for the completion of seeding operations. All the grain intended for threshing is now well up and growing rapidly. Growth during the month has been unusually favourable, and both grain and grass crops are looking well. Pastures are providing especially good grazing for this season of the year. A general rain during the last week of the month relieved the first feelings of anxiety in the eastern section of the province and provided abundant moisture to carry crops forward for several weeks. At this Station the live stock, including the swine, are in good health and the young pigs are making rapid growth. Joint or navel-ill has caused trouble in foals on many farms, the loss in some cases being heavy. The Station has not been fortunate enough to escape the ravages of this disease, two very promising foals being lost in spite of careful treatment. The later foals coming on pasture are showing a much lower percentage of loss than the earlier colts."

W. H. Fairfield, Superintendent of the Station at Lethbridge, Alta., reports : "In this immediate vicinity the weather during May has been drier than usual. Although good rains have been reported in nearly all parts of southern Alberta, the precipitation recorded at the Station during May amounts to only 0.66 of an inch, and for April and May together but 0.86 of an inch. Late sown crops have not come up well. Winter wheat is suffering owing to lack of moisture and spring grain soon will if rain does not come shortly. Cutworms are doing considerable injury to grain fields in the Lethbridge district, re-seeding being necessary in some cases. At the Experimental Station these pests have been doing damage in the



plot work and, although poisoned bran was thoroughly applied, some re-seeding has had to be done."

P. H. Moore, Superintendent of the Farm at Agassiz, B.C., reports: "The first half of May was exceptionally fine and warm, and, after the first day or two, without any rain. The 14th was one of the hottest days ever recorded here during May, the thermometer reaching 92 in the shade; but after that date the weather broke up a little and a light shower or two helped things out in the garden. During the fine weather the painting of the farm buildings progressed rapidly, the cow barn, old barn, drive shed and implement shed being completed, and the first coat put on the Superintendent's and Foreman's houses. All farm work is well in line now. The crops are all in and some of the earlier ones are up and looking well. The clover suffered perhaps a little from the heat, but both pasture and hay are good and everything points to an early season. The animals comprising the live stock on the Experimental Farm are progressing satisfactorily and are in good condition, and the horses are working well. During the month there have been upwards of three hundred visitors to this Farm, the warm spell no doubt being responsible for bringing them in such good numbers."

The records of temperature, precipitation and sunshine at the several Experimental Farms and Stations for the month of May are given in the following table:

**Meteorological Record for May 1912.**

| Experimental Farm<br>or Station at— | Degrees of temperature, F. |        |       | Precipitation<br>in<br>inches | Hours of sunshine |        |
|-------------------------------------|----------------------------|--------|-------|-------------------------------|-------------------|--------|
|                                     | highest                    | lowest | mean  |                               | possible          | actual |
| Ottawa, Ont. ....                   | 82.0                       | 33.0   | 54.25 | 5.15                          | 462               | 204.3  |
| Charlottetown, P. E. I. .           | 79.0                       | 27.0   | 50.53 | 2.64                          | 463               | 235.0  |
| Nappan, N. S. ....                  | 77.0                       | 24.0   | 50.27 | 2.74                          | 463               | 1      |
| Cap Rouge, Que. ....                | 80.0                       | 26.2   | 51.31 | 8.08                          | 468               | 194.0  |
| Brandon, Man. ....                  | 84.0                       | 21.0   | 51.50 | 2.94                          | 478               | 208.0  |
| Indian Head, Sask. ....             | 81.0                       | 26.0   | 49.42 | 3.86                          | 481               | 155.8  |
| Rosthern, Sask. ....                | 84.2                       | 28.2   | 48.50 | 2.20                          | 494               | 246.7  |
| Scott, Sask. ....                   | 85.0                       | 24.7   | 49.41 | 2.46                          | 492               | 255.5  |
| Lacombe, Alta. ....                 | 82.7                       | 23.5   | 49.30 | 2.92                          | 489               | 232.9  |
| Lethbridge, Alta. ....              | 82.8                       | 23.6   | 51.94 | 0.66                          | 477               | 280.4  |
| Agassiz, B. C. ....                 | 92.0                       | 39.0   | 57.78 | 3.99                          | 476               | 168.8  |

<sup>1</sup> Not available.

J. H. GRISDALE, Director Experimental Farms.

Ottawa, June 8.

**Dairy and Cold Storage Branch.** The following is a copy of the annual report for the year ended March 31 1912, of Mr. James A. Findlay, cargo inspector for the Canadian Department of Agriculture, under the direction of this Branch, at Glasgow, Scotland:

"The Canadian import season of 1911-12 suffered considerably from labour unrest amongst transport workers. In the early part of the season a sailors' and firemen's strike contributed difficulties to the maintenance of regular sailings and this was followed by sectional strikes amongst dock

labourers, which occurred intermittently for some months, resulting in a stoppage of discharging or loading operations for a few hours or odd days at a time. The increasing demands of the workers finally culminated in a general strike with a complete cessation of labour at the Glasgow harbour for four weeks in January and February, during which period steamers arriving were unable to be discharged or only partially so, and no sailings to Canadian or U.S.A. ports were possible. Owing to this strike apple shipments suffered serious deterioration from being detained on board, and at the moment of writing a universal strike among British coal miners, which has existed for three weeks, is gradually paralysing trade in all directions and contributing to low prices for Canadian apples.

#### CHEESE.

"Apart from transport difficulties a review of the present season presents several satisfactory features, notable among which are increased importations of butter, eggs, apples and canned apples and the record price which has prevailed for Canadian cheese throughout the season. This high level was due to an unusually dry summer both in this country and England, curtailing the pasture and crops generally in the latter country, though the heavier soils of the cheese manufacturing districts in Scotland were hardly affected and the Scotch cheese make was almost an average one. In England there was an abnormal shortage and English buyers drew largely on the Scotch supply, thus creating a greater demand for Canadian cheese here than might otherwise have existed. Cheese importations notwithstanding show a decrease of over 6,000 boxes to Glasgow, and almost 8,000 to Leith compared with last season.

"The condition on arrival continues satisfactory, an almost total absence of heated cheese and only slight evidence of grease on skins of some parcels being apparent. In considering the quality of Canadian cheese, a gratifying feature is the lack of insistent criticism, and I am glad to state that only in isolated cases has any serious unfavourable feature been reported. This general satisfaction does not mean that the quality was faultless, for evidences of former errors were apparent: several parcels were green on arrival and discrepancies in marked weights with actual net weights still exist; but the active demand at satisfactory prices inclined dealers to attach less importance to faults which evidently were not affecting sales. However, the prevailing opinion is that Canadian cheese was very even in quality and that good work is being done by the dairy instructors in Canada.

"*Boxes.* The increasing percentage of damaged cheese boxes on arrival is a condition which must sooner or later bring about some concerted effort for improvement. Undoubtedly the primary cause of much of the breakage lies in the quality and character of the box, and the matter for wonder is not that some parcels come with 25 to 50 p. c. tied and broken, but that so many boxes arrive intact in view of the amount of handling, the slimness of the boxes and the irregularity of fit. The large proportion of damaged boxes would warrant the Department taking steps to recommend to factorymen a box of certain weight and strength, according to the weight of the cheese, for undoubtedly the initial cause lies there. Boxes from the Ingersoll

district are amongst the strongest and best fitting packages, and they always show a very small percentage compared with others.

"The points in transit where breakages take place (it being understood that all tying of boxes is done in Canada) may be stated as about equally divided between ports of loading and discharging. Under the system of discharging at this port by the Allan and Donaldson lines workers fill wooden or iron tubs with cheese in the holds, and these are hoisted ashore by cranes and then emptied by men in the sheds. This season discharging has not been accomplished as carefully as formerly, owing to discontent and wilful carelessness amongst the workers. Moreover the size and shape of the tubs encourage breakage, as they are too small for the number of cheeses loaded and the men are inclined to drop cheeses from edge of top to bottom of tub. I have discussed the subject of an improved tub or means of discharging here and this is being considered by the shipping companies; meantime it has been suggested that some mechanical system of discharging be adopted here for cheese and small sundry cargo; but the idea is not considered feasible in view of the small shipments of cheese per steamer, the fact that they are stowed in the same holds with other cargo and the loss of time and extra expense incurred in erecting and dismantling an elevator-conveyor. Importers here however would be glad to lend support and backing to the adoption of any scheme calculated to minimise breakages.

#### BUTTER.

"Butter shipments show an expansion. There were 4,059 boxes and 13 addressed packages imported as against 1,256 boxes and seven tubs last year. Of this total 2,841 boxes were carried at a temperature of 15 to 25 degrees and the remainder from 35 to 40 degrees, the bulk at the latter temperatures being stowed with bacon. Owing to heavy shipments of U. S. A. bacon in refrigerators it frequently happened that a spare chamber for butter was not available in some of the steamers. With the exception of about 700 boxes all were lifted from the quay within two days of landing (788 were lifted on day of landing, 2,214 on day following, 365 second day, 226 fifth day, 230 ninth day and 236 tenth day). The last three lots ranged in temperature from 52 to 58 degrees at time of delivery. All packages were unsacked this year.

"The condition on arrival offers no grounds for complaint; but the quality while being very fair was not generally so fine as last season. Several parcels were choice, but quite a few were weak and one or two parcels came to hand too heavily salted for this market and were objected to on that account.

#### EGGS.

"Canadian eggs again made their appearance, but only to the extent of 590 cases. Prices fluctuated considerably during the season, but on the whole eggs have been a scarce commodity. The quality of Canadian imports was satisfactory.

## BACON AND MEATS.

"The total of bacon imported is about 100 less than last year. This may be attributed to the lack of shipping facilities during the four weeks' dockers strike here. Shipments were landed in good order and Canadian bacon continues to receive satisfactory demand, and, provided prices were suitable, larger shipments would be welcome.

"*Canned Meats.* Arrivals under this heading show 409 cases of jellied veal—a slight increase over previous season—which was of good quality.

"*Frozen Meats.* These show a very decided shrinkage; only 4,196 boxes were landed this year against 10,900 packages last year. Shipments were carried at a temperature of 20 degrees or lower and landed in satisfactory order.

## CANNED APPLES.

"A considerably increased import of canned apples is observed, 38,135 cases arriving at Glasgow and about 10,000 at Leith, showing an expansion of about 7,000 cases to Glasgow. The landing condition was generally satisfactory, but the tops and bottoms of cases might with advantage be constructed of thicker wood, the same as some of the U.S.A. packages which arrive in better condition for this reason. It is noticeable throughout period of shipments that odd cases are pilfered of one or two tins at some point in transit.

"The quality was subject to more severe criticism this year than usual. From what I can learn early shipments have given satisfaction, but later arrivals have given rise to several complaints regarding oversoftness of fruit which in some cases is breaking down into the liquid. In several of the brands it is obvious that over-ripe fruit was used to make up their cannings, as several are complaining of the fruit being brownish red in colour and soft, and it is evident that this year's canning is not so satisfactory as in former years.

"In addition to the above totals we received 3,114 boxes of Nova Scotian canned apples which were only fair in quality and inclined to be soft and from Ontario 254 cases of canned corn and 197 of peaches. Fault was found with the quantity in the tins of peaches, as a considerable space is found unfilled when opened. Even though the required weight was contained in the cans, which is not admitted, this practice detracts from an appearance of completeness of the package.

## APPLES.

"The Canadian apple season of 1911-12 was one of large shipments from Ontario and Nova Scotia, but viewed as a whole the season has been of a disappointing and unprofitable nature to those handling at this end, as with the exception of a few parcels of coloured fall varieties which realised good returns prices generally were moderate.

"The course of prices was dominated in the early season by unusually heavy crops of exceptionally well grown fruit from England, which competed with shipments of Ontario summer apples, followed by large shipments of Nova Scotian Gravensteins, Kings, Blenheims, etc.



*"Ontario Shipments.* Ontario summer apples and early fall varieties were of good size, clean skinned and good colour, and as a rule they were well graded and arrived in sound condition. The clean appearance of this season's apples is evident testimony to increased care in spraying, pruning, etc. General satisfaction was expressed at this period, but from the advent of the winter varieties onwards the dominant note has been one of disappointment on account of their lack of standing power. Climatic conditions during growth negatived those qualities in Canadian winter stock which have contributed so much to their popularity in this market and in other markets. Shipments from the middle of November onwards arrived showing traces of being over-mature, and end of November and December arrivals resulted in very serious loss to all who "stocked" beyond immediate use. Spys, a universal favourite, were conspicuous for scarcity, poor quality, over-ripeness and chipped condition, but all winter varieties were similarly deficient in keeping quality, and though at time of arrival some were in sound order, they did not possess the usual crisp, firm characteristics noticeable in long-keeping varieties, but were soft and easily bruised. Retailers state that the latest arrivals of Spys, Baldwins, etc., showed material shrinkage and decay every day. These conditions contributed to decreased demand and lower prices. Greenings were of exceptionally fine stock, being clean and bold fruit. Golden Russets on the contrary were poor quality, green and poor size. Baldwins and other winter stock were clean and fair size, but these qualities were lost sight of in their non-keeping properties. Several lots of later arrivals were affected by frost, one consignment being almost worthless. Ontario shipments consisted of 153,482 barrels, 103 half-barrels and 31,776 boxes. These figures show increases from last year of about 72,000 barrels and 16,446 boxes.

"The grading of barrelled stock this year was on the whole fairly satisfactory; occasionally poor parcels opened out, as for instance a number of packers in South Bay district whose grading was farcical and from the continued shipments of several individuals from the same district, it would appear that a united effort to evade the Fruit Marks Act had been agreed upon. The No. 1 grade in many cases was only ordinary and the No. 2 only equal to No. 3.

"Boxed apples in common with barrel stock of winter varieties suffered in criticism on account of non-keeping condition, but were of fair quality and clean. No. 1 grade was of good size in most packs, but No. 2 grades as a rule were under-sized and green for Spy and Baldwin, and the opinion prevails here that there is room for considerable improvement in the quality of pack of the bulk of Canadian boxes.

"Box packers would be well advised to pack only fancy No. 1 grades and to ship No. 2 grades in barrels, as the box trade is really a fancy trade. Frequently I saw No. 2 boxes realise only equivalent prices to No. 2 barrels, and on several occasions not so high, and if the choicer fruit was relieved of the competition from these lower grade boxes higher prices would be secured. Some of the later arrivals of boxed Greenings and Baldwins were in a very decayed condition.

*"Nova Scotian Shipments.* Nova Scotia contributed a record quantity to the Glasgow market, viz., 153,219 barrels and 3,394 boxes. Such heavy

consignments from this quarter, coupled with the quantities from Ontario, created an overloaded market with declining prices.

"The early arrivals - Gravensteins - were clean, fair colour and size, and landed in good order, except in the case of one steamer delayed on the way. Later arrivals of Kings, Blenheims, etc., were generally of excellent quality, the Kings taking the place created by the scarcity of this variety from Ontario, and on this account were decidedly more popular than in years of normal supply from the latter province. Winter varieties suffered in common with apples from other quarters because they would not keep. Baldwins as usual were smaller than those from other sources. Fallawaters were a feature, being choice, clean and large fruit. In Scotland Nova Scotian apples generally (except Gravensteins) are considered of secondary quality to Ontario apples, and except when the latter are very scarce are unlikely to bring so much money. This condition is influenced by the firm character of the apples and their woodiness of flavour, also by the unpopularity of the barrel, due to its rough appearance, small size and difficulty in opening and closing without damage.

"It has been alleged that Nova Scotian fruit was over-pressed this season, but from inquiries I can find only a few old complaints, and these referred to Kings, the majority expressing satisfaction with the improvement in landing condition compared with a few years ago.

"*Boxes.* The bulk of the boxes were of the "Hillcrest Orchards" brand, the Gravensteins being of choice quality in size and colour. Kings were likewise good, Wageners good, but did not keep. This package could be profitably utilised for larger shipments of choice graded Gravensteins from Nova Scotia. A shipment of another brand (Waterville Fruit Growers) arrived, but they were of poor size and quality and realised corresponding prices.

#### BRITISH COLUMBIA FRUIT.

"Imports from this quarter consisted of 2,407 boxes apples and 648 boxes pears, showing an expansion over last year. Red varieties of apples were irregular and inferior in quality and grade to last season. The outstanding variety was Newtown Pippins which were of satisfactory size and choice quality; but Jonathans were poor, McIntosh Red irregular in size and deficient in colour, Cox's Orange inferior and Spys poor both in colour and size. The condition of arrivals was satisfactory. The pears also arrived in sound condition, except Lawrence variety which were over-ripe.

#### ONTARIO PEARS.

"The quantity of pears imported from Ontario shows a large falling off from previous seasons, there being only 3,764 cases and 62 half barrels in cold storage and 27 barrels in ordinary storage, the bulk of the latter being in poor condition, decided decay showing. The case is the most suitable package for this fruit.

"The pears generally were of fair quality and Bartletts made very satisfactory prices. The bulk of arrivals came to hand in sound order, and very much larger quantities could be successfully distributed from Glasgow.

## GENERAL REMARKS.

"I have to report some improvement in facilities at Glasgow for marketing apples, the Corporation having built a saleroom which is used by a few firms who are not members of the Central Commercial Saleroom; so that all apples arriving here are now sold under the collective system of auctioning, which tends to a higher level of prices than under the old system of individual sales proceeding simultaneously. Transport facilities are on the usual lines of former years, except for an addition to the Allan Line fleet between this port and Montreal, viz., the ss. "Scotian". This steamer, in addition to extensive passenger accommodation, has large cargo and refrigerator space. As previously indicated discharging operations were conducted by dock labourers in a more careless manner on account of the continued spirit of unrest, but with the termination of the strike a better feeling prevails, and it is hoped the men will be more amenable to the desires of foremen and exercise greater care in discharging perishable cargo."

J. A. RUDDICK, Dairy and Cold Storage Commissioner.

Ottawa, June 8.

**Seed Branch.** Reports so far received from the principal clover seed producing districts of Canada indicate that crop prospects are little if any better than they were a year ago, and it is doubtful whether the seed production will be more than 25 p.c. of a normal crop. Throughout south-western Ontario the extremely dry weather last summer and autumn was very hard on the fresh seeding, and much of the clover that survived the drouth was destroyed by winter-killing. In the Lake Erie counties clover has come through rather better than further north in the Lake Huron and Georgian-Bay districts. In eastern Ontario the crop is not so badly winter-killed, although the stand is light and weeds are making rapid headway. The wet weather has stimulated good growth in what clover remains, and conditions thus far are favourable for the second crop.

The high price of timothy seed last season resulted in many farmers in the Ottawa and St. Lawrence valleys threshing for seed the crops that were originally intended for hay. Present indications are that larger areas of timothy than usual will be saved for seed this year.

The increase in seed testing continues. During May 784 samples were received at the Ottawa seed laboratory for purity or germination test, compared with 354 in the same month last year. The samples graded were: red clover, total 143, No. 1 16, No. 2 41, No. 3 53, rejected 33; alfalfa, total 64, No. 1 2; No. 2 20, No. 3 39, rejected, 3; alsike, total, 80, No. 2 19, No. 3 44, rejected 17; timothy, total 184, No. 1 18, No. 2 35, No. 3 49, rejected 82.

GEO. H. CLARK, Seed Commissioner

Ottawa, June 11.

## NITROGEN-ENRICHMENT OF SOILS.

Various authorities on numerous occasions have drawn attention to the serious results in depletion of soil-fertility arising from continuous grain growing without rotations or restoration by manurial applications, and there is for Canada the ever-present object lesson of worn-out lands in the Eastern States. Whether compulsory measures are feasible in respect of the cultivation of land already in private hands may be open to doubt; but in the case of the large areas of lands still under government control it might be worth while to consider whether their disposal by grants to settlers or otherwise should not in the future interests of the country be coupled with restrictions against its wasteful cultivation. Whatever opinions may be held respecting the land system of Great Britain there is no doubt that great national benefit has ensued from the careful maintenance of soil-fertility under the terms of the covenants between landlords and tenants and through operation of successive Agricultural Holdings Acts from 1875 to the present time. Building land is frequently sold subject to restrictions concerning the nature of the erections thereon. Why therefore it may be asked should not agricultural land in Canada, which is so valuable a national asset, be sold or granted subject to equitable safeguards for the permanent maintenance of its fertility?

A paper recently read before the Royal Society of Canada by Mr. Frank T. Shutt, M.A., F.I.C., Dominion Chemist, and Mr. A. T. Charron, M.A., First Assistant Chemist, summarises experiments that have been conducted by the Chemical Division of the Dominion Experimental Farms since 1889 in the nitrogen-enrichment of soils. "The first fact brought forward," write Messrs. Shutt and Charron, "is that rich, productive soils are characterised by a high nitrogen and humus content. On the other hand soils naturally poor and those impoverished by irrational farming have been found to be low in nitrogen and humus-forming material. The semi-decomposed vegetable matter of the soil is the natural storehouse of its nitrogen, and experimental proof has demonstrated beyond question that humus-forming material must be constantly added to cultivated soils if their nitrogen content and their productiveness are to be maintained. The grain growing of the west, which implies fallowing and no formation of a sod, has been shown to be very destructive of humus and nitrogen, and must in time seriously impair the richest soils. The rational and economic up-keep of soil-fertility demands the keeping of live stock for the production of manure - the most important natural source of humus and nitrogen for farming lands - and a proper rotation, that is, one which by inclusion of a leguminous crop will periodically enrich the soil in these valuable constituents.

"It was found from examination of a soil which had never received manure and which had been under cultivation for 22 years, during which period it had borne six crops of wheat, four of barley and five of oats, with nine bare summer fallows during the latter seventeen seasons, that the loss of nitrogen to a depth of eight inches amounted to 2,206 lb. per acre. Of this approximately 700 lb. had been removed in crops. This means that 1,500 lb. per acre, or 68 p.c. of the total nitrogen lost, had been dissipated



during this period through cultural operations, fallowing, etc. The soil experimented with was an exceedingly rich prairie soil in Saskatchewan. Very probably it is a type of soil that would at first lose nitrogen more rapidly than one of a poorer quality. Fallowing is undoubtedly of all operations the most wasteful of soil-fertility; but the figures are significant as showing that there is an inevitable and heavy depletion of the soil's most valuable constituent, consequent upon the necessary tillage of the land. Our soils then must be constantly replenished with organic matter if they are to be kept productive and profitable.

"Legumes are very rich in nitrogen, and as a part of this nitrogen at least is obtained from the atmosphere they as a class are extremely valuable as manurial agents. The more important leguminous crops, clovers, alfalfa, vetches, peas, beans, etc., were grown and analysed, the weight and nitrogen-content of stem, leaves and roots per acre being determined. The clovers and alfalfa were found to be the most valuable, chiefly by reason of their larger root system, in which might be stored from one-third to one-half the total nitrogen in the crop. By the turning under of a fair growth of one of these crops, from 100 to 150 lb. of nitrogen may be added to the soil per acre, an amount equivalent to that furnished by an application of 10 tons of ordinary barnyard manure.

"An interesting and valuable experiment has been conducted to determine by analyses the amount of nitrogen which has become part of the soil through the growth of clover. A plot of very light sandy loam was first seeded with clover in 1902. Every second year from that date until the present time the plot has been dug over and re-sown. No manure at any time has been used, but phosphoric acid and potash were furnished at the outset by a moderate dressing of superphosphate and muriate of potash. The soil was sampled and analysed six times during the experiment period. The data show that the nitrogen-content has practically doubled in the nine years, despite the losses from bacterial activity and other causes. The soil to a depth of four inches contained at the beginning of the experiment (1902) 533 lb. and at the close (1911) 1,005 lb. per acre. If it is assumed that the growth of the clover had added annually nitrogen at the rate of 100 lb. per acre it will be observed that the loss due to oxidation, etc., during the experiment period almost equalled the gain. If the clover had been cut and fed the manurial value of the residues (roots, decayed leaves, etc.,) would have been almost one-half that here recorded. These data afford satisfactory evidence as to the value of a leguminous crop in the rotation if soil-fertility is to be economically maintained.

"Inoculation experiments with nitrifying bacteria have given some interesting results. The action of commercial preparations of specific cultures for leguminous crops has been shown to be on the whole more or less uncertain, though in many instances they distinctly favoured the growth of the legume. On the other hand the employment, as an inoculating material, of soil from the surface of a field bearing a luxurious crop of the specific legume has given much better results than the use of a culture, and this method, where cost of transportation is not too great, will be found the more reliable for the general farmer. Notable instances of successful inoc-

ulation by this method, applying the soil at the rate of 100 to 300 lb. per acre, were recorded for alfalfa in the Northwest provinces. Inoculation is not generally necessary, but where it is considered indispensable by reason of the absence of the nitrogen-assimilating bacteria a supply of this bacteria-laden soil will it is believed prove more effective than the use of a culture."

## NOTES ON INSECT PESTS.

By C. Gordon Hewitt, D. Sc., Dominion Entomologist, Ottawa.

**TENT CATERPILLARS.** In certain parts of Ontario and Quebec the American Tent caterpillar (*Malacosoma americana*) and the Forest Tent caterpillar (*Malacosoma disstria*) have been unusually abundant and destructive. On the Canadian Pacific Railway, Gatineau line, near Ottawa, the trains have been repeatedly held up owing to the enormous numbers of crushed caterpillars greasing the tracks on the grades. These caterpillars were very abundant last year, and a short account of the methods of combating them was published in the Census and Statistics Monthly for June 1911 (Vol. 4, No. 37, p. 148). It was found that the natural parasites were few, and in consequence a very severe outbreak this year was expected. Timely warning notices were therefore sent to the Press advising persons to collect and destroy the nests when they first appeared as the leaves were unfolding in the spring. Where the nests were collected and destroyed the defoliation of the trees has been prevented, or has been very slight; but where no such steps were taken fruit and other trees have been completely defoliated. In some localities entire orchards have been stripped. Spraying has been resorted to with arsenate of lead or Paris green; in many cases the trunks of the trees have been banded to prevent the caterpillars migrating to them from trees already defoliated.

**SAN JOSÉ SCALE IN NOVA SCOTIA.** In the course of work on the Brown-tail Moth in Nova Scotia, Mr. G. E. Sanders, field officer of the Division of Entomology, found that a considerable quantity of nursery stock imported into Nova Scotia from Ontario was infested with San José Scale. At first no living scales were found, but at the end of May living scales were found at Aylesford in Kings County, N.S. Owing to the fact that a large amount of nursery stock has been imported and is widely distributed the situation is a serious one, and the provincial Department of Agriculture has appointed a number of inspectors to examine all nursery stock imported from Ontario. All scale infested trees will be destroyed pending further preventive measures.

## CROP REPORTS FROM OTHER COUNTRIES.

**Great Britain.** The crop reports of the Board of Agriculture state that the prevalence of dry weather during April and the greater part of May has had a deleterious effect upon the grain crops. Rain however during the last ten days or so of May effected a material improvement, but on June 1, the date of the last report, much more was needed. Wheat at this date was generally healthy and vigorous, though the straw was short; on

the poorer soils the crop is rather variable and thin. Barley is hardly satisfactory, as germination has been irregular nearly everywhere, especially among the later sown crops, and was not yet all above ground. Oats are generally also uneven and suffering from lack of moisture. Owing to the drouth the indications on June 1 were that in Great Britain as a whole the yield per acre of "seeds" hay would be only 87 p.c. of the average, while that of meadow hay might be 92 p.c.

**Australia.** The Government Statistician of New South Wales has issued advance figures showing that the total production of wheat for the season of 1911-12 is 24,616,100 bushels from an area of 2,334,780 acres and 401,130 tons of wheaten hay from 435,210 acres. The yield per acre of grain is 10.54 bushels and of hay 0.92 ton. The Government Statist of Victoria reports (May 14) the numbers of live stock in the State, as returned for the year ended March 1912, compared with 1911 in parentheses, to be as follows: Horses 507,813 (472,080), dairy cows 699,555 (668,777), other cattle 947,572 (878,792), sheep 13,857,804 (12,882,665), swine 348,069 (333,281).

**France.** The Journal Officiel of May 19 contains the usual annual estimates of the total areas under the principal grain crops, as published by the French Department of Agriculture. These areas, converted from hectares to acres, are as follows, the corresponding figures of 1911 being placed within parentheses: Wheat 16,179,000 (15,540,000), rye 2,998,000 (2,728,000), barley 1,869,000 (1,854,000), oats 9,896,000 (9,951,000), meslin or mixed grains 321,000 (302,000). The condition of these crops on May 1 was upon the whole very favourable, good or fairly good being recorded for all but a small proportion of the acreage. Wheat, rye, barley and meslin all show increased areas, and the condition of all the crops is better than it was at the same date in 1911.

**Holland.** H. M. Consul at Rotterdam reports (April 27) that the winter sowings of grain in the autumn of 1911 took place under favourable conditions. The absence of cold weather during the first part of the winter materially assisted development, although a certain amount of damage was done by the few days of severe cold without snow in January and February. On the whole good crops of wheat, rye and barley are anticipated.

**Germany.** The Imperial Statistical Bureau reports (May 8) that the weather of April was very unfavourable for crop development, the weather being cold and raw with strong, dry, east winds. The amount of re-ploughing caused by winter-killing has proved larger than was expected at the beginning of April. Winter wheat has suffered greatly, especially in the north-western parts of Germany, and in many districts half of the areas under this crop must be re-sown. Clover, which was thin and feeble owing to the great drouth of last summer, has had to be ploughed up to a considerable extent throughout the whole of the empire. The following is the average percentage of winter-killed areas for each of the crops named: Wheat 4.1, spelt 0.1, rye 0.1, clover 13.7 and alfalfa 2.8. The condition of the winter crops on May 1, with the figures of April 1 within parentheses, was as follows:

Winter wheat 2.5 (2.3), winter spelt 2.0 (1.9), winter rye 2.6 (2.2), clover 3.5, alfalfa 2.9, water meadows 2.5 and other meadows 3.0. Scale 1 = very good, 2 = good, 3 = average, 4 = poor.

**Austria.** The Austrian Agricultural Department reports that the condition of the principal crops on May 1, compared with April 1 and with May 1 1911, was as follows:

| Crops        | May 1,<br>1912 | April 1,<br>1912 | May 1,<br>1911 | Crops        | May 1,<br>1912 | April 1,<br>1912 | May 1,<br>1911 |
|--------------|----------------|------------------|----------------|--------------|----------------|------------------|----------------|
| Wheat .....  | 2.4            | 2.0              | 2.5            | Clover ..... | 3.4            | 3.1              | 2.8            |
| Rye .....    | 2.5            | 1.8              | 3.1            | Meadows ..   | 2.8            | 2.1              | 2.1            |
| Barley ..... | 2.5            | -                | 2.3            | Pastures ..  | 3.1            | 2.3              | 2.4            |
| Oats .....   | 2.6            | -                | 2.4            |              |                |                  |                |

Scale: 1 = Very good, 2 = above average, 3 = average, 4 = below average.

The month of April was very cool and, except in coastal districts, was deficient in rainfall. In the first half of the month very low temperatures prevailed with keen frosts, and in some places there were heavy snowfalls. Wheat and rye suffered from drouth, cold winds and stormy weather, especially on the lighter soils of the Sudetic, Alpine and Carpathian districts.

**Hungary.** The Hungarian Agricultural Department reported (April 29) violent winds, cold rains and heavy frosts during the first part of April, while the weather during the last three weeks remained rather dry. Over most of the country conditions have been unfavourable for agriculture, the weather causing vegetation to be backward and hindering also the completion of spring cultivation. A report for May 27 states that during the second half of May abundant rains fell over all the country. These, which in some places were torrential, have caused more or less inundation, chiefly in the valleys of the mountainous districts. Temperature during this period has been below the normal. If the rains continued it was feared that the cereals would become lodged, and on the lowlands laid grain was already visible. Although in certain parts of the country there might be considerable damage the general harvest outlook was fairly good. A harvest forecast by counties, expressed by a scale in which 1 indicates excellent, 2 good, 3 average, 4 poor, and 5 bad, shows as follows:

| Crops       | Good               | Average            | Poor               | Crops        | Good               | Average            | Poor               |
|-------------|--------------------|--------------------|--------------------|--------------|--------------------|--------------------|--------------------|
|             | No. of<br>counties | No. of<br>counties | No. of<br>counties |              | No. of<br>counties | No. of<br>counties | No. of<br>counties |
| Wheat ..... | 53                 | 10                 | -                  | Barley ..... | 40                 | 21                 | 3                  |
| Rye .....   | 36                 | 27                 | -                  | Oats .....   | 22                 | 38                 | 3                  |



From these figures it will be seen that at the end of May wheat gave the best and oats the poorest promise of yield.

**Russia.** H. M. Consul at Odessa reports (May 18) that when the snow cover disappeared about the end of March [n.s.] the condition of the winter crops was thought good except in certain small areas. Severe cold winds, night frosts, and even day frosts came and did mischief. On May 8 [n.s.] the crops were reported unsatisfactory in large regions in this consular district, whilst in the rest of European Russia they were reported as good and satisfactory. A severe frost followed and, it is feared, has done mischief which cannot yet be estimated. It is hoped nevertheless that the general condition remains satisfactory. The spring grain is far behind. Much has not yet germinated. It is declared good in parts of Bessarabia, Kherson, Taurida, Ekaterinoslav, Poltava; in others it is decidedly unsatisfactory. Warm rains would be of the greatest benefit and might improve the whole situation.

H. M. Consul at Batoum reports (May 14) that an unbroken period of prolonged cold weather in the Caucasus has characterised the present spring. The prevailing abnormal conditions have in most cases done considerable injury to winter cereal crops in the northern Caucasus and the government of Astrakhan. The snow-fall during the past winter was light and not sufficient to protect the sprouting crops from the severe morning frosts experienced during March and April. The result is that winter sowings have suffered so seriously in many districts that all hope of recovery has had to be abandoned. Present agricultural conditions in the Trans-Caucasus are likewise very unsatisfactory. A singularly unprecedented state of affairs, the result of incessant rains and exceptionally cold weather, is being now witnessed; snow fell in considerable quantities in the lower highland districts of the Trans-Caucasus as late as last week. The growth of winter crops has received a serious check throughout the country, and in many localities the sprouting cereals have been blighted by frost. Plum, peach and cherry crops are apparently irretrievably lost; strawberries are very backward, and other fruits are much retarded in growth.

The Official Trade Gazette of May 12/25, communicated by Captain Rowland Smith of H. M. Consulate at St. Petersburg, states that the total area under sugar beet cultivation in Russia this year will equal 1,719,000 acres, a decrease of 59,800 acres as compared with 1911. No reason is given officially for the decrease in area; but it is presumably due to the late spring and continued cold weather in the early months of the year.

**United States.** The Crop Reporting Board of the U.S. Department of Agriculture estimates (June 1) the total area sown to wheat for the current season as 44,945,000 acres, of which 19,201,000 acres are under spring wheat and 25,744,000 acres under winter wheat. Compared with the areas of 1911 these figures are less by 5·8 p.c. for spring wheat and 11·7 p.c. for winter wheat. Oats occupy 37,844,000 acres or 0·2 p.c. more, and barley 7,574,000 acres or 0·7 p.c. less than last year. The following table gives the indicated yields for 1912, with comparative figures of condition and yield. The indicated yield for 1912 is based upon the ratio of the average condition on June 1 to the final yield in the five years 1906-10.

| Crops         | Condition in per cent of normal |             |                        |            | Yield per acre    |            |                 | Total yield in millions of bushels |            |            |             |
|---------------|---------------------------------|-------------|------------------------|------------|-------------------|------------|-----------------|------------------------------------|------------|------------|-------------|
|               | June 1 1912                     | June 1 1911 | June 1 average 1906-10 | May 1 1912 | 1912 <sup>1</sup> | 1911 final | average 1906-10 | 1912 <sup>1</sup>                  | 1911 final | 1910 final | 1909 census |
|               | p.c.                            | p.c.        | p.c.                   | p.c.       | bush.             | bush.      | bush.           | bush.                              | bush.      | bush.      | bush.       |
| Spring wheat. | 95.8                            | 94.6        | 93.8                   | -          | 13.8              | 9.4        | 13.4            | 265                                | 191        | 201        | 265         |
| Winter wheat. | 74.3                            | 80.4        | 80.9                   | 79.7       | 14.1              | 14.8       | 15.5            | 363                                | 430        | 434        | 418         |
| All wheat.    | -                               | -           | -                      | -          | 14.0              | 12.5       | 14.6            | 628                                | 621        | 635        | 683         |
| Oats.         | 91.1                            | 85.7        | 88.4                   | -          | 29.3              | 24.4       | 28.4            | 1,109                              | 922        | 1,186      | 1,007       |
| Barley.       | 91.1                            | 90.2        | 90.8                   | -          | 25.2              | 21.0       | 24.8            | 192                                | 160        | 174        | 173         |
| Rye.          | 87.7                            | 88.6        | 89.7                   | 87.5       | 16.0              | 15.6       | 16.3            | -                                  | 33         | 35         | 30          |

<sup>1</sup> Interpreted from condition reports.

The condition of hay on June 1 was 89.8 against 85.7 on May 1 and 76.8 on June 1 1911 and of pastures it was 98.7 on June 1 against 81.7 on May 1, 81.8 on June 1 1911 and 89.3 the ten-year average.

**Argentina.** H. M. Consul at Buenos Aires reports (April 17) that this year's harvest will from all accounts prove an exceptionally good one. Competent observers estimate that the surplus available for export will attain to 9,350,000 tons (wheat 3,000,000, linseed 500,000, corn 5,000,000 and oats 850,000 tons) as compared with 3,390,610 tons shipped during the preceding year. Unofficial estimates place the cereal crop areas of 1911-12 in acres as follows, the comparative figures of 1910-11 being given within parentheses: Wheat 17,043,000 (15,451,000), linseed 4,028,000 (3,714,000), oats 2,548,000 (1,980,000). The corn crop which in 1911 was a failure promises an exceptionally abundant return this year. The Department of Agriculture reports that the area sown to corn for the year 1911-12 was 8,456,000 acres and the estimated production is 295,852,000 bushels. The excessive rains which occurred in December proved advantageous to the corn crop while doing considerable harm to the wheat and linseed, which would otherwise have been also bumper crops.

**Agricultural Statistics of British Columbia.** We have received Bulletin No. 45 of the British Columbia Department of Agriculture consisting of the Agricultural Statistics of the province for 1911 with an introduction by Mr. A. E. Craddock, Secretary and Statistician. The appearance of this report is welcomed, as hitherto no adequate agricultural statistics have been issued by the provincial Government of British Columbia. It is noticeable however that there are important differences between the crop areas of British Columbia for 1911, as stated in the bulletin, and those of the Dominion census for the same province and year. For instance the area under wheat is given as 14,470½ acres; the Dominion figures are 7,055 acres. Hay is stated to occupy 107,613 acres; the census figures are 82,916 acres.

## INTERNATIONAL INSTITUTE OF AGRICULTURE.

The Bulletin of agricultural statistics for May publishes the following information (Table 1) respecting the area of winter crops and their condition on May 1, compared with April 1 1912 and May 1 1911, with per cent estimates for certain countries of the areas winter-killed. Condition is expressed numerically by a percentage scale in which 100 represents the promise of a yield equal to the average yield of the past ten years, supposing the crop not to be subjected to the effects of any extraordinary phenomena up to the time of harvest.

## I. Area and Condition of Winter Crops, 1911 and 1912.

| Countries                       | Winter wheat         |                                      |                |               |               | Winter rye           |                                      |                |               |               |
|---------------------------------|----------------------|--------------------------------------|----------------|---------------|---------------|----------------------|--------------------------------------|----------------|---------------|---------------|
|                                 | area<br>sown<br>1911 | area<br>winter-<br>killed<br>1911-12 | condition      |               |               | area<br>sown<br>1911 | area<br>winter-<br>killed<br>1911-12 | condition      |               |               |
|                                 |                      |                                      | Apr. 1<br>1912 | May 1<br>1912 | May 1<br>1911 |                      |                                      | Apr. 1<br>1912 | May 1<br>1912 | May 1<br>1911 |
|                                 | 000<br>acres         | p.c.                                 | p.c.           | p.c.          | p.c.          | 000<br>acres         | p.c.                                 | p.c.           | p.c.          | p.c.          |
| Belgium.....                    | 408                  | -                                    | 110            | 110           | 105           | 630                  | 0.6                                  | 107            | 107           | 105           |
| Bulgaria.....                   | -                    | -                                    | 120            | 100           | -             | -                    | -                                    | 120            | 100           | -             |
| Denmark.....                    | 100                  | -                                    | 91             | 95            | 101           | 682                  | 0.0                                  | 97             | 94            | 101           |
| Spain.....                      | 9,185                | -                                    | -              | -             | -             | 1,983                | -                                    | -              | -             | -             |
| France.....                     | 15,603               | -                                    | -              | -             | -             | 2,775                | -                                    | -              | -             | -             |
| Hungary <sup>1</sup> .....      | 8,816                | -                                    | 110            | 110           | -             | 2,631                | -                                    | 105            | 105           | -             |
| Croatia and Sla-<br>vonian..... | 741                  | 0.0                                  | 110            | 120           | -             | 161                  | 0.0                                  | 105            | 120           | -             |
| Italy.....                      | 11,738               | -                                    | -              | -             | -             | 301                  | -                                    | -              | -             | -             |
| Luxemburg.....                  | 27                   | 0.2                                  | 102            | 100           | 102           | 26                   | 0.1                                  | 103            | 100           | 103           |
| Rumania.....                    | 5,041                | -                                    | 120            | 120           | 120           | 281                  | -                                    | 120            | 120           | 120           |
| Switzerland.....                | 94                   | 0.0                                  | 102            | 100           | 99            | 54                   | 0.0                                  | 102            | 101           | 90            |
| Canada <sup>2</sup> .....       | 1,098                | 31.0                                 | -              | -             | -             | -                    | -                                    | -              | -             | -             |
| United States....               | 32,213               | 20.1                                 | 94             | 93            | 100           | 2,436                | -                                    | 98             | 98            | 100           |
| India.....                      | 29,444               | -                                    | -              | -             | -             | -                    | -                                    | -              | -             | -             |
| Japan.....                      | 1,196                | 0.0                                  | 95             | 100           | 95            | -                    | -                                    | -              | -             | -             |
| Lower Egypt.....                | -                    | -                                    | 105            | 115           | -             | -                    | -                                    | -              | -             | -             |
| Upper Egypt.....                | -                    | -                                    | 119            | 115           | -             | -                    | -                                    | -              | -             | -             |
| Tunis.....                      | 1,285                | 20.0                                 | 100            | 90            | 120           | -                    | -                                    | -              | -             | -             |

| Countries                       | Winter barley |      |     |     |     | Winter oats |      |     |     |     |
|---------------------------------|---------------|------|-----|-----|-----|-------------|------|-----|-----|-----|
| Belgium.....                    | 79            | -    | 106 | 106 | 105 | -           | -    | -   | -   | -   |
| Bulgaria.....                   | -             | -    | 120 | 100 | -   | -           | -    | -   | -   | -   |
| Spain.....                      | -             | -    | -   | -   | -   | 1,086       | -    | -   | -   | -   |
| France.....                     | 3,126         | -    | -   | -   | -   | 1,980       | -    | -   | -   | -   |
| Hungary <sup>1</sup> .....      | 401           | -    | -   | -   | -   | -           | -    | -   | -   | -   |
| Croatia and Sla-<br>vonian..... | 142           | -    | 110 | 110 | -   | -           | -    | -   | -   | -   |
| Italy.....                      | 133           | 15.0 | 110 | 100 | -   | -           | -    | -   | -   | -   |
| Luxemburg.....                  | 605           | -    | -   | -   | -   | 1,236       | -    | -   | -   | -   |
| Rumania.....                    | -             | 0.0  | 102 | 101 | 102 | -           | -    | -   | -   | -   |
| Switzerland.....                | 90            | -    | 120 | 120 | 120 | -           | -    | -   | -   | -   |
| Japan.....                      | 3             | 0.0  | 102 | 102 | 103 | -           | -    | -   | -   | -   |
| Lower Egypt.....                | 3,000         | 0.0  | 95  | 100 | 95  | -           | -    | -   | -   | -   |
| Upper Egypt.....                | -             | -    | -   | 110 | -   | -           | -    | -   | -   | -   |
| Tunis.....                      | -             | -    | -   | 100 | -   | -           | -    | -   | -   | -   |
|                                 | 1,137         | 40.0 | 110 | 80  | 110 | 124         | 10.0 | 100 | 100 | 115 |

<sup>1</sup> Not including Croatia and Slavonia.<sup>2</sup> See revised estimate at page 99.

Table II gives the available data of areas sown and condition on May 1 of the principal spring cereals compared with last year :

**II. Area and Condition of Spring Crops, 1911 and 1912.**

| Countries                     | Spring wheat      |                                |               |               | Spring rye        |                                |               |               |
|-------------------------------|-------------------|--------------------------------|---------------|---------------|-------------------|--------------------------------|---------------|---------------|
|                               | area sown<br>1912 | per cent<br>of area<br>of 1911 | condition     |               | area sown<br>1912 | per cent<br>of area<br>of 1911 | condition     |               |
|                               |                   |                                | May 1<br>1911 | May 1<br>1912 |                   |                                | May 1<br>1911 | May 1<br>1912 |
|                               | 000 acres         | p. c.                          | p. c.         | p. c.         | 000 acres         | p. c.                          | p. c.         | p. c.         |
| Belgium .....                 | 4                 | 75                             | -             | 108           | -                 | -                              | -             | 105           |
| Bulgaria .....                | -                 | -                              | -             | 100           | -                 | -                              | -             | 100           |
| Hungary <sup>1</sup> .....    | 213               | 90                             | -             | 110           | 43                | 75                             | -             | 105           |
| Croatia and<br>Slavonia ..... | 12                | 100                            | -             | 100           | 12                | 100                            | -             | 100           |
| Luxemburg .....               | 2                 | 125                            | -             | 104           | 3                 | 111                            | -             | 110           |
| Rumania .....                 | -                 | -                              | -             | 120           | -                 | -                              | -             | -             |
| Switzerland .....             | 10                | 100                            | 100           | 96            | 6                 | 100                            | 100           | 99            |

| Countries                     | Spring barley |     |     |     | Spring oats |     |     |     |
|-------------------------------|---------------|-----|-----|-----|-------------|-----|-----|-----|
|                               |               |     |     |     |             |     |     |     |
| Belgium .....                 | 14            | 114 | -   | 105 | 630         | 102 | -   | 105 |
| Bulgaria .....                | -             | -   | -   | 100 | -           | -   | -   | 100 |
| Denmark .....                 | 578           | 100 | 99  | 100 | 996         | 100 | 99  | 100 |
| Hungary <sup>1</sup> .....    | 2,417         | 95  | -   | 110 | 2,560       | 100 | -   | 110 |
| Croatia and<br>Slavonia ..... | 25            | 100 | -   | 100 | 222         | 90  | -   | 100 |
| Luxemburg .....               | 2             | 108 | -   | 108 | 77          | 99  | -   | 100 |
| Rumania .....                 | -             | -   | -   | 120 | -           | -   | -   | 120 |
| Switzerland .....             | 10            | 100 | 103 | 98  | 81          | 100 | 101 | 100 |

<sup>1</sup> Not including Croatia and Slavonia.

<sup>2</sup> 371 acres.

<sup>3</sup> 49 acres.

**FLAX.** In Belgium flax sowings were going forward under excellent conditions. On May 9 32,800 acres had been sown. In Bulgaria the condition of this crop was excellent. Sowings in Ireland completed about April 24, were about a fortnight in advance of an ordinary year. Germination was regular and the condition good. Early sown flax in Hungary has germinated well, but the cold weather prevents development. The area sown in Italy is 19,700 acres. Condition on May 1 was average. Condition in Rumania and also in Japan was good.

**AUTUMN SOWINGS IN SOUTHERN HEMISPHERE.** In Chile the preparatory work for autumn sowings of cereals was carried out under average conditions and rather late for an ordinary year. Sowing was commenced under good conditions and with favourable weather. In Australia the season is late. In the north the weather conditions being unfavourable the preparatory work for sowings was done under bad conditions and the sowings themselves were bad for wheat and of average character for oats. In the south on the contrary the conditions were favourable; the preparatory work was done under average conditions and the wheat and oat sowings were being accomplished under good conditions.



**CEREAL HARVEST OF 1911 IN HOLLAND.** The following table shows the areas and production of wheat, rye, barley and oats in Holland for the year 1911 compared with 1910 :

**III. Area and Yield of Cereals in Holland in 1911 compared with 1910.**

| Crops               | 1911    | 1910    | 1911       | 1910       | 1911                | 1910                |
|---------------------|---------|---------|------------|------------|---------------------|---------------------|
|                     | acres   | acres   | bushels    | bushels    | bushels<br>per acre | bushels<br>per acre |
| Winter wheat .....  | 132,137 | 119,305 | 5,025,000  | 3,850,000  | 38·03               | 32·27               |
| Spring wheat .....  | 10,045  | 15,980  | 399,000    | 621,000    | 39·82               | 32·60               |
| All wheat .....     | 142,182 | 135,285 | 5,424,000  | 4,471,000  | 38·15               | 32·31               |
| Rye .....           | 556,888 | 548,620 | 15,869,000 | 15,126,000 | 28·54               | 27·58               |
| Winter barley ..... | 55,119  | 50,595  | 2,813,000  | 2,330,000  | 51·03               | 46·05               |
| Spring barley ..... | 14,112  | 18,822  | 587,000    | 771,000    | 41·60               | 40·96               |
| All barley .....    | 69,231  | 69,417  | 3,400,000  | 3,101,000  | 49·11               | 44·67               |
| Oats .....          | 341,466 | 348,434 | 18,630,000 | 18,961,000 | 54·56               | 54·42               |

**CENSUSES OF LIVE STOCK.** A census of live stock in Argentina, taken on December 31 1910, gives the number of cattle in Argentina as 28,827,900, of horses as 8,435,141 and of sheep as 73,012,640. Compared with a census taken on May 1 1908 cattle show a decline in numbers of 1 p.c., while horses and sheep show increases of 12 and 8 p.c., respectively. In Cuba, according to a live stock census of December 31 1910, the number of cattle was 3,212,087, compared with 3,074,509 in 1909; horses 613,042, compared with 555,423; donkeys 3,487 compared with 3,340; mules 60,851, compared with 58,957. In Egypt a live stock census of August-September 1911 gave the number of horses as 50,675, mules 25,077, cattle 656,166 and buffaloes 657,406. Horses have decreased in number since 1907 when there were 54,666; but cattle and buffaloes show increases over the previous year (1910) to the extent of 2·4 p.c. for cattle and 2·7 p.c. for buffaloes.

**Departmental Commission on Canadian Statistics.** The Canada Gazette of June 15 announces that upon the recommendation of the Minister of Trade and Commerce (Hon. George E. Foster) a Departmental Commission was appointed on May 30 last to inquire into the statistical work now being carried on in the various Departments, as to its scope, methods, reliability, whether and to what extent duplication occurs and to report to the Minister of Trade and Commerce a comprehensive system of general statistics adequate to the necessities of the country and in keeping with the demands of the time. The members of the Commission are Messrs. Richard Grigg (Chairman), Professor Adam Shortt, Civil Service Commissioner, Ernest Henry Godfrey, Census and Statistics Office, W. A. Warne, Statistical Branch, Trade and Commerce, Robert Hamilton Coats, Department of Labour, John R. K. Bristol, Department of Customs, with C. H. Payne, Department of Trade and Commerce, Secretary. The Commission is to report not later than September 15.

## AGRICULTURAL PRODUCTION OF AUSTRALIA.

The Commonwealth Statistician (Mr. G. H. Knibbs, C.M.G.) has issued No. 1 of a "Monthly Summary of Australian Statistics," which for the first time exhibits in convenient form the principal official statistics of the Australian Commonwealth, brought as far as possible up to date. Grouped in five sections the information relates to (1) population and vital statistics, (2) shipping and commerce, (3) production, (4) finance and (5) railways. The Commonwealth, consisting of six states and two territories, has a total area of 2,974,581 square miles, with a population, returned at the census of April 3 1911, as 4,455,005, and estimated at September 30 1911 as 4,524,424.

The total area under crops in the year 1910-11 is given as 11,893,838 acres, the areas and yields for wheat, oats, maize, hay and sugar cane in that year, as compared with the previous year, being as follows:

| Description      | 1910-11   |                |             | 1909-10   |                |             |
|------------------|-----------|----------------|-------------|-----------|----------------|-------------|
|                  | Area      | Yield per acre | Total yield | Area      | Yield per acre | Total yield |
|                  | acres     | bush.          | bush.       | acres     | bush.          | bush.       |
| Wheat .....      | 7,372,456 | 12.90          | 95,111,983  | 6,586,236 | 13.73          | 90,413,597  |
| Oats .....       | 676,688   | 22.80          | 15,428,456  | 698,448   | 21.10          | 14,734,868  |
| Maize .....      | 414,914   | 31.44          | 13,044,081  | 364,585   | 29.54          | 10,770,648  |
|                  |           | tons           | tons        |           | tons           | tons        |
| Hay .....        | 2,258,405 | 1.41           | 3,176,391   | 2,228,029 | 1.42           | 3,153,196   |
| Sugar cane ..... | 155,542   | 19.96          | 2,000,758   | 142,261   | 14.95          | 1,294,575   |

The area under wheat for 1911-12 is 7,537,433 acres, with an estimated total production of 76,981,281 bushels.

It is however upon pastoral production that Australia chiefly depends, and in 1910 the production of wool in the grease was 792,868,466 lb., compared with 718,037,132 lb. in 1909. Of butter the production in 1910 was 193,425,606 lb., against 154,273,252 lb. in 1909, of cheese 16,537,011 lb. in 1910, against 15,774,837 lb. in 1909 and of bacon and hams 45,149,752 lb. in 1910, against 37,774,967 lb. in 1909.

The following is a statement of the number of horses, cattle, sheep and swine in Australia for the two years 1909 and 1910:

| Year       | Horses    | Cattle     | Sheep      | Swine     |
|------------|-----------|------------|------------|-----------|
|            | No.       | No.        | No.        | No.       |
| 1909 ..... | 2,022,917 | 11,040,391 | 91,676,281 | 765,137   |
| 1910 ..... | 2,165,866 | 11,744,714 | 92,047,015 | 1,025,850 |

The total estimated value of Australian production in 1910 was \$913,639,000, of which \$193,460,000 represent agricultural, \$277,366,000 pastoral, \$84,617,000 dairy, poultry and bee farming, \$23,306,000 forestry and fishery, \$112,980,000 mining, and \$221,910,000 manufactures.

## VITALITY OF FARM SEEDS.

Three years ago Mr. George Michaud, of the Seed Branch of the Department of Agriculture, read an interesting paper on seed vitality before the Canadian Seed Growers' Association. This was summarised in the Census and Statistics Monthly of February 1909, (Vol. 2, pp. 18-19). In an editorial foot-note to that article (page 18) reference was made to experiments on the duration of vitality in farm seeds, which were being conducted by Dr. William Carruthers, F.R.S., then Consulting Botanist of the Royal Agricultural Society of England. These experiments which were begun in 1895, have now terminated by the death of all the seeds, and in the Society's Journal for 1911, just received, Dr. Carruthers gives a complete account of the results of the sixteen years' experiments in an article illustrated by five graphs and entitled "On the Vitality of Farm Seeds." "The objects of these experiments," writes Dr. Carruthers, "were to test how long, under ordinary conditions, the vitality of certain

| Kind of seed                          | 1896 | 1897 | 1898 | 1899 | 1900 | 1901 | 1902 | 1903 | 1904 | 1905 | 1906 | 1907 | 1908 | 1909 | 1910 | 1911 |
|---------------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| <b>Cereals—</b>                       |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| Barley.....                           | 99   | 99   | 98   | 95   | 96   | 77   | 25   | ?    | 19   | 0    | -    | -    | -    | -    | -    | -    |
| White wheat.....                      | 100  | 97   | 92   | 94   | ?    | 88   | 75   | ?    | 29   | 0    | -    | -    | -    | -    | -    | -    |
| Red wheat.....                        | 99   | 98   | 95   | 88   | 94   | 80   | 79   | 55   | 51   | 0    | -    | -    | -    | -    | -    | -    |
| White oats.....                       | 100  | 99   | 99   | 96   | 98   | 99   | 99   | 95   | 97   | 69   | 57   | 49   | 12   | 0    | -    | -    |
| Black oats.....                       | 97   | 97   | 96   | 91   | 90   | 98   | 92   | 94   | 95   | 88   | 76   | 68   | 34   | 32   | 2    | 0    |
| <b>Grasses—</b>                       |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| Foxtail.....                          | 62   | 51   | 39   | 21   | 21   | 10   | 5    | 2    | 3    | 0    | -    | -    | -    | -    | -    | -    |
| Rough-stalked mea-<br>dow grass.....  | 90   | 77   | 57   | 61   | 46   | 20   | 10   | 10   | 7    | 0    | -    | -    | -    | -    | -    | -    |
| Meadow fescue.....                    | 97   | 94   | 91   | 72   | 63   | 61   | 35   | 19   | 18   | 0    | -    | -    | -    | -    | -    | -    |
| Wood meadow grass.....                | 62   | 52   | ?    | 57   | 57   | 41   | 28   | ?    | 24   | 0    | -    | -    | -    | -    | -    | -    |
| Tall fescue.....                      | 93   | 83   | 85   | 82   | 72   | 65   | 40   | 24   | 29   | 1    | 0    | -    | -    | -    | -    | -    |
| Cocksfoot.....                        | 93   | 82   | 65   | 65   | 63   | 51   | 44   | 31   | 35   | 3    | 0    | -    | -    | -    | -    | -    |
| Smooth-stalked mea-<br>dow grass..... | 76   | ?    | ?    | 31   | 38   | 42   | 54   | 32   | 26   | 7    | 0    | -    | -    | -    | -    | -    |
| Timothy.....                          | 99   | 97   | 92   | 98   | 93   | 84   | 74   | 46   | ?    | 8    | 12   | 0    | -    | -    | -    | -    |
| Sheep's fescue.....                   | 75   | 57   | 59   | 22   | ?    | 3    | 5    | 0    | -    | -    | -    | -    | -    | -    | -    | -    |
| Hard fescue.....                      | 75   | 71   | 53   | 16   | 5    | 7    | 5    | 0    | -    | -    | -    | -    | -    | -    | -    | -    |
| Golden oat-grass.....                 | 66   | 59   | 50   | 26   | 31   | 13   | 11   | 4    | 0    | -    | -    | -    | -    | -    | -    | -    |
| Tall oat-grass.....                   | 86   | 84   | 79   | 88   | 62   | 55   | 39   | ?    | 28   | 0    | -    | -    | -    | -    | -    | -    |
| Sweet vernal grass.....               | 69   | 66   | 55   | 57   | ?    | 37   | 15   | ?    | 16   | 1    | 0    | -    | -    | -    | -    | -    |
| Perennial rye-grass.....              | 95   | 95   | 90   | 81   | 78   | 66   | 36   | 28   | 28   | 10   | 6    | 0    | -    | -    | -    | -    |
| Dogtail.....                          | 86   | 74   | 64   | ?    | 61   | 49   | 49   | 37   | 31   | 23   | 11   | 2    | 0    | -    | -    | -    |
| Italian rye-grass.....                | 99   | 94   | ?    | 88   | 83   | 80   | 71   | 63   | 52   | 23   | 10   | 8    | 0    | -    | -    | -    |
| <b>Clovers, etc.—</b>                 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| Sainfoin.....                         | 81   | 81   | 73   | 60   | 39   | 24   | 11   | 3    | 5    | 0    | -    | -    | -    | -    | -    | -    |
| Red clover.....                       | 98   | 98   | 97   | 95   | 80   | 18   | 7    | 6    | 4    | 2    | 0    | -    | -    | -    | -    | -    |
| Trefoil.....                          | 99   | 97   | 86   | 86   | 67   | 59   | 46   | 35   | ?    | 16   | 2    | 0    | -    | -    | -    | -    |
| Alsike.....                           | 91   | 93   | 90   | 60   | 42   | 27   | 17   | 8    | 9    | 8    | 8    | 2    | 0    | -    | -    | -    |
| White clover.....                     | 99   | 99   | 98   | 81   | 63   | 3    | 18   | 26   | 37   | 7    | 6    | 2    | 0    | -    | -    | -    |
| Lucerne (alfalfa).....                | 99   | 95   | 93   | ?    | 44   | 51   | 46   | 43   | 46   | 34   | 19   | 13   | 4    | 1    | 0    | -    |
| <b>Turnips, etc.—</b>                 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| Rape.....                             | 85   | 85   | 79   | 86   | 66   | 53   | 46   | 29   | 35   | 12   | 0    | -    | -    | -    | -    | -    |
| Green-top swede.....                  | 100  | 98   | 100  | 92   | 89   | 90   | 84   | 69   | 78   | 14   | 4    | 1    | 0    | -    | -    | -    |
| Kale.....                             | 93   | 91   | 93   | ?    | 86   | 81   | 75   | 66   | 70   | 44   | 5    | 2    | 0    | -    | -    | -    |
| Yellow turnip.....                    | 94   | 91   | 93   | 82   | 86   | 75   | ?    | 47   | ?    | 14   | 5    | 2    | 0    | -    | -    | -    |
| Purple-top swede.....                 | 100  | 100  | 100  | 98   | 98   | 92   | 85   | 74   | ?    | 25   | 12   | 3    | 0    | -    | -    | -    |
| White turnip.....                     | 95   | 98   | 96   | 96   | 82   | 80   | 66   | 64   | 64   | 8    | 7    | 6    | 0    | -    | -    | -    |
| <b>Carrot.....</b>                    | 68   | 50   | 50   | 21   | 21   | 24   | 6    | 10   | 10   | 0    | -    | -    | -    | -    | -    | -    |
| <b>Yarrow.....</b>                    | 80   | 69   | 58   | 53   | 35   | 36   | 19   | 6    | 5    | 3    | 0    | -    | -    | -    | -    | -    |

seeds was maintained, to determine the annual loss of vitality in the seed, to help the farmer and the seed merchant to ascertain the real value of seeds carried over for one or two years, and to investigate the rapidity of germination of the seeds experimented with."

The seeds tested from start to finish numbered 35 and comprised six cereals (barley, white wheat, red wheat, white oats and black oats), 16 grasses, six clovers and allied plants, six turnips and allied plants and two other plants, carrots and yarrow. They were tested every year in the germinating case at a temperature of 70° to 80° F. on plates of porous porcelain or between blotting paper. The germinating seeds were removed day after day and their number recorded.

The table on p. 127, taken from the article, shows the percentage of seed germinated every year until the death of the last seed, that of black oats, after 1910.

In the case of barley and wheat the germination is but little affected during the first five years, but thereafter a rapid loss of vitality occurs and proceeds at an increasing rate till in the tenth years no live seeds remain. Oats on the other hand show no serious loss of vitality until after the ninth year; the vitality of white oats persisted for another four years and that of black oats for another six years. The last named showed living seeds for a longer period than any other plant, as many as 32 seeds p. c. having germinated in 1909, the fourteenth year of the experiment, while two p. c. retained vitality for one more year.

Death of the seed being due to the loss of moisture it is shown that such loss beyond a certain point, whether it occurs rapidly or gradually, always means the death of the seed. Many other interesting points, scientific and practical, are brought out by the experiments, and for these our readers must be referred to the *Journal* itself.<sup>1</sup> The article is a valuable contribution of definite knowledge to a subject interesting alike to the practical farmer, the seed merchant and the scientific investigator.

Somewhat similar experiments have been conducted at the Dominion Experimental Farms and they are reported upon at pp. 33 to 50 of the Annual Report for 1911. A series was begun in 1898 with the object of ascertaining the relative decrease of vitality which occurs with age in the seeds of cereals kept under the conditions which prevail in an ordinary office. The experiments terminated in 1904, and they served to show that "it is safe to sow many sorts of seed when two or three years old, in case it is more convenient to do so, but the facts brought out seem to discredit the stories related about grain germinating after having been kept for long periods."

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<sup>1</sup> *Journal Royal Agricultural Society of England*, Vol. 72, 8vo. London, John Murray, 1911.



## THE WEATHER DURING MAY.

The Dominion Meteorological Office reports that the mean temperature for May did not reach the normal value in the interior of British Columbia, the greater part of Saskatchewan, upper Ontario and the Ottawa valley, while in other parts of Canada the average was slightly exceeded. Departures from average were generally slight and in most districts under three degrees.

In British Columbia fine weather prevailed during May. In the North-west provinces the weather approximated to the normal except that in southern Saskatchewan and Manitoba the precipitation was rather excessive; the other factors however being close to average. An excessive precipitation delayed the progress of vegetation in Ontario, and vegetation is generally about ten days later than usual. In Quebec city wet weather predominated during May and the amount of precipitation recorded was considerably in excess of the average. At Quebec the total precipitation of the month was four inches above the average, the greatest amount registered in May during the last fifty years, and the rainfall was particularly heavy on the 23rd, 24th and 29th. In New Brunswick mostly fair and comparatively dry weather was experienced up to the 22nd, but unsettled wet weather then set in and an excessively heavy rainfall occurred on the last three days, when in some localities over  $4\frac{1}{2}$  inches fell during this period. In Nova Scotia there was a cool, cloudy month with an excess of precipitation. Rain occurred on thirteen days.

In Prince Edward Island the first week of the month was characterised by cool weather, which was then succeeded by warmer seasonable conditions. Frost was recorded on the 6th.

## THE WEATHER OF THE YEAR 1911.

The Dominion Meteorological Service has furnished the following information relating to temperature, sunshine and precipitation at certain representative stations in the various provinces of the Dominion of Canada for the year 1911 (Table I on p. 130), compared with the normal values (Table II on p. 131).

Comparison of the figures of Table I with those of Table II shows to what extent at the various stations mean temperature and precipitation in 1911 deviated from the normal. It will be noticed that in the eastern part of Canada the mean temperatures for the year were greatly in excess of the normal, whilst in the Northwest provinces the precipitation exceeded the normal. The heat and drouth of the summer in the east and the wet harvest and fall in the Northwest provinces contributed materially to these

results. In Table 1 the mean temperatures are derived from the average of the mean values for January and February. Mean summer temperatures are derived from the average of the mean values for June, July and August. The normal values in Table 11 are the averages of the monthly and yearly values for the 20 years ended 1907.

**I. Mean Values of Meteorological Elements at certain Representative Stations in Canada, 1911.**

| Station             | Degrees of temperature F. |               |        |                        |                         | Hours<br>of sun-<br>shine | Precipitation |       |       |
|---------------------|---------------------------|---------------|--------|------------------------|-------------------------|---------------------------|---------------|-------|-------|
|                     | mean<br>annual            | mean seasonal |        | lowest<br>in<br>winter | highest<br>in<br>summer |                           | rain          | snow  | total |
|                     |                           | winter        | summer |                        |                         |                           |               |       |       |
| British Columbia—   |                           |               |        |                        |                         |                           |               |       |       |
| Victoria .....      | 48.7                      | 37.6          | 59.6   | 14.9                   | 89.5                    | 1,935                     | 22.55         | 16.4  | 24.19 |
| Vancouver .....     | 48.1                      | 34.6          | 61.0   | 6.4                    | 90.2                    | 1,764                     | 45.91         | 63.6  | 52.24 |
| Kamloops .....      | 44.2                      | 16.9          | 66.6   | -30.5                  | 99.5                    | 2,207                     | 4.87          | 34.9  | 8.36  |
| Alberta—            |                           |               |        |                        |                         |                           |               |       |       |
| Calgary .....       | 35.7                      | 6.9           | 56.2   | -44.0                  | 88.0                    | -                         | 12.72         | 67.5  | 19.47 |
| Edmonton .....      | 35.9                      | 2.4           | 58.7   | -52.0                  | 87.0                    | 2,120                     | 17.82         | 28.5  | 20.67 |
| Saskatchewan—       |                           |               |        |                        |                         |                           |               |       |       |
| Battleford .....    | 32.6                      | -9.0          | 59.6   | -55.0                  | 85.0                    | 1,632                     | 16.97         | 36.0  | 20.57 |
| Prince Albert ..... | 31.4                      | -8.3          | 59.0   | -54.0                  | 88.0                    | -                         | 10.68         | 72.6  | 17.94 |
| Qu'Appelle .....    | 32.5                      | -3.6          | 58.5   | -38.0                  | 88.5                    | -                         | 15.68         | 49.3  | 20.61 |
| Manitoba—           |                           |               |        |                        |                         |                           |               |       |       |
| Winnipeg .....      | 33.0                      | -4.0          | 60.2   | -43.0                  | 90.0                    | -                         | 18.07         | 42.3  | 22.30 |
| Ontario—            |                           |               |        |                        |                         |                           |               |       |       |
| Port Arthur .....   | 36.2                      | -1.8          | 64.1   | -37.0                  | 89.2                    | 2,009                     | 19.86         | 35.2  | 23.38 |
| White River .....   | 37.2                      | 10.2          | 60.0   | -30.0                  | 94.0                    | -                         | 20.76         | 41.6  | 24.92 |
| Parry Sound .....   | 33.5                      | -2.4          | 58.9   | -48.0                  | 90.0                    | -                         | 20.27         | 151.0 | 35.37 |
| Southampton .....   | 43.5                      | 17.9          | 67.0   | -18.0                  | 98.0                    | -                         | 20.87         | 110.8 | 31.95 |
| Toronto .....       | 44.9                      | 24.3          | 64.8   | 0.0                    | 91.6                    | -                         | 23.30         | 84.7  | 31.77 |
| Kingston .....      | 47.7                      | 25.7          | 68.8   | -1.7                   | 103.2                   | 2,064                     | 23.92         | 52.6  | 29.18 |
| Stoney Cliff .....  | 44.3                      | 17.7          | 66.8   | -16.0                  | 86.4                    | 2,086                     | 27.31         | 54.1  | 32.72 |
| Ottawa .....        | 39.2                      | 9.0           | 64.6   | -28.0                  | 109.0                   | -                         | 19.52         | 63.2  | 25.81 |
| Quebec—             |                           |               |        |                        |                         |                           |               |       |       |
| Montreal .....      | 42.2                      | 11.6          | 67.5   | -20.0                  | 95.0                    | 2,283                     | 20.59         | 101.6 | 30.75 |
| Quebec .....        | 43.6                      | 12.5          | 69.3   | -12.0                  | 94.5                    | 2,200                     | 25.83         | 108.2 | 36.65 |
| Sherbrooke .....    | 39.7                      | 8.3           | 66.4   | -20.0                  | 93.2                    | 1,983                     | 24.27         | 125.2 | 36.79 |
| Father Point .....  | 40.5                      | 10.3          | 66.1   | -24.6                  | 95.9                    | 2,064                     | 21.97         | 104.6 | 32.43 |
| New Brunswick—      |                           |               |        |                        |                         |                           |               |       |       |
| Chatham .....       | 36.2                      | 7.3           | 58.3   | -24.5                  | 80.7                    | -                         | 19.46         | 114.2 | 30.88 |
| Fredericton .....   | 40.8                      | 11.8          | 66.1   | -24.0                  | 95.0                    | -                         | 30.29         | 88.0  | 39.09 |
| St. John .....      | 40.4                      | 11.8          | 64.9   | -31.0                  | 95.3                    | 2,181                     | 26.05         | 89.6  | 35.01 |
| Nova Scotia—        |                           |               |        |                        |                         |                           |               |       |       |
| Yarmouth .....      | 40.4                      | 18.7          | 62.3   | -14.0                  | 81.5                    | -                         | 28.06         | 71.7  | 35.23 |
| Halifax .....       | 43.7                      | 23.8          | 61.4   | 0.0                    | 86.2                    | -                         | 29.02         | 60.4  | 35.06 |
| Sydney .....        | 43.8                      | 21.0          | 64.1   | -10.8                  | 90.8                    | -                         | 42.48         | 81.8  | 50.66 |
| P. E. Island—       |                           |               |        |                        |                         |                           |               |       |       |
| Charlottetown ..    | 42.3                      | 19.8          | 63.1   | -12.8                  | 92.0                    | -                         | 39.19         | 73.5  | 46.54 |
|                     | 41.9                      | 16.5          | 65.1   | -14.0                  | 90.0                    | 2,001                     | 23.93         | 69.8  | 30.91 |

## II. Normal Values of Meteorological Elements at certain Representative Stations in Canada.

| Station               | Normal annual temperature in degrees F | Normal hours of sunshine | Normal precipitation |       |       |
|-----------------------|--|--------------------------|----------------------|-------|-------|
|                       |  |                          | rain                 | snow  | total |
| British Columbia—     |  |                          |                      |       |       |
| Victoria.....         | 50.3                                   | 1,822                    | 31.41                | 11.6  | 32.57 |
| Vancouver.....        | 49.1                                   | 1,815                    | 57.88                | 23.2  | 60.20 |
| Kamloops.....         | 47.7                                   | —                        | 8.00                 | 26.2  | 10.62 |
| Alberta—              |  |                          |                      |       |       |
| Calgary.....          | 37.4                                   | —                        | 11.70                | 46.0  | 16.30 |
| Edmonton.....         | 36.7                                   | —                        | 14.18                | 40.2  | 18.20 |
| Saskatchewan—         |  |                          |                      |       |       |
| Battleford.....       | 34.4                                   | 2,101                    | 11.05                | 27.4  | 13.79 |
| Prince Albert.....    | 32.1                                   | —                        | 11.62                | 49.8  | 16.60 |
| Qu'Appelle.....       | 34.5                                   | —                        | 13.44                | 54.0  | 18.84 |
| Manitoba—             |  |                          |                      |       |       |
| Minnedosa.....        | 34.1                                   | —                        | 12.79                | 45.7  | 17.36 |
| Winnipeg.....         | 34.9                                   | 2,178                    | 15.62                | 51.9  | 20.81 |
| Ontario—              |  |                          |                      |       |       |
| Port Arthur.....      | 35.7                                   | —                        | 19.01                | 44.5  | 23.46 |
| White River.....      | 32.3                                   | —                        | 17.36                | 93.5  | 26.71 |
| Parry Sound.....      | 41.3                                   | —                        | 29.38                | 115.6 | 40.94 |
| Southampton.....      | 43.8                                   | —                        | 21.64                | 116.0 | 33.24 |
| Toronto.....          | 45.5                                   | 2,018                    | 25.28                | 61.0  | 31.38 |
| Kingston.....         | 43.7                                   | 1,989                    | 24.01                | 74.8  | 31.49 |
| Stonecliff.....       | 38.5                                   | —                        | 21.69                | 82.6  | 29.05 |
| Ottawa.....           | 43.0                                   | 1,874                    | 33.40                | 87.0  | 33.40 |
| Quebec—               |  |                          |                      |       |       |
| Montreal.....         | 42.3                                   | 1,805                    | 29.37                | 122.7 | 41.64 |
| Quebec.....           | 38.7                                   | 1,762                    | 27.17                | 132.9 | 40.46 |
| Father Point.....     | 35.1                                   | —                        | 23.21                | 109.6 | 34.17 |
| New Brunswick—        |  |                          |                      |       |       |
| Chatham.....          | 40.3                                   | —                        | 27.65                | 119.9 | 39.61 |
| Fredericton.....      | 40.5                                   | 1,978                    | 33.73                | 104.6 | 44.19 |
| St. John.....         | 41.6                                   | —                        | 36.68                | 84.3  | 45.11 |
| Nova Scotia—          |  |                          |                      |       |       |
| Yarmouth.....         | 40.2                                   | —                        | 42.46                | 84.2  | 50.88 |
| Halifax.....          | 44.3                                   | —                        | 49.43                | 76.7  | 57.10 |
| Sydney.....           | 42.4                                   | —                        | 41.10                | 92.8  | 50.38 |
| Prince Edward Island— |  |                          |                      |       |       |
| Charlottetown.....    | 46.2                                   | 1,806                    | 29.97                | 101.8 | 40.15 |

## COLONIAL AND FOREIGN PRODUCE IN BRITISH MARKETS.

**Wheat, etc.** On June 3 the prices for imported wheats at Mark Lane per quarter of 496 lb. were as follows: Manitoba No. 2 41s 3d-42s, No. 3 39s 6d-40s, No. 4 37s 6d-38s, No. 5 33s 9d-34s 9d, No. 6 30s 9d-31s 9d, feed 27s 9d-28s 3d, Australian 41s 9d-42s, New Zealand 41s-41s 6d, Russian finest 44s-45s, good 42s-43s, com. 40s-41s, Californian 41s-41s 6d, Blue Stem 40s 9d-41s 3d, white Walla 40s-40s 3d, red Walla 39s 9d-40s, white Bombay 42s 9d-43s 3d, white Calcutta 42s 3d-42s 9d, white Karachi 42s-42s 3d, red Karachi 41s 9d-42s. Canadian oats per 320 lb., 24s-24s 3d. Buckwheat per 416 lb., Russian fine 30s-31s, coarse 27s-28s. Split peas per 504 lb. Canadian 44s-45s, Indian 49s-51s.

**Flour.** On June 3 the Mark Lane prices for imported flour per sack of 280 lb. were: Hungarian 37s 6d-38s, Iron Duke 27s-27s 3d, American finest 32s 3d-32s 6d, 1st pat. 31s 6d-31s 9d, 2nd pat. 30s 6d-30s 9d, 1st bak. 26s 9d-27s, 2nd bak. 25s 9d-26s, low grade 20s 6d-21s, Manitoba pat. 31s 3d-32s, straights 30s 3d-30s 9d, Kansas best 29s 9d-30s, firsts 28s 9d-29s, seconds 27s 9d-28s, Californian 32s-32s 6d, Australian 27s 6d-28s 6d, French fine 32s 6d-33s, Belgian 31s-32s, Galatz 33s-35s.

**Fresh Meats.** The average official monthly prices in April were per 112 lb.: Canadian and U.S.A. port-killed, London 63s and 61s; Liverpool 61s and 56s 6d; Argentine frozen hind quarters, London and Liverpool 38s; Birmingham 37s 6d; Manchester and Edinburgh 38s 6d; Glasgow 39s; fore quarters, London and Liverpool 29s 6d; Birmingham and Manchester 30s 6d; Edinburgh 31s 6d; Glasgow 31s. Argentine chilled hind quarters, London 47s 6d; Birmingham and Manchester 47s; Liverpool 48s; Edinburgh 48s 6d; Glasgow 49s; fore quarters, London 33s; Birmingham 32s 6d; Liverpool and Manchester 32s; Edinburgh 34s; Glasgow 35s 6d. Australian frozen hind quarters, London and Glasgow 36s 6d; Birmingham 36s; Liverpool and Manchester 35s; fore quarters, London and Manchester 29s; Birmingham 31s 6d; Liverpool 28s 6d; Glasgow 30s. For the week ended May 29 the prices were: Canadian and U.S.A. port-killed, London and Liverpool 67s 8d and 65s 4d. Argentine frozen hind quarters, London and Dundee 49s; Birmingham, Liverpool and Manchester 46s 8d; Leeds and Edinburgh 45s 6d; Glasgow 51s 4d. Argentine chilled hind quarters, London 56s; Birmingham, Liverpool, Manchester and Dundee 58s 4d; Leeds 60s 8d; Edinburgh 59s 6d; Glasgow 68s 4d. Australian frozen hind quarters, London 46s 8d; Birmingham, Liverpool and Manchester 42s; Glasgow 49s.

**Bacon and Hams.** The average official prices in April for Canadian bacon per 112 lb. were: London 62s and 59s 6d; Bristol 62s and 60s; Liverpool 61s 6d and 59s 6d; Glasgow 62s 6d and 60s 6d. For American long cut hams the average April prices were: London 62s 6d and 59s 6d; Bristol 60s 6d and 57s 6d; Liverpool 60s 6d and 58s; Glasgow 62s and 58s. For the week ended May 29 the prices were: Canadian sides, London 68s and 64s; Bristol 69s and 66s; Liverpool 66s and 64s; Glasgow 68s and 66s; Canadian Cumberland cuts, Liverpool 67s and 64s; Glasgow 66s and 64s. Danish sides, London 73s and 70s; Bristol 72s and 67s; Liverpool 71s and 68s. Canadian long cut green hams, London 80s and 76s; Bristol 78s and 75s; Liverpool 79s and 75s; Glasgow 74s and 72s; American long cut green hams, London 72s and 70s; Bristol 66s and 63s; Liverpool 67s 6d and 62s; Glasgow 68s and 66s. American short cut green hams, London and Bristol 63s and 61s; Liverpool 64s 6d and 60s; Glasgow 62s and 61s.

**Cheese.** The average prices in April for Canadian cheese per 112 lb. were: London 77s and 76s; Bristol 76s 6d and 75s 6d; Liverpool 76s 6d and 74s 6d; Glasgow 76s (first quality). For the week ended May 29 the prices were: Canadian, London 76s and 73s; Bristol 77s and 75s; Liverpool 69s 6d and 68s (new). New Zealand, London 76s and 75s; Bristol and Glasgow 76s and 74s.



# CENSUS AND STATISTICS MONTHLY

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OTTAWA JULY 1912

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PUBLISHED BY AUTHORITY OF HONOURABLE GEORGE E. FOSTER, MINISTER OF TRADE AND COMMERCE. CORRESPONDENCE RELATING TO THE CENSUS AND STATISTICS MONTHLY SHOULD BE ADDRESSED TO ARCHIBALD BLUR, CHIEF OFFICER OF THE CENSUS AND STATISTICS OFFICE, DEPARTMENT OF TRADE AND COMMERCE, OTTAWA, CANADA.

## CROPS AND LIVE STOCK IN CANADA.

Report for the month ended June 30 1912.

Correspondents report that in the Maritime provinces and generally throughout eastern Canada the weather of June continued cold and wet, and the growth was therefore slow. In the Northwest provinces the weather of June was hot and dry, and rain was badly needed at the beginning of July. Rains have since fallen however, and conditions have improved. Prospects for spring sown crops are generally favourable.

According to revised figures obtained at the end of June the total area under wheat this year is 10,047,300 acres, compared with 10,377,159 acres as returned by the census of 1911. The area sown to fall wheat in 1911 was 1,097,900 acres, but winter killing has reduced this area to 781,000 acres. The area sown to oats is estimated at 9,494,600 acres, compared with 9,233,550 acres in 1911, and to barley 1,449,200 acres as against 1,403,969 acres in 1911. In the three Northwest provinces spring wheat covers 9,029,000 acres, as against 8,946,965 acres in 1911, the increase being in Saskatchewan and Alberta. Including fall wheat the total wheat acreage in the three provinces is 9,246,100, compared with 9,301,293 in 1911, the decrease being accounted for by the large area of fall wheat winter killed in Alberta. Oats in the three provinces occupy 5,037,000 acres and barley 826,100 acres, as compared with last year's census figures of 4,563,203 acres for oats and 761,738 acres for barley.

Whilst not equal to the exceptionally high figures recorded this time last year the condition of spring sown crops is generally good. The highest figures for spring cereals are recorded in Prince Edward Island and British Columbia, the per cent condition ranging from 97 to 99 in the former and from 90 to 95 in the latter province, the average for the Dominion being from 80 to 89. Fall wheat remains low, being only 70 for Canada, 73 for Ontario and 71·6 for Alberta. Last year the condition was also low, viz., 75 for Canada; the average of the four years 1908-11 was 81·5. Spring wheat is 89·73 p.c., compared with 94·78 last year and 88·25 the four years' average, oats 86·43 against 94·46 in 1911 and 90·42 average, barley 88·58 against 93 in 1911 and 89·28 average. Rye is 87·84, peas are 80·08 and

mixed grains 84.98. Hay and clover show a condition per cent of 85.59 against 84.97 in 1911, alfalfa 90.59 against 82.31 and pasture 95.56 against 90.77. In the three Northwest provinces spring wheat, oats and barley range from 80 to 88 p.c., figures which are close to the average of the four years 1908-11, but which are below last year's exceptional records by from about 10 to 15 p.c.

The estimated numbers of live stock show further decreases except as regards horses and dairy cattle, the former being 70,400 and the latter 14,500 more than last year's estimates. The census figures of 1911 are not yet available. The condition of all live stock in Canada is uniformly excellent, the number of points being 97 horses, 98 cattle, 97 sheep and 96 swine.

Census and Statistics Office  
July 17 1912.

ARCHIBALD BLUE  
Chief Officer.

# **I. Statistics of Field Crops with Areas of 1912 as estimated on June 30.**

| Field crops          | Acres in crops |           | Per cent of standard condition June 30 |       |        |       |        |
|----------------------|----------------|-----------|--|-------|--------|-------|--------|
|                      | 1912           | 1911      | 1912                                   | 1911  | 1910   | 1909  | 1908   |
| Canada—              |                |           |  |       |        |       |        |
| Fall wheat. ....     | 781,000        | 1,172,119 | 70.33                                  | 75.26 | 85.47  | 77.28 | 89.00  |
| Spring wheat. ....   | 9,266,300      | 9,205,040 | 89.73                                  | 94.78 | 82.16  | 86.77 | 80.00  |
| Oats. ....           | 9,494,600      | 9,233,550 | 86.43                                  | 94.46 | 86.20  | 93.81 | 90.00  |
| Barley. ....         | 1,449,200      | 1,403,969 | 88.58                                  | 93.01 | 86.90  | 85.60 | 83.00  |
| Rye. ....            | 149,700        | 153,272   | 87.84                                  | 90.82 | 88.02  | 81.47 | 82.00  |
| Peas. ....           | 251,900        | 288,310   | 80.08                                  | 89.08 | 86.94  | 84.40 | 82.00  |
| Mixed grains. ....   | 533,200        | 563,846   | 84.98                                  | 93.74 | 81.53  | 86.58 | 84.00  |
| Hay and clover. .... | 7,633,600      | 8,059,720 | 85.59                                  | 84.97 | 91.42  | 76.00 | 87.00  |
| Alfalfa. ....        | 111,300        | 107,833   | 90.59                                  | 82.31 | 88.94  | -     | -      |
| Pasture. ....        | -              | -         | 95.56                                  | 90.97 | 89.02  | 82.74 | 99.00  |
| P. E. Island—        |                |           |  |       |        |       |        |
| Spring wheat. ....   | 30,700         | 30,090    | 98.05                                  | 95.27 | 98.85  | 88.68 | 94.00  |
| Oats. ....           | 177,000        | 175,826   | 98.00                                  | 98.64 | 99.32  | 88.66 | 98.00  |
| Barley. ....         | 4,400          | 4,561     | 97.08                                  | 94.65 | 96.13  | 89.78 | 85.00  |
| Peas. ....           | 70             | 74        | 97.50                                  | 86.00 | 95.71  | 92.72 | 84.00  |
| Mixed grains. ....   | 7,500          | 7,418     | 99.14                                  | 94.14 | 98.97  | 88.40 | 99.00  |
| Hay and clover. .... | 188,000        | 207,866   | 74.86                                  | 66.61 | 104.31 | 67.15 | 110.00 |
| Alfalfa. ....        | 30             | 33        | 100.00                                 | 83.33 | 83.33  | -     | -      |
| Pasture. ....        | -              | -         | 91.25                                  | 76.28 | 103.97 | 73.05 | 114.00 |
| Nova Scotia—         |                |           |  |       |        |       |        |
| Spring wheat. ....   | 12,800         | 13,118    | 89.52                                  | 90.87 | 97.98  | 86.48 | 91.00  |
| Oats. ....           | 97,600         | 98,129    | 81.51                                  | 92.56 | 98.61  | 91.25 | 92.00  |
| Barley. ....         | 5,600          | 5,978     | 88.35                                  | 92.37 | 94.46  | 85.20 | 84.00  |
| Rye. ....            | 910            | 919       | 97.50                                  | 77.91 | 95.00  | 87.75 | 70.00  |
| Peas. ....           | 190            | 209       | 91.07                                  | 91.11 | 93.28  | 81.10 | 83.00  |
| Mixed grains. ....   | 4,300          | 4,356     | 91.59                                  | 93.55 | 97.39  | 87.20 | 100.00 |
| Hay and clover. .... | 478,000        | 485,776   | 91.33                                  | 81.26 | 105.79 | 75.60 | 106.00 |
| Alfalfa. ....        | 30             | 32        | 87.50                                  | 69.58 | 95.10  | -     | -      |
| Pasture. ....        | -              | -         | 92.30                                  | 70.70 | 104.06 | 77.80 | 107.00 |

# 1. Statistics of Field Crops with Areas in 1912 as estimated on June 30.—con.

| Field crops           | Acres in crops |           | Per cent of standard condition June 30 |        |        |        |        |
|-----------------------|----------------|-----------|--|--------|--------|--------|--------|
|                       | 1912           | 1911      | 1912                                   | 1911   | 1910   | 1909   | 1908   |
| <b>New Brunswick—</b> |                |           |  |        |        |        |        |
| Spring wheat.....     | 12,400         | 13,245    | 87.58                                  | 93.20  | 95.07  | 89.86  | 81.00  |
| Oats.....             | 186,000        | 198,457   | 83.20                                  | 97.29  | 96.53  | 93.10  | 86.00  |
| Barley.....           | 2,540          | 2,613     | 84.92                                  | 94.35  | 89.11  | 87.68  | 73.00  |
| Rye.....              | 160            | 162       | 89.50                                  | 87.85  | 83.33  | 80.00  | 72.00  |
| Peas.....             | 560            | 643       | 83.87                                  | 91.41  | 88.56  | 82.30  | 77.00  |
| Mixed grains.....     | 1,300          | 1,453     | 83.26                                  | 95.79  | 92.13  | 83.00  | 80.00  |
| Hay and clover.....   | 558,000        | 588,839   | 88.76                                  | 82.58  | 109.68 | 68.35  | 87.00  |
| Alfalfa.....          | 140            | 117       | 86.67                                  | 68.50  | 97.00  | -      | -      |
| Pasture.....          | -              | -         | 93.59                                  | 87.58  | 105.31 | 81.92  | 94.00  |
| <b>Quebec—</b>        |                |           |  |        |        |        |        |
| Spring wheat.....     | 65,700         | 71,086    | 75.73                                  | 91.91  | 88.56  | 85.25  | 75.00  |
| Oats.....             | 1,249,000      | 1,430,677 | 73.23                                  | 95.00  | 93.10  | 90.62  | 78.00  |
| Barley.....           | 96,000         | 106,010   | 78.78                                  | 92.88  | 91.07  | 88.80  | 74.00  |
| Rye.....              | 19,200         | 20,440    | 79.70                                  | 88.93  | 89.04  | 86.80  | 79.00  |
| Peas.....             | 29,000         | 33,048    | 73.78                                  | 89.64  | 84.42  | 83.20  | 70.00  |
| Mixed grains.....     | 120,000        | 130,950   | 76.69                                  | 93.96  | 74.45  | 89.55  | 75.00  |
| Hay and clover.....   | 2,750,000      | 3,022,099 | 80.19                                  | 87.90  | 102.58 | 80.51  | 75.00  |
| Alfalfa.....          | 10,000         | 10,387    | 84.42                                  | 82.02  | 88.46  | -      | -      |
| Pasture.....          | -              | -         | 86.56                                  | 91.12  | 100.35 | 82.38  | 90.00  |
| <b>Ontario—</b>       |                |           |  |        |        |        |        |
| Fall wheat.....       | 561,000        | 814,746   | 68.03                                  | 72.97  | 94.29  | 78.60  | 88.00  |
| Spring wheat.....     | 112,000        | 126,526   | 81.06                                  | 88.02  | 84.79  | 75.80  | 70.00  |
| Oats.....             | 2,713,000      | 2,734,110 | 82.64                                  | 88.76  | 89.80  | 80.90  | 90.00  |
| Barley.....           | 513,000        | 521,391   | 82.14                                  | 88.91  | 91.49  | 78.45  | 81.00  |
| Rye.....              | 95,000         | 98,887    | 85.68                                  | 82.81  | 88.85  | 76.90  | 90.00  |
| Peas.....             | 220,000        | 252,032   | 79.12                                  | 87.70  | 88.30  | 85.00  | 87.00  |
| Mixed grains.....     | 389,000        | 408,471   | 85.62                                  | 93.32  | 91.26  | 84.15  | 86.00  |
| Hay and clover.....   | 3,240,000      | 3,345,497 | 77.82                                  | 75.24  | 90.37  | 70.30  | 80.00  |
| Alfalfa.....          | 85,000         | 83,342    | 85.37                                  | 77.80  | 92.72  | -      | -      |
| Pasture.....          | -              | -         | 89.03                                  | 81.63  | 88.52  | 76.10  | 100.00 |
| <b>Manitoba—</b>      |                |           |  |        |        |        |        |
| Fall wheat.....       | 3,100          | 2,961     | 81.54                                  | -      | -      | -      | -      |
| Spring wheat.....     | 2,728,000      | 2,976,773 | 82.27                                  | 98.51  | 72.95  | 94.10  | 97.00  |
| Oats.....             | 1,300,000      | 1,260,736 | 81.22                                  | 96.34  | 73.12  | 93.10  | 99.00  |
| Barley.....           | 464,000        | 433,067   | 79.10                                  | 94.38  | 74.50  | 89.10  | 94.00  |
| Rye.....              | 9,300          | 9,393     | 84.57                                  | 97.33  | 74.38  | 100.00 | 90.00  |
| Peas.....             | 1,800          | 398       | 85.00                                  | 95.71  | 76.43  | 65.00  | 94.00  |
| Mixed grains.....     | 1,800          | 1,820     | 79.00                                  | 99.41  | 71.47  | 91.00  | 90.00  |
| Hay and clover.....   | 141,000        | 142,959   | 82.90                                  | 96.56  | 65.19  | 84.38  | 93.00  |
| Alfalfa.....          | 2,900          | 2,802     | 92.29                                  | 99.78  | 67.35  | -      | -      |
| Pasture.....          | -              | -         | 82.99                                  | 100.08 | 68.55  | 93.60  | 103.00 |
| <b>Saskatchewan—</b>  |                |           |  |        |        |        |        |
| Fall wheat.....       | 53,000         | 34,457    | 72.66                                  | -      | -      | -      | -      |
| Spring wheat.....     | 4,959,000      | 4,670,203 | 85.01                                  | 98.67  | 78.47  | 96.01  | 97.00  |
| Oats.....             | 2,327,000      | 2,124,057 | 81.85                                  | 96.98  | 81.79  | 98.04  | 98.00  |
| Barley.....           | 183,500        | 172,253   | 84.07                                  | 95.52  | 84.75  | 95.10  | 91.00  |
| Rye.....              | 2,600          | 2,167     | 83.75                                  | 98.86  | 82.85  | 105.00 | 90.00  |
| Peas.....             | 300            | 304       | 89.12                                  | 90.15  | 84.39  | 92.50  | 82.00  |
| Mixed grains.....     | 3,000          | 2,847     | 91.36                                  | 96.85  | 95.31  | 98.75  | 99.00  |
| Hay and clover.....   | 20,600         | 18,603    | 88.48                                  | 97.55  | 76.67  | 94.29  | 101.00 |
| Alfalfa.....          | 1,100          | 1,019     | 91.89                                  | 91.77  | 77.08  | -      | -      |
| Pasture.....          | -              | -         | 93.09                                  | 100.10 | 79.44  | 99.20  | 104.00 |

## I. Statistics of Field Crops with Areas in 1912 as estimated on June 30—con

| Field crops              | Acres in crops |           | Per cent of standard condition June 30 |        |        |        |        |
|--------------------------|----------------|-----------|--|--------|--------|--------|--------|
|                          | 1912           | 1911      | 1912                                   | 1911   | 1910   | 1909   | 1908   |
| <b>Alberta—</b>          |                |           |  |        |        |        |        |
| Fall wheat.....          | 161,000        | 316,910   | 71·64                                  | 83·22  | 63·62  | 65·65  | 95·00  |
| Spring wheat.....        | 1,342,000      | 1,299,989 | 86·42                                  | 96·50  | 66·31  | 96·84  | 92·00  |
| Oats.....                | 1,410,000      | 1,178,410 | 87·13                                  | 97·68  | 67·26  | 99·70  | 97·00  |
| Barley.....              | 178,000        | 156,418   | 88·22                                  | 95·99  | 73·22  | 97·16  | 95·00  |
| Rye.....                 | 21,000         | 20,659    | 92·74                                  | 91·71  | 82·71  | 101·07 | 96·00  |
| Peas.....                | 400            | 459       | 87·50                                  | 93·59  | 70·00  | 100·00 | —      |
| Mixed grains.....        | 4,700          | 4,904     | 90·83                                  | 92·02  | 74·08  | 95·00  | —      |
| Hay and clover.....      | 174,000        | 165,165   | 90·57                                  | 95·37  | 57·92  | 95·13  | 100·00 |
| Alfalfa.....             | 8,300          | 7,033     | 86·88                                  | 87·60  | 70·51  | —      | —      |
| Pasture.....             | —              | —         | 94·09                                  | 101·69 | 62·31  | 100·60 | —      |
| <b>British Columbia—</b> |                |           |  |        |        |        |        |
| Fall wheat.....          | 2,900          | 3,045     | 91·73                                  | 88·92  | 84·10  | 87·50  | —      |
| Spring wheat.....        | 3,700          | 4,910     | 90·00                                  | 86·53  | 88·05  | 73·00  | 83·00  |
| Oats.....                | 35,000         | 33,148    | 93·24                                  | 91·21  | 87·88  | 93·00  | 87·00  |
| Barley.....              | 1,600          | 1,678     | 95·63                                  | 84·00  | 98·33  | 72·00  | 88·00  |
| Rye.....                 | 530            | 645       | 100·00                                 | 99·16  | 90·00  | 100·00 | 93·00  |
| Peas.....                | 1,000          | 1,143     | 92·90                                  | 87·93  | 85·00  | 81·25  | 91·00  |
| Mixed grains.....        | 1,600          | 1,627     | 91·67                                  | 79·54  | 98·33  | 100·00 | 100·00 |
| Hay and clover.....      | 84,000         | 82,916    | 95·43                                  | 87·88  | 90·75  | 65·00  | 94·00  |
| Alfalfa.....             | 3,800          | 3,068     | 99·54                                  | 85·00  | 102·00 | —      | —      |
| Pasture.....             | —              | —         | 91·05                                  | 88·93  | 86·33  | 65·00  | 91·00  |

## II. Areas of late Cereals and hoed Crops, 1911 and 1912.

| Field crops          | Acres in crops |           | Field crops          | Acres in crops |         |
|----------------------|----------------|-----------|----------------------|----------------|---------|
|                      | 1912           | 1911      |                      | 1912           | 1911    |
| Canada—              |                |           | Quebec—con.          |                |         |
| Buckwheat.....       | 387,000        | 359,367   | Corn for husking.... | 21,000         | 25,273  |
| Flax.....            | 1,711,100      | 1,131,586 | Beans.....           | 9,400          | 10,612  |
| Corn for husking.... | 291,850        | 316,104   | Flax.....            | 1,300          | 1,719   |
| Beans.....           | 59,940         | 60,630    | Potatoes.....        | 128,600        | 137,574 |
| Potatoes.....        | 459,400        | 459,097   | Turnips, etc.....    | 13,100         | 14,759  |
| Turnips, etc.....    | 214,600        | 227,141   | Corn for fodder....  | 36,300         | 39,244  |
| Sugar beets.....     | 19,000         | 20,878    | Ontario—             |                |         |
| Corn for fodder....  | 278,740        | 285,321   | Buckwheat.....       | 201,700        | 176,328 |
| P. E. Island—        |                |           | Corn for husking..   | 271,700        | 290,667 |
| Buckwheat.....       | 2,700          | 2,770     | Flax.....            | 8,100          | 8,367   |
| Beans.....           | 140            | 148       | Beans.....           | 49,200         | 48,709  |
| Potatoes.....        | 31,600         | 26,635    | Potatoes.....        | 153,500        | 152,887 |
| Turnips, etc.....    | 7,200          | 7,187     | Turnips, etc.....    | 148,000        | 158,013 |
| Corn for fodder....  | 260            | 278       | Sugar beets.....     | 17,000         | 19,002  |
| Nova Scotia—         |                |           | Corn for fodder....  | 241,400        | 234,265 |
| Buckwheat.....       | 7,500          | 7,904     | Manitoba—            |                |         |
| Corn for husking..   | 150            | 164       | Flax.....            | 97,700         | 77,589  |
| Beans.....           | 900            | 966       | Potatoes.....        | 24,900         | 24,713  |
| Potatoes.....        | 27,000         | 26,566    | Turnips, etc.....    | 4,700          | 4,851   |
| Turnips, etc.....    | 10,000         | 10,323    | Saskatchewan—        |                |         |
| Corn for fodder....  | 600            | 619       | Flax.....            | 1,489,000      | 950,049 |
| New Brunswick—       |                |           | Potatoes.....        | 25,500         | 24,558  |
| Buckwheat.....       | 60,500         | 61,756    | Turnips, etc.....    | 9,800          | 9,960   |
| Beans.....           | 300            | 343       | Alberta—             |                |         |
| Potatoes.....        | 42,300         | 40,220    | Flax.....            | 115,000        | 93,662  |
| Turnips, etc.....    | 8,800          | 9,314     | Potatoes.....        | 26,000         | 22,884  |
| Corn for fodder....  | 180            | 202       | Turnips, etc.....    | 13,000         | 12,732  |
| Quebec—              |                |           | Sugar beets.....     | 2,000          | 1,876   |
| Buckwheat.....       | 114,600        | 110,609   |                      |                |         |



## III. Statistics of Live Stock on Farms, 1908-1912.

| Live stock            | Number of animals |           |           |           |           | Percent of<br>standard<br>condition<br>June 30<br>1912 |
|-----------------------|-------------------|-----------|-----------|-----------|-----------|--|
|                       | 1912              | 1911      | 1910      | 1909      | 1908      |  |
| Canada—               |                   |           |           |           |           |  |
| Horses .....          | 2,336,800         | 2,266,400 | 2,213,199 | 2,132,489 | 2,118,165 | 97.43  |
| Milch cows .....      | 2,890,100         | 2,876,600 | 2,853,951 | 2,849,206 | 2,917,746 | 98.26  |
| Other cattle .....    | 4,093,609         | 4,210,000 | 4,260,963 | 4,384,779 | 4,629,836 | 98.23  |
| Sheep .....           | 2,360,600         | 2,389,300 | 2,598,470 | 2,705,390 | 2,831,404 | 97.55  |
| Swine .....           | 2,636,400         | 2,792,200 | 2,753,994 | 2,912,509 | 3,369,858 | 96.09  |
| Prince Edward Island— |                   |           |           |           |           |  |
| Horses .....          | 33,700            | 34,000    | 34,121    | 34,121    | 34,809    | 97.91  |
| Milch cows .....      | 52,600            | 55,500    | 55,365    | 53,915    | 52,650    | 94.19  |
| Other cattle .....    | 53,500            | 56,500    | 57,648    | 58,913    | 60,495    | 96.43  |
| Sheep .....           | 104,500           | 108,600   | 110,599   | 109,244   | 113,206   | 97.76  |
| Swine .....           | 41,500            | 46,400    | 48,623    | 47,853    | 49,692    | 96.43  |
| Nova Scotia—          |                   |           |           |           |           |  |
| Horses .....          | 69,400            | 69,000    | 68,721    | 68,128    | 67,857    | 98.12  |
| Milch cows .....      | 152,600           | 151,700   | 148,948   | 147,663   | 143,362   | 98.63  |
| Other cattle .....    | 179,000           | 180,900   | 180,189   | 182,507   | 190,907   | 97.95  |
| Sheep .....           | 343,200           | 351,000   | 358,263   | 361,444   | 373,392   | 93.69  |
| Swine .....           | 67,600            | 70,000    | 69,958    | 70,508    | 74,063    | 98.29  |
| New Brunswick—        |                   |           |           |           |           |  |
| Horses .....          | 66,800            | 66,700    | 66,855    | 66,496    | 67,100    | 99.37  |
| Milch cows .....      | 125,500           | 123,300   | 122,136   | 122,577   | 127,419   | 99.37  |
| Other cattle .....    | 110,000           | 110,500   | 110,389   | 113,850   | 123,081   | 98.65  |
| Sheep .....           | 179,300           | 180,800   | 203,620   | 215,289   | 230,502   | 96.17  |
| Swine .....           | 91,400            | 93,000    | 91,250    | 94,140    | 98,062    | 100.07   |
| Quebec—               |                   |           |           |           |           |  |
| Horses .....          | 369,500           | 371,400   | 368,419   | 362,796   | 361,711   | 98.00  |
| Milch cows .....      | 875,800           | 872,800   | 856,151   | 856,579   | 884,896   | 98.03  |
| Other cattle .....    | 607,100           | 609,200   | 600,277   | 622,888   | 668,693   | 97.45  |
| Sheep .....           | 519,800           | 533,400   | 549,068   | 570,342   | 600,992   | 97.43  |
| Swine .....           | 656,900           | 697,500   | 651,415   | 670,042   | 751,336   | 97.60  |
| Ontario—              |                   |           |           |           |           |  |
| Horses .....          | 784,800           | 791,000   | 802,949   | 821,011   | 849,029   | 98.71  |
| Milch cows .....      | 1,235,000         | 1,234,500 | 1,243,680 | 1,260,572 | 1,301,840 | 97.87  |
| Other cattle .....    | 1,462,000         | 1,558,600 | 1,629,364 | 1,774,433 | 1,916,098 | 97.59  |
| Sheep .....           | 888,700           | 975,400   | 1,032,227 | 1,118,945 | 1,205,630 | 97.55  |
| Swine .....           | 1,335,000         | 1,469,800 | 1,481,058 | 1,586,565 | 1,947,183 | 96.37  |
| Manitoba—             |                   |           |           |           |           |  |
| Horses .....          | 263,800           | 251,800   | 244,987   | 237,161   | 230,926   | 97.10  |
| Milch cows .....      | 158,900           | 161,200   | 164,746   | 167,442   | 173,546   | 96.68  |
| Other cattle .....    | 280,000           | 293,300   | 314,995   | 333,752   | 357,988   | 98.77  |
| Sheep .....           | 32,300            | 29,600    | 30,266    | 29,074    | 29,265    | 98.61  |
| Swine .....           | 132,100           | 135,800   | 142,312   | 172,374   | 192,489   | 79.45  |
| Saskatchewan—         |                   |           |           |           |           |  |
| Horses .....          | 397,300           | 365,500   | 332,922   | 279,063   | 259,811   | 97.24  |
| Milch cows .....      | 146,500           | 143,600   | 138,455   | 124,186   | 119,375   | 98.72  |
| Other cattle .....    | 453,300           | 444,700   | 431,164   | 391,789   | 378,248   | 98.65  |
| Sheep .....           | 111,800           | 111,300   | 135,360   | 129,630   | 116,438   | 107.23   |
| Swine .....           | 156,700           | 130,300   | 125,788   | 131,757   | 141,264   | 99.41  |
| Alberta—              |                   |           |           |           |           |  |
| Horses .....          | 351,500           | 317,000   | 294,225   | 263,713   | 246,922   | 93.04  |
| Milch cows .....      | 143,200           | 134,000   | 124,470   | 116,371   | 110,357   | 100.30   |
| Other cattle .....    | 948,400           | 956,300   | 926,937   | 910,547   | 934,326   | 100.46   |
| Sheep .....           | 181,000           | 179,200   | 179,067   | 171,422   | 161,979   | 99.71  |
| Swine .....           | 175,200           | 149,400   | 143,560   | 139,270   | 115,769   | 99.55  |
| British Columbia—     |                   |           |           |           |           |  |
| Horses .....          | —                 | —         | —         | —         | —         | 99.15  |
| Milch cows .....      | —                 | —         | —         | —         | —         | 99.92  |
| Other cattle .....    | —                 | —         | —         | —         | —         | 97.89  |
| Sheep .....           | —                 | —         | —         | —         | —         | 98.64  |
| Swine .....           | —                 | —         | —         | —         | —         | 98.67  |

INTERPRETATION OF CROP REPORTS.<sup>1</sup>

In reporting on the condition of crops in Canada to the International Institute of Agriculture the Census and Statistics Office converts the figures supplied by its crop-reporting correspondents in percentages of a standard into the Institute's scale wherein 100 represents the promise of a yield per acre equal to an average, supposing the crop not to be subjected to the effects of any extraordinary phenomena up to the time of harvest. The Institute's average is one of ten years, but at present for Canada an average of only four years is available.

The following statement shows therefore for wheat, rye, barley and oats the yield per acre anticipated from the standard condition on June 30 1912, according to the proportion which the average standard condition at June 30 for the four years 1908-11 bears to the average yield per acre for those years, the result being also expressed as a percentage of the four years' average represented by 100 :

| Crop              | Average standard condition June 30 1908-11 | Average yield per acre 1908-11 | Standard condition June 30 1912 | Anticipated yield per acre 1912 | Condition (100 = average yield per acre 1908-11) |
|-------------------|--|--------------------------------|---------------------------------|---------------------------------|--|
|                   | p. c.                                      | bush.                          | p. c.                           | bush.                           | p. c.  |
| Fall wheat.....   | 81.51                                      | 23.41                          | 70.33                           | 20.20                           | 86   |
| Spring wheat..... | 88.25                                      | 18.47                          | 89.73                           | 18.78                           | 102  |
| Rye.....          | 87.26                                      | 18.32                          | 87.84                           | 18.44                           | 101  |
| Barley.....       | 89.28                                      | 27.44                          | 88.58                           | 27.22                           | 99   |
| Oats.....         | 90.42                                      | 35.11                          | 86.43                           | 33.56                           | 96   |

The condition of these crops at the end of June indicates therefore that the yield per acre of fall wheat will be 14 p.c. below that of the average for the four years 1908 to 1911, that spring wheat and rye will be 2 and 1 p.c. respectively above that average and that barley and oats will fall below it to the extent of 1 and 4 p.c. respectively. In this calculation it is assumed that conditions between now and harvest will be equal to the average conditions during the same period of the four years 1908-11.

## NOTES OF REPORTS FROM THE PROVINCES.

**Maritime Provinces.** In Prince Edward Island all crops promise well except hay and clover, which continue to show the effects of last year's drouth. In Nova Scotia and also in New Brunswick complaints are frequently made that oats failed to germinate, the failure being attributed to poor seed, in some cases imported from the Northwest provinces. A correspondent in New Brunswick writes that all western seed oats bought from the same man have proved a total failure. In New Brunswick cold and

<sup>1</sup> See also Census and Statistics Monthly, Vol. 4, No. 38, July 1911, pp. 159 and 160.

wet weather has been generally experienced. Horses have sold at good prices and beef prices are also high.

**Quebec and Ontario.** The season is backward, and much damage to grain crops has been caused by excessive rains. Cold weather has also made growth very slow. In the counties around Montreal the coldness of the nights is a special subject of complaint. In eastern and central Ontario the weather has been also cold and wet, causing slow growth and damage to grain. In the western and southern counties and to a certain extent also in northern Ontario the rain and cold of the spring were followed by heat and drouth in June, and many correspondents reporting on June 30 state that rain was then badly needed.

**Northwest Provinces.** Drouth, extreme heat and hot winds prevailed throughout Manitoba during June. Similar conditions are reported from Saskatchewan and Alberta, but in these provinces good rains from about June 28-30 relieved anxiety. Cutworms are reported as damaging field and garden crops in Alberta.

**British Columbia.** Conditions are generally satisfactory, moisture being abundant and temperature favourable. Absence of night frosts has favoured the growth of potatoes and other sensitive produce.

## DEPARTMENTAL NOTES.

**Experimental Farms and Stations.** At the Central Farm, Ottawa, the temperatures during June range somewhat lower than for the corresponding period of 1911, the night readings in particular being as a rule comparatively low. The highest recorded has been 88.4, the lowest 39.4 and the mean 61.62, compared with extremes of 88 and 45.4 and a mean of 64.62 in 1911. The rainfall amounts to only 1.35 inch, as against 3.64 inches during the previous June, and, as was to be expected, there is much more bright sunshine to report, the average being 10.28 hours a day, compared with 7.77 hours in the corresponding month last year.

The comparatively cool weather of the month has retarded vegetation generally, this being particularly noticeable as regards corn, which has made very little growth during the month. This slow development in the case of grain is likely to result in the straw being short. On the Experimental Farm the first hay cutting took place during the last week of June, and as appearances indicated, the yield is turning out light, averaging about two tons to the acre. Potatoes and roots have come up well and have made a promising start.

J. A. Clark, Superintendent of the Station at Charlottetown, P.E.I., reports: "June has been decidedly cool, the mean temperature being a degree lower than that of last year, when it was below the average. No frost was recorded at this Station during the month, though reported to have occurred in the eastern section of the province on the 10th. The only really hot days were the 24th and 25th, when the temperature reached 84.5. The grain crops made very rapid growth towards the last of the month and

are of a very rich colour. There is general complaint that cutworms are doing much injury to roots and hoed crops. The prospects for a full crop of small fruits are good. The first strawberries ripened on the 29th. The large fruits have set well. The hay crop throughout Prince Edward Island will be short, due largely to last season's drouth. The pastures are also getting bare. The plots of alfalfa and clover at the Station have made excellent growth and promise heavy yields."

Robert Robertson, Superintendent of the Experimental Farm at Nappan, N.S., reports: "June has been an unusually cool month, with seeding operations much retarded by wet weather, although the total rainfall, 2.32 inches, is not excessive. Hay, while showing good prospects for a heavy yield at the beginning of the month, has not made the progress expected and promises to be a light crop generally. Grain and root crops are looking fairly well; but corn in some instances is a complete failure (due to the continued cold, wet weather), and some fields require to be re-seeded."

G. A. Langelier, Superintendent of the Station at Cap Rouge, Que., reports: "It rained on thirteen of the first eighteen days of June, so that practically nothing could be done on the land. At many places farmers could not put in more than half of their grain. Even the hay, which promised so much, in the low-lying districts has suffered, fields being covered with water for days at a time. From the 19th to the end of the month it has been very dry; and a continual northwest or north wind parched the wet areas, which are now covered with large cracks. This will, it is feared, be a poor year for crops generally. At the Experimental Station seeding was delayed by rain, but everything has been got in by the end of the month and looks well."

W. C. McKillican, Superintendent of the Farm at Brandon, Man., reports: "June has been a month of extreme drouth, the total rainfall being about one-quarter of an inch, which is by far the lightest precipitation of any June since weather records have been kept at this Farm, or for over twenty years. All crops are suffering owing to lack of moisture. Grain on summer fallow is doing fairly well; but where it follows a previous grain crop the indications are that the yield will be light. Grass crops are very light, and the germination of corn and roots has been uneven. A notable exception to general conditions is an excellent crop of alfalfa on the Experimental Farm here. This crop seems to be able to go to a greater depth for moisture and has not as yet suffered from drouth. Seeding was completed on the Experimental Farm during the first days of the month. Summer fallows have all been ploughed and corn and roots cultivated. A start has been made at haying."

Angus Mackay, Superintendent of the Farm at Indian Head, Sask., reports: "The weather all through June has been dry and the last ten days of the month very warm. Except on fallowed land the dry, hot weather has affected the grain, and in many districts the straw will be short. Summer fallowed crops will not have too much straw, but there promises to be plenty. Crops on the Experimental Farm look fairly satisfactory, with barley and early wheats headed out. Work on the Farm during the month consisted chiefly of ploughing and cultivating fallows and keeping weeds in check as well as possible. All the new buildings erected this year have been painted during the month."



Wm. A. Munro, Superintendent of the Station at Rosthern, Sask., reports: "Up till the middle of June the crops were looking unusually well; but continued hot, dry weather told seriously on those not on summer fallow or good breaking. Timothy especially has been seriously affected. A storm coming on the 27th (on which date 0.64 of an inch of rain fell) contributed much towards relieving the seriousness of the situation. Conditions have been still further improved by another storm on the 29th, 0.97 of an inch of rain being recorded. The earlier wheats are heading, particularly Marquis; also some of the oats. The grain is characterised by short straw. During the month cattle men have experienced a plague of sand flies, and many cattle and horses have succumbed both in this vicinity and in the Duck Lake district."

R. E. Everest, Superintendent of the Station at Scott, Sask., reports: "June has been favourable for crops, and towards the close of the month temperatures, night and day, have been high. Good weather, following on the uniform start made previously by grain crops, has encouraged rapid development, with the result that early varieties of barley and wheat are fully in head. Work on the Station here has consisted mainly of hoeing, setting out trees, transplanting from hot bed, trimming plots and ploughing and packing summer fallows. During the month two work mares foaled, and the colts are doing nicely. Throughout the district breaking has been done and summer fallows worked in view of 1913 crop area."

G. H. Hutton, Superintendent of the Station at Lacombe, Alta, reports: "The mean temperature during June has been higher than for the corresponding month of any year since 1907, when records were first taken here. As a result of the unusual warmth (which was fortunately accompanied by sufficient moisture) there has been very rapid growth, and grain is considerably farther advanced at the close of the month than it has been for some years. Spring wheat, oats and barley are heading out at the Station, and where winter wheat came through at all well it is also headed. The timothy crop will be somewhat shorter this year than usual because of the dry weather early in the season, but there will be a fair hay crop after all. The work of ploughing and packing the summer fallows has been completed, and the heavy rains coming late in June should make it possible to store liberal supplies of moisture in these summer fallows for next year."

W. H. Fairfield, Superintendent of the Station at Lethbridge, Alta., reports: "The drouth of May has been followed by a dry June, for up to the last four days of the month less than three-quarters of an inch of rain had fallen. Winter wheat and early sown spring wheat have been materially damaged, but the showers of the last few days of June assure the filling of these and will save the late crops, especially flax, provided a reasonable amount of rain is experienced. The cutting of alfalfa is general in the district. On the Station farm all the crops on the irrigated portions have been irrigated except potatoes."

P. H. Moore, Superintendent of the Farm at Agassiz B.C., reports: "The first part of June was mostly hot and dry, constituting excellent weather for haying, which commenced at this Farm on the 5th, nearly all of it being got in without getting wet. One field of clover got rather a heavy rain on it after it was cut, and was put into the silo. Haying in the

neighbourhood was not started so early as on the Experimental Farm, but a number of farmers got theirs in with fair luck. The latter part of the month has been dull, with a good deal of rain, which, however, is to be expected in this section at this time of the year. At the close of June roots and corn are doing well, the second crop of clover is coming on in good shape and grains and potatoes give promise of a good yield. Stock are in good condition, feed being plentiful. Horses stood the spring work well, and are now resting up a little until harvest. Pigs, sheep and poultry are all doing well."

The records of temperature, precipitation and sunshine at the several Experimental Farms and Stations for the month of May are given in the following table :

**Meteorological Record for June 1912.**

| Experimental Farm<br>or Station at— | Degrees of temperature, F. |        |       | Precipitation<br>in<br>inches | Hours of sunshine |        |
|-------------------------------------|----------------------------|--------|-------|-------------------------------|-------------------|--------|
|                                     | highest                    | lowest | mean  |                               | possible          | actual |
| Ottawa, Ont.....                    | 88.4                       | 39.4   | 61.62 | 1.35                          | 469               | 308.6  |
| Charlottetown, P. E. I..            | 84.5                       | 36.0   | 57.82 | 2.49                          | 471               | 251.1  |
| Nappan, N. S. ....                  | 84.0                       | 35.0   | 56.29 | 2.32                          | 470               | "      |
| Cap Rouge, Que.....                 | 83.0                       | 35.2   | 56.18 | 3.01                          | 474               | 212.0  |
| Brandon, Man.....                   | 101.5                      | 35.0   | 62.10 | .24                           | 488               | 224.9  |
| Indian Head, Sask.....              | 97.0                       | 34.0   | 61.63 | 1.42                          | 490               | 278.5  |
| Rosthern, Sask. ....                | 93.8                       | 34.0   | 61.88 | 2.81                          | 505               | 365.7  |
| Scott, Sask. ....                   | 95.5                       | 28.7   | 61.71 | 2.19                          | 502               | 343.0  |
| Lacombe, Alta.....                  | 89.6                       | 25.5   | 59.18 | 3.00                          | 501               | 304.0  |
| Lethbridge, Alta.....               | 94.8                       | 28.3   | 62.41 | 1.73                          | 488               | 322.7  |
| Agassiz, B. C. ....                 | 89.0                       | 36.0   | 60.38 | 5.95                          | 485               | 186.5  |

<sup>1</sup> Not available.

J. H. GRISDALE, Director Experimental Farms.

Ottawa, July 12.

**Dairy and Cold Storage Branch.** A considerable proportion of the cheese received at Montreal by rail this season has arrived with the boxes broken, and an investigation is now under way by the Markets Division of this Branch with the object of locating, if possible, the cause of the excessive breakage. So far as carload shipments from one station are concerned the fault appears to rest with the factorymen, who load the cheese in the cars and stow them so carelessly that the boxes knock about in transit, especially whenever the car is shunted.

Owing to the increasing scarcity of suitable cheese box material several types of paper boxes have been placed on the market in Canada the last few years but as yet without much success. A few lots of cheese have been shipped this season in boxes made from pulpwood, but the results have not been very satisfactory. Some of the defects are that the box is not strong enough to stand much vertical pressure, that it cannot be trimmed to suit an under-sized cheese and that if it is exposed to moisture it becomes soft and will not stand handling. Some of the exporting firms threaten to cut the price on any cheese shipped to them in paper boxes.

The following figures show the reported total receipts of butter and cheese for similar periods in 1911 and 1912 at Montreal, New York, Chicago and Boston:

| Cities        | Butter                 | 1911           | 1912           |
|---------------|------------------------|----------------|----------------|
| Montreal..... | May 18 to July 10..... | 187,434 pkgs.  | 168,086 pkgs.  |
| New York..... | " " 8.....             | 585,682 "      | 614,206 "      |
| Chicago.....  | May 1 to July 6.....   | 780,755 "      | 646,014 "      |
| Boston.....   | " " 10.....            | 21,133,267 lb. | 22,696,429 lb. |

| Cities        | Cheese                | 1911          | 1912          |
|---------------|-----------------------|---------------|---------------|
| Montreal..... | May 1 to July 10..... | 590,888 boxes | 546,771 boxes |
| New York..... | " " 8.....            | 223,754 "     | 188,478 "     |
| Boston.....   | " " 10.....           | 51,607 "      | 54,961 "      |

According to the New York Produce Review the stocks of butter on July 1st in the four cities named were approximately as follows:

| Cities            | 1911    | 1912    |
|-------------------|---------|---------|
|                   | pkgs.   | pkgs.   |
| New York.....     | 166,870 | 162,400 |
| Chicago.....      | 333,330 | 241,700 |
| Boston.....       | 175,810 | 112,010 |
| Philadelphia..... | 44,000  | 55,700  |

The above figures indicate a shortage of 148,000 packages, but it is believed that this will be made up during the month of July.

Over 9,200 cows were recorded in the cow testing associations in May, and the average yield of butter fat per cow for May and June was 28 pounds, almost a pound per day. When it is ascertained through the cow testing associations that some herds gave on the average only 18 lb. per cow, while other herds gave on the average 42 and 44 lb. per cow, the immense value of fixing this individual responsibility is immediately apparent. Many cows after a few months' records prove to be returning no profit above the cost of feed. Others, often of unprepossessing appearance, turn out to be money makers. The average yield of a herd can be increased 2,500 lb. of milk per cow inside of two years if those that do not pay are weeded out. Between the two extremes noted above, 18 and 44 pounds of fat in one month, wide vistas of endeavour and herd improvement are opened up. It abundantly pays the farmer who keeps the cows to ascertain what each one is actually producing.

The prospects in Canada are for 67 p.c. of a full crop of apples. An average crop is reported from all the apple-bearing districts, British

Columbia orchards having practically a full crop. Pears will be below a medium crop for the whole Dominion and other fruits a medium crop, with the exception of strawberries and raspberries, which are decidedly short in Ontario.

Arrangements have been made by this Branch with the Canadian Pacific and Grand Trunk railway companies whereby the Department will pay the cost of icing up to \$5 per car on carload shipments of early apples and tender fruits consigned to Montreal and Quebec for export from August 1st to September 30th.

J. A. RUDDICK, Dairy and Cold Storage Commissioner.

Ottawa, July 13th.

**Seed Branch.** During June a survey was made of the clover producing districts north of Lake Ontario between Toronto and the Bay of Quinté, with the object of getting an estimate of the areas likely to be saved for seed production and to give as much information as possible to growers and seed dealers regarding the identification and eradication of weeds and the methods of preventing weed seeds from contaminating clover seed. The inspector reports that both red and alsike clover are much below the average, both in extent and quality, while alfalfa is a fine crop and increasing in acreage. Wild Mustard is the most widespread weed; it is growing in abundance over a large proportion of the district. Bladder Campion is abundant from Port Hope west, and Night-flowering Catchfly is very prevalent in the alsike districts of Victoria county and also in York and Ontario. White Cockle was found in great quantities east of Milbrook in Durham county. Ribgrass or Buckhorn was growing in abundance in York county, some of the roadsides being covered with it. Some of the clover sections are fairly free from this weed as yet. Wild Flax was abundant in Hastings and Prince Edward counties while Ox-eye Daisy was widespread, more or less of it being found almost everywhere. Sow Thistle was also noticeable in many clover fields. The season has been unusually favourable for weed growth, and seed crops will require special attention.

The trial plots of field root seeds started last year are being continued and enlarged upon this season. Samples of all the mangold, feeding sugar beet, carrot, swede and turnip seed catalogued or offered for sale by Canadian seed growers or importers were purchased and sown in duplicate rows, mostly by hand. The different varieties will be closely watched throughout the growing season for uniformity in vigour and habits of growth, and when harvested the roots will be cut and critically examined for colour and other characteristics. It is expected that when this work has been conducted for a few years definite information will be secured regarding trueness to type of the various strains and varieties and the differences, where they exist, between so-called varieties of the same type.

Competitions in standing fields of seed grain are being arranged by the provincial departments of agriculture this season with the assistance of a grant from the Seed Branch on the basis of a refund of two-thirds of the money paid out in prizes up to a limit of \$50 for each kind of crop, the total refund to any one agricultural society not to exceed \$150.



Under this arrangement the number of competitions is being largely increased in those provinces where they have been held before, and they are being started in new districts. In British Columbia the provincial department of agriculture, with the assistance of the Seed Branch representative, has arranged for several competitions in fields of clover and roots. This is the first season that competitions of this sort have been held in British Columbia, and it is hoped that they will be the means of encouraging the more extensive growing of clover and alfalfa, which would be a great benefit in many districts.

GEO. H. CLARK, Seed Commissioner.

Ottawa, July 13.

## CROP REPORTS FROM OTHER COUNTRIES.

**Great Britain.** The Board of Agriculture reports (July 1) that the results of the wet weather which has prevailed generally during the month may be on the whole described as beneficial: sufficient rain has however now fallen, and sunshine is wanted. Grain crops have in the more southern districts generally improved, but the wet seems to have affected them rather adversely in the northern half of the country. Wheat is generally healthy, but often a thin plant; on the whole it should nearly reach an average. Barley also can only be described as barely average: it would seem to be better in the north and west than in the great grain-growing counties of the east. Oats are very poor and are by far the worst of the cereals; many fields have failed and been ploughed up, while frit fly has caused much damage. Only in some districts in the north and southwest are good crops expected. Peas are better than beans, the former being about two per cent above average and the latter as much below. Summarising the returns and expressing an average crop by 100 the prospects on July 1 indicated probable yields in England and Wales which may be denoted by the following percentages: Wheat 99, barley 99, oats 90, beans 98, peas 102, potatoes 102, mangolds 101, seeds' hay 91, meadow hay 99, hops 100.

**Ireland.** The Irish Department of Agriculture reports (July 8) that the wheat crop which is now in blossom looks vigorous and healthy, more especially the spring sown fields. In some districts the crop was in full ear on June 24. Complaints regarding rust are few. Sunshine and heat would be of great service to the crop at this stage. Oats are generally regarded as promising to be the best cereal crop of the year, but are disappointingly light in some districts, especially on thin clay lands. The crop suffered from the constant cold rains of June, and on low-lying fields it has a scalded, unhealthy appearance. It will be much improved by the more genial weather at the shooting stage. The straw will be long. The crop may be from ten to fourteen days later in ripening than last season. Barley in common with other cereals requires heat, but the crop as a rule looks excellent and is coming into ear quickly. Potatoes grew vigorously during June, but it is considered that the damp, dark weather is accountable for the early appearance of blight. At the last week of the month the disease may be said to be general, except in some districts of the northern counties.

The flax crop made much improvement during the past month, and with warm, dry weather to follow is expected to prove a good crop in general. Fields on strong, rich land are stated to be of excellent promise: on other situations they are described as yellow and patchy. The area under flax this year, it is expected, will show a reduction on last season.

**India.** The Indian Trade Journal of May 30 gives the final general memorandum of the Indian Government upon the wheat crop for the season of 1911-12. It relates to 99.8 p.c. of the total reported area under wheat in India. The total area under wheat is returned as 30,386,800 acres, which is 103,000 acres or 0.9 p.c. below the revised figure for 1910-11, but 3,463,900 acres or 13 p.c. above the average of the preceding five years. The total outturn is estimated at 366,371,000 bushels as compared with 374,845,000 bushels for 1910-11, representing a decrease of 8,474,000 bushels or 2.3 p.c., but it exceeds the average of the preceding five years by 58,912,000 bushels or 19 p.c. The exports of wheat from India by sea were in bushels 50,817,000 for 1911-12, compared with 47,270,000 bushels in 1910-11.

In the final memorandum on spring oilseeds the total area under the unmixed crop is returned at 4,199,400 acres as against 3,101,300 acres in 1910-11, an increase of 35.4 p.c. As compared with the average of the preceding five years it shows an increase of 61.3 p.c. The area under the mixed crop is estimated at 747,000 acres, which is some 14 p.c. larger than last year and 45.6 p.c. above the quinquennial average. The total outturn (mixed and unmixed) is estimated at 25,648,000 bushels, as compared with 22,544,900 bushels last year, an increase of 13.8 p.c. Compared with the average of the preceding five years the present estimate is greater by 92.3 p.c. The exports of flaxseed by sea in 1911-12 were 20,581,000 bushels compared with 14,822,000 bushels in 1910-11.

**Victoria.** The Government Statist has issued (May 21) the following dairy statistics of the State of Victoria for the year 1911-12 compared with 1910-11:

| Description            | 1911-12    | 1910-11    |
|------------------------|------------|------------|
|                        | lb.        | lb.        |
| Butter—                |            |            |
| Made in factories..... | 81,267,119 | 65,063,516 |
| Made on farms.....     | 5,233,355  | 5,540,271  |
| Total.....             | 86,500,474 | 70,603,787 |
| Cheese—                |            |            |
| Made in factories..... | 3,047,261  | 2,707,630  |
| Made on farms.....     | 1,502,582  | 1,823,263  |
| Total.....             | 4,549,843  | 4,530,893  |
| Bacon—                 |            |            |
| Made in factories..... | 15,190,449 | 13,455,397 |
| Made on farms.....     | 4,356,323  | 2,983,440  |
| Total.....             | 19,546,772 | 16,438,837 |

The Victoria wool clip of 1911-12 is estimated at 110,463,041 lb. of the value of \$20,161,368.

**Germany.** The Imperial Statistical Bureau reports (June 6) that winter sown crops at the beginning of June were generally favourable except in the northwestern parts of the Empire where they suffered greatly from the effects of the winter. Spring sown crops, especially oats, have suffered from drouth and cold weather, but on the whole their condition is favourable. Recent warm weather and rains have favoured their growth. The average condition on June 1 expressed numerically was: Winter wheat 2·3 (2·5), spring wheat 2·3 (2·6), winter spelt 2·0 (2·5), winter rye 2·6 (2·7), spring rye 2·4 (2·5), barley 2·2 (2·4), oats 2·4 (2·6), potatoes 2·7 (2·6), clover 3·4 (2·9), alfalfa 2·8 (2·8), water meadows 2·2 (2·1), other meadows 2·7 (2·5). The figures within parentheses are those of June 1 1911, and the scale is 1 = very good, 2 = good, 3 = average, 4 = poor.

**Hungary.** The Hungarian Department of Agriculture reports (June 23) that the weather has been generally favourable and that cereals have developed perfectly, whilst hoed crops such as corn, potatoes, beetroot, etc., have profited even more. Grain on rich, heavy land has however become lodged. For wheat the forecast of yield is 172,703,000 bushels from 8,651,000 acres, a yield per acre of 19·95 bushels. The total yield last year, as finally determined, was 174,889,000 bushels. For rye the forecast is 55,533,000 bushels from 2,776,000 acres, a yield per acre of 20·43 bushels. The finally recorded total yield of 1911 was 50,369,000 bushels. The following statement shows the condition of barley and oats by counties according to a scale in which 1 = excellent, 2 = good, 3 = average, 4 = poor and 5 = bad:

| Crops        | Excellent<br>(1) | Good<br>(2)     | Average<br>(3)  | Poor<br>(4)     |
|--------------|------------------|-----------------|-----------------|-----------------|
|              | No. of counties  | No. of counties | No. of counties | No. of counties |
| Barley. .... | -                | 34              | 26              | 3               |
| Oats. ....   | 1                | 13              | 41              | 8               |

The harvesting and in some places the threshing of rapé has begun. A poor yield is expected. All other crops promise well.

**Norway.** H. M. Consul at Christiania reports (July 3) that the hay crops south of the Trondhjem district promise to be considerably above the average. The potato crop also promises well. Of the total imports of potatoes to Norway in 1910 (the most recent figures available), amounting to 12,172 tons, 10,826 tons came from Germany and 135 tons from the

United Kingdom. Out of 1,490 tons of apples and pears imported the same year 648 tons came from the United Kingdom and 500 tons from the United States, Canada appearing in the official statistics with only two tons and Australia with six tons.

**Sweden.** H. M. Consul at Stockholm reports (July 9) that although the first week of July is considered too early in Sweden for calculating very accurately the probable crops it is generally believed that the season will prove a good one for agriculturists. It is considered that throughout Sweden hay will give most satisfactory results, in some districts even excellent. The southern part of Sweden was visited by heavy rainfalls, but this does not appear to have caused any deterioration of the crops by excess, and in many parts the rain was very beneficial. Rye, wheat, oats and barley are about average, and in some districts are anticipated as good. Pears are better than apples owing to rain during the blossoming season of the apples. As a whole prospects at the end of June were better even than they were in May, when they were considered good; and this is especially the case in the central districts of Sweden.

**Russia.** H. M. Consul at St. Petersburg reports (June 24) that all information official and unofficial respecting the present condition of the winter and spring sowings and the harvest prospects of 1912 point to the probability of a good yield. From returns dated May 15/28 it is shown that only in 43 out of 604 districts in European Russia, constituting 7.1 p.c., were the winter crops "below the average". In 42 of these districts the crops were "approaching the average" and in one district only, that of the Archangel government, were they "bad". In the remaining districts, with the exception of 23 (3.8 p.c.) from which no returns had been received, the winter crops were "satisfactory" in 365 districts (60.4 p.c.) and "good" in 173 districts (28.7 p.c.). The condition of the spring crops which, owing to unfavourable climatic conditions, were sown very late was on May 15/28 described generally speaking as "satisfactory." Nine districts in the western and central zones of Russia, where cold weather and lack of rain made themselves especially felt, are excluded from this category; but the warmer weather since prevalent gives ground for hope. Owing to the late sowing the condition of the spring crops cannot be definitely determined in 229 (37.9 p.c.) districts. Of the remaining 375 districts the crops are "good" in 79 (13 p.c.) districts, are "satisfactory" in 225 (42.2 p.c.) districts, "approaching average" in 32 (5.3 p.c.) districts and "bad" in nine (1.5 p.c.) districts.

**Finland.** A report of the Finnish Agricultural Department for June 1912, communicated by the British Foreign Office, states that rye promises to give a good and early crop. Barley is also promising. The condition of the oat crop is good except in certain places in the southwest and north where worms have eaten the roots of the plants.

**United States.** The Crop Reporting Board of the U. S. Department of Agriculture issued on July 9 the following estimates of the areas under the principal crops:



| Crop               | Acres       | Per cent of 1911 | Crop                | Acres     | Per cent of 1911 |
|--------------------|-------------|------------------|---------------------|-----------|------------------|
| Winter wheat.....  | 25,744,000  | 88.3             | Barley .....        | 7,574,000 | 99.3             |
| Spring wheat ..... | 19,201,000  | 94.2             | White potatoes..... | 3,689,000 | 101.9            |
| All wheat.....     | 44,945,000  | 90.7             | Tobacco.....        | 1,194,200 | 117.9            |
| Corn .....         | 108,110,000 | 102.2            | Flax .....          | 2,992,000 | 108.5            |
| Oats .....         | 37,844,000  | 100.2            | Rice .....          | 710,000   | 102.0            |

The following table gives the indicated yields for 1912, with comparative figures of condition and yield. The indicated yield for 1912 is based upon the ratio of the average condition on July 1 to the final yield in the five years 1906-10.

| Crop                | Condition in per cent of normal |             |                   |             | Yield per acre    |            |                 | Total yield in millions of bushels |            |            |             |
|---------------------|---------------------------------|-------------|-------------------|-------------|-------------------|------------|-----------------|------------------------------------|------------|------------|-------------|
|                     | July 1 1912                     | July 1 1911 | ten year average  | June 1 1912 | 1912 <sup>1</sup> | 1911 final | average 1906-10 | 1912 <sup>1</sup>                  | 1911 final | 1910 final | 1909 census |
|                     | p. c.                           | p. c.       | p. c.             | p. c.       | bush.             | bush.      | bush.           | bush.                              | bush.      | bush.      | bush.       |
| Winter wheat.....   | 73.3                            | 76.8        | 80.2              | 74.3        | 13.9              | 14.8       | 15.5            | 358                                | 430        | 434        | 418         |
| Spring wheat.....   | 89.3                            | 73.8        | 85.6              | 95.8        | 14.1              | 9.4        | 13.4            | 271                                | 191        | 201        | 265         |
| All wheat.....      | 80.1                            | 75.6        | 82.8              | 83.5        | 14.0              | 12.5       | 14.6            | 629                                | 621        | 635        | 683         |
| Corn.....           | 81.5                            | 80.1        | 84.6              | 81.5        | 26.0              | 23.9       | 27.1            | 2,811                              | 2,531      | 2,886      | 2,552       |
| Oats .....          | 89.2                            | 68.8        | 84.8              | 91.1        | 30.1              | 24.4       | 28.4            | 1,139                              | 922        | 1,186      | 1,007       |
| Barley .....        | 88.3                            | 72.1        | 86.0              | 91.1        | 25.6              | 21.0       | 24.8            | 194                                | 160        | 174        | 173         |
| Rye .....           | 88.2                            | 85.0        | 89.9              | 87.7        | 16.0              | 15.6       | 16.3            | -                                  | 33         | 35         | 30          |
| White potatoes..... | 88.9                            | 76.0        | 89.3              | -           | 95.5              | 80.9       | 96.8            | 352                                | 293        | 349        | 389         |
| Flax.....           | 88.9                            | 80.9        | 87.0 <sup>2</sup> | -           | 9.4 <sup>4</sup>  | 7.0        | 8.7             | 28                                 | 19         | 13         | 20          |
| Rice .....          | 86.3                            | 87.7        | 88.1              | -           | 31.7              | 32.9       | 32.4            | 23                                 | 23         | 25         | -           |
|                     |                                 |             |                   |             | ton               | ton        | ton             | ton                                | tons       | tons       | tons        |
| Hay .....           | 85.2                            | 64.9        | 81.4 <sup>3</sup> | 89.8        | 1.40              | 1.10       | 1.41            | -                                  | 47         | 61         | -           |
|                     |                                 |             |                   |             | lb.               | lb.        | lb.             | lb.                                | lb.        | lb.        | lb.         |
| Tobacco.....        | 87.7                            | 72.6        | 84.6              | -           | 844.9             | 893.7      | 828.0           | 1,009                              | 905        | 1,103      | 1,056       |

<sup>1</sup> Interpreted from condition reports.

<sup>2</sup> Nine year average.

<sup>3</sup> Four year average.

<sup>4</sup> Based on average for 1905-09.

<sup>5</sup> Based on average for 1908-10.

**Year Book of the U. S. Department of Agriculture.** The usual bound volume for 1911 has been issued by the U. S. Department of Agriculture. In addition to the Report of the Secretary it contains 31 articles on various branches of practical and scientific agriculture, a statistical appendix and an index, the whole volume aggregating 730 pages, with 67 full page illustrations. From the Editor's preface we learn that 500,000 copies of this work are printed, and that of this number 470,000 copies are allotted by law to Members of Congress. The copies allotted to the Department of Agriculture are distributed principally to its voluntary correspondents, and miscellaneous applicants are therefore referred to Members of Congress. In the 18 years during which this year book has been issued 9,000,000 copies have been printed and distributed, principally to farmers in every section of the country.

## INTERNATIONAL INSTITUTE OF AGRICULTURE.

The Bulletin of agricultural statistics for June publishes the following information as received up to June 18, including the area that will probably be harvested, the condition on June 1 and, for a limited number of countries, an approximate estimate of the probable harvest of the chief cereals. Condition is expressed numerically by a percentage scale in which 100 represents the promise of a yield equal to the average yield of the past ten years, supposing the crop not to be subjected to the effects of any extraordinary phenomena up to the time of harvest.

## 1. Area and Condition of Cereals on June 1 1912.

| Countries               | Wheat                     |                          |             |            |             | Rye                       |                          |             |            |             |
|-------------------------|---------------------------|--------------------------|-------------|------------|-------------|---------------------------|--------------------------|-------------|------------|-------------|
|                         | area to be harvested 1912 | per cent of area of 1911 | condition   |            |             | area to be harvested 1912 | per cent of area of 1911 | condition   |            |             |
|                         |                           |                          | June 1 1912 | May 1 1912 | June 1 1911 |                           |                          | June 1 1912 | May 1 1912 | June 1 1911 |
|                         | 000 acres                 | p.c.                     | p.c.        | p.c.       | p.c.        | 000 acres                 | p.c.                     | p.c.        | p.c.       | p.c.        |
| Belgium (a)...          | 408                       | 110·0                    | 108         | 110        | 105         | 642                       | 102·0                    | 107         | 107        | 108         |
| " (b)...                | 4                         | 50·0                     | 107         | 108        | 105         | -                         | -                        | -           | -          | -           |
| Bulgaria....            | -                         | -                        | 100         | 100        | -           | -                         | -                        | 100         | 100        | -           |
| Denmark....             | 100                       | 100·0                    | 99          | 95         | 103         | 632                       | 100·0                    | 90          | 94         | 105         |
| Spain.....              | 9,582                     | 98·7                     | 85          | 100        | -           | 1,994                     | 100·3                    | 95          | 100        | -           |
| France.....             | 16,179                    | 104·1                    | -           | -          | -           | 2,998                     | 102·5                    | -           | -          | -           |
| Hungary....             | 8,651                     | 103·6                    | 105         | 110        | -           | 2,776                     | 103·2                    | 102         | 105        | -           |
| Croatia and Slavonia... | 754                       | 93·2                     | -           | 120        | -           | 173                       | -                        | -           | 120        | -           |
| Italy.....              | 11,738                    | 100·0                    | -           | -          | -           | 301                       | 99·8                     | -           | -          | -           |
| Luxemburg...            | 28                        | 101·7                    | 102         | 100        | 102         | 27                        | 102·5                    | 104         | 100        | 105         |
| Norway.....             | 12                        | 100·0                    | -           | -          | -           | 37                        | 100·0                    | -           | -          | -           |
| Netherlands.            | -                         | -                        | 106         | -          | -           | -                         | -                        | 111         | -          | -           |
| Rumania....             | 5,041                     | 105·7                    | 133         | 120        | 115         | 281                       | 86·1                     | 120         | 120        | 115         |
| Sweden.....             | -                         | -                        | 105         | -          | -           | -                         | -                        | 102         | -          | -           |
| Switzerland..           | 105                       | 100·0                    | 101         | 100        | 100         | 60                        | 100·0                    | 102         | 101        | 98          |
| Canada (a)...           | 781                       | 66·6                     | 86          | -          | -           | -                         | -                        | -           | -          | -           |
| " (b)...                | 9,145                     | 99·4                     | 101         | -          | -           | 138                       | 93·8                     | 98          | -          | -           |
| United States (a)       | 25,744                    | 88·3                     | 92          | 93         | 98          | -                         | -                        | -           | -          | -           |
| " (b)...                | 13,201                    | 94·2                     | 101         | -          | 101         | 2,436                     | 114·5                    | 98          | 98         | 98          |
| India.....              | 30,386                    | 99·7                     | -           | -          | -           | -                         | -                        | -           | -          | -           |
| Japan (a)...            | 1,196                     | 101·9                    | 108         | 100        | 105         | -                         | -                        | -           | -          | -           |
| " (b)...                | 52                        | 103·6                    | -           | -          | -           | -                         | -                        | -           | -          | -           |
| Algeria.....            | 3,372                     | 102·0                    | -           | 70         | -           | 2                         | 7·9                      | -           | 100        | -           |
| Egypt, Lower            | -                         | -                        | 107         | 115        | 127         | -                         | -                        | -           | -          | -           |
| " Upper                 | -                         | -                        | 125         | 115        | 117         | -                         | -                        | -           | -          | -           |
| Tunis.....              | 1,263                     | 101·2                    | 100         | 90         | 120         | -                         | -                        | -           | -          | -           |

a Winter sown. b Spring sown. <sup>2</sup> Not including Croatia and Slavonia. <sup>2</sup> 123 acres.

| Countries                    | Barley                               |                                   |                |               |                | Oats                                 |                                   |                |               |                |
|------------------------------|--------------------------------------|-----------------------------------|----------------|---------------|----------------|--------------------------------------|-----------------------------------|----------------|---------------|----------------|
|                              | area to<br>be har-<br>vested<br>1912 | per cent<br>of<br>area of<br>1911 | condition      |               |                | area to<br>be har-<br>vested<br>1912 | per cent<br>of<br>area of<br>1911 | condition      |               |                |
|                              |                                      |                                   | June 1<br>1912 | May 1<br>1912 | June 1<br>1911 |                                      |                                   | June 1<br>1912 | May 1<br>1912 | June 1<br>1911 |
|                              | 000<br>acres                         | p.c.                              | p.c.           | p.c.          | p.c.           | 000<br>acres                         | p.c.                              | p.c.           | p.c.          | p.c.           |
| Belgium.....                 | 82                                   | 98.6                              | 105            | 106           | 105            | 616                                  | 104.3                             | 105            | 105           | 105            |
| Bulgaria.....                | -                                    | -                                 | 100            | 100           | -              | -                                    | -                                 | 100            | 100           | -              |
| Denmark.....                 | 563                                  | 100.0                             | 100            | 100           | 99             | 971                                  | 100.0                             | 100            | 100           | 102            |
| Spain.....                   | 3,526                                | 101.3                             | 75             | 100           | -              | 1,230                                | 97.0                              | 75             | 100           | -              |
| France.....                  | 1,823                                | 98.3                              | -              | -             | -              | 9,654                                | 99.7                              | -              | -             | -              |
| Great Britain                | -                                    | 99.6                              | -              | -             | -              | -                                    | 100.4                             | -              | -             | -              |
| Hungary.....                 | 2,581                                | 96.7                              | 100            | 110           | -              | 2,436                                | 94.1                              | 100            | 110           | -              |
| Croatia and<br>Slavonia..... | 154                                  | 100.0                             | -              | 100           | -              | 222                                  | 92.1                              | -              | 100           | -              |
| Italy.....                   | 591                                  | 98.9                              | -              | -             | -              | 1,205                                | 97.2                              | -              | -             | -              |
| Luxemburg..                  | 2                                    | 111.8                             | 100            | 108           | 110            | 75                                   | 99.4                              | 95             | 100           | 101            |
| Norway.....                  | 87                                   | 100.0                             | -              | -             | -              | 256                                  | 100.0                             | -              | -             | -              |
| Nether-<br>lands (a)...      | -                                    | -                                 | 102            | -             | -              | -                                    | -                                 | 102            | -             | -              |
| " (b).....                   | -                                    | -                                 | 105            | -             | -              | -                                    | -                                 | -              | -             | -              |
| Roumania(a).                 | 88                                   | -                                 | 120            | 120           | 115            | -                                    | -                                 | 120            | 120           | 115            |
| Sweden.....                  | -                                    | -                                 | 118            | -             | -              | -                                    | -                                 | 118            | -             | -              |
| Switzerland                  | 12                                   | 100.0                             | 102            | -             | -              | 79                                   | 100.0                             | 100            | 100           | 99             |
| Canada.....                  | 1,394                                | 101.8                             | 98             | -             | -              | 9,254                                | 102.9                             | 98             | -             | -              |
| United States                | 7,389                                | 99.3                              | 100            | -             | 99             | 36,919                               | 100.2                             | 103            | -             | 97             |
| Japan.....                   | 3,047                                | 100.7                             | 113            | 100           | 110            | -                                    | -                                 | -              | -             | -              |
| Algeria.....                 | 3,082                                | 94.0                              | -              | 51            | -              | 494                                  | 113.0                             | -              | 78            | -              |
| Egypt (Lwr)                  | -                                    | -                                 | 100            | 110           | 120            | -                                    | -                                 | -              | -             | -              |
| " (Upper)                    | -                                    | -                                 | 120            | 100           | 112            | -                                    | -                                 | -              | -             | -              |
| Tunis.....                   | 1,075                                | 98.5                              | 75             | 80            | 110            | 121                                  | 100.0                             | 100            | 100           | -              |

a Winter sown. b Spring sown. <sup>1</sup> Not including Croatia and Slavonia.

## II. Area and approximate estimate of probable yield of Cereals 1912.

| Countries              | Area to be<br>harvested<br>1912 | Per cent<br>of area of<br>1911 | Estimate<br>of yield<br>1912 | Yield<br>of<br>1911 | Per cent<br>of yield of<br>1911 |
|------------------------|---------------------------------|--------------------------------|------------------------------|---------------------|---------------------------------|
|                        | 000<br>acres                    | p.c.                           | 000<br>bush.                 | 000<br>bush.        | p.c.                            |
| Wheat—                 |                                 |                                |                              |                     |                                 |
| Spain.....             | 9,582                           | 98.7                           | 117,373                      | 148,497             | 79.0                            |
| Luxemburg.....         | 23                              | 101.7                          | 654                          | 641                 | 102.0                           |
| United States (a)..... | 25,744                          | 88.3                           | 363,006                      | 430,063             | 84.3                            |
| India.....             | 30,386                          | 99.7                           | 366,371                      | 374,845             | 97.7                            |
| Japan (a).....         | 1,196                           | 101.9                          | 23,281                       | 23,937              | 97.3                            |
| " (b).....             | 52                              | 103.6                          | 1,172                        | 914                 | 128.3                           |
| Rye—                   |                                 |                                |                              |                     |                                 |
| Spain.....             | 1,994                           | 100.3                          | 27,959                       | 28,897              | 96.8                            |
| Luxemburg.....         | 27                              | 102.5                          | 680                          | 660                 | 103.0                           |
| Barley—                |                                 |                                |                              |                     |                                 |
| Spain.....             | 3,526                           | 101.3                          | 63,481                       | 86,793              | 73.1                            |
| Luxemburg.....         | 2                               | 111.8                          | 70                           | 69                  | 100.9                           |
| Japan.....             | 3,047                           | 100.7                          | 95,589                       | 95,037              | 100.6                           |
| Tunis.....             | 1,075                           | 98.5                           | 6,145                        | 9,416               | 65.3                            |
| Oats—                  |                                 |                                |                              |                     |                                 |
| Spain.....             | 1,230                           | 97.0                           | 23,028                       | 31,867              | 74.1                            |
| Luxemburg.....         | 75                              | 99.4                           | 3,237                        | 3,259               | 99.3                            |

a Winter sown. b Spring sown.

**FLAX.** The following are the areas under flax for the current year expressed in acres : Belgium 52,000, Spain 2,900, France 55,000, Italy 20,000, India 4,946,000, Algeria 62. For Spain the estimated production is 34,000 bushels of seed and 750 short tons of fibre. For India the estimated production of seed is 25,648,000 bushels, compared with 22,544,000 bushels in 1911, an increase of 13.8 p.c. In Ireland flax braids are reported as healthy, but being a fortnight or three weeks later sown than usual, the stalk is shorter than at this stage last year. Some low-lying fields were burnt by the night frosts of May, but are much improved since rain came. The condition of June 1 was average. In Hungary the crop has not yet been sown in the mountain regions, but in the rest of the country the seedlings are germinating very well. In Italy the condition on June 1 was good. In Japan the condition is bad. In Egypt the yield per acre is estimated at  $9\frac{1}{2}$  short cwt. for fibre and 4.9 bushels for seed.

**CROPS IN SOUTHERN HEMISPHERE.** In Chile preparatory work for autumn sowing is being done under bad conditions and later than usual. Abundant rains have also caused a delay in sowing, for which conditions are also unsatisfactory. In Australia preparatory work and winter sowing were done under average conditions, but rather later than usual. Weather conditions are favourable. The following table gives the latest figures of area and production of the cereal crops of New Zealand for 1911-12 compared with 1910-11:

| Crop      | 1911-12 | 1910-11 | Per cent<br>of<br>1910-11 | 1911-12    | 1910-11    | Per cent<br>of<br>1910-11 | 1911-12           | 1910-11           |
|-----------|---------|---------|---------------------------|------------|------------|---------------------------|-------------------|-------------------|
|           | acres   | acres   | p.c.                      | bush.      | bush.      | p.c.                      | bush.<br>per acre | bush.<br>per acre |
| Wheat...  | 216,000 | 322,000 | 66.9                      | 7,916,000  | 8,290,000  | 95.5                      | 36.73             | 25.72             |
| Barley... | 32,000  | 33,000  | 94.5                      | 1,306,000  | 966,000    | 135.2                     | 35.20             | 24.58             |
| Oats...   | 404,000 | 303,000 | 133.3                     | 22,678,000 | 11,607,000 | 194.4                     | 55.89             | 38.31             |
| Corn..... | 6,000   | 13,000  | 46.7                      | 278,000    | 570,000    | 48.7                      | 45.56             | 43.65             |

**HARVEST OF SERVIA, 1911.** The following table shows the final returns of 1911 compared with those of 1910:

| Crop               | 1911      | 1910      | Per cent<br>of<br>1910 | 1911       | 1910       | Per cent<br>of<br>1910 |
|--------------------|-----------|-----------|------------------------|------------|------------|------------------------|
|                    | acres     | acres     | p.c.                   | bush.      | bush.      | p.c.                   |
| Wheat.....         | 954,981   | 953,244   | 100.2                  | 15,312,000 | 12,784,000 | 119.8                  |
| Rye.....           | 123,271   | 124,818   | 98.8                   | 1,711,000  | 1,562,000  | 125.6                  |
| Winter barley..... | 254,702   | 266,027   | 95.7                   | 4,603,000  | 4,022,000  | 114.4                  |
| Oats.....          | 258,900   | 267,166   | 96.9                   | 4,753,000  | 4,679,000  | 116.5                  |
| Corn.....          | 1,443,257 | 1,440,196 | 100.2                  | 26,531,000 | 29,101,000 | 91.2                   |



LIVE STOCK IN LUXEMBURG, 1910.—A census of live stock taken on December 10 1910 shows the numbers of live stock in Luxembourg to be as follows: Horses 18,625, asses 29, cattle 94,183, sheep 5,580, swine 128,035, goats, 10,315. Since 1907 asses have increased by 2; all other descriptions show a decrease, largest in the case of sheep, 2,887, or 34.1 p.c.

### PROGRESS OF THE INSTITUTE.

In a pamphlet entitled "*Le Présent et l'Avenir de l'Institut International d'Agriculture*" M. Louis Dop, delegate of France and vice-president of the Institute, gives an interesting account of what has been accomplished by the Institute since its foundation by the diplomatic convention which was concluded between 40 countries on June 5 1905. Since this date ten other countries have adhered, and there is now therefore the truly remarkable fact that 50 countries of the world are bound together under formal treaty for a common end, viz., improvement of the conditions of agriculture throughout the world. As M. Dop puts it the Institute is a first practical and real effort on the part of official internationalism, and this without trenching upon the internal economy or sovereign powers of the adhering countries. Readers of the *Census Monthly* are familiar with the figures abstracted regularly from the Institute's Bulletin of agricultural statistics, which gives the areas, condition and yields of seven principal products (wheat, rye, oats, barley, maize, rice and cotton) and which by the use of index numbers enables the total production for each crop of all adhering countries to be at a glance compared with that of the previous year. A Bulletin of commercial statistics is now in course of preparation, and this for the same seven products will give information as to imports, exports, stocks and prices.

Without interfering with the legitimate work of the middleman, or seeking to take from merchants their due reward for services of distribution in space and time, the Institute, by the dissemination of exact knowledge, endeavours to combat as far as possible the action of organisations which profiting by false or imperfect information secure the temporary lowering or raising of prices in the world's principal markets. The Institute's mission is therefore to make known the agricultural conditions of the world as regards production, distribution and consumption, and to place farmers and producers generally upon a level equal with merchants and grain dealers.

As a direct consequence of the Institute's labours many of the adhering countries are either organising or reorganising their services for the collection of agricultural statistics, Canada being amongst the newer countries that have already modified existing arrangements or that contemplate further improvements to comply with international requirements.

There has also lately been published the official report of the Proceedings of the General Assembly of the Institute, held at Rome in May 1911, when Canada was represented by the Hon. A. Boyer and Mr. T. K. Doherty. The report is accompanied by volumes containing papers and monographs of the Bureau of General Statistics, the Bureau of Economic and Social Institutions and the Bureau of Agricultural Information and Plant Diseases. These contain a variety of valuable information relating to the world's

agriculture. We can mention here only one or two of the subjects dealt with. As previously indicated the Institute has in contemplation the issue of a monthly Bulletin of commercial statistics, the preparatory studies for which include (1) an exhaustive report of the Permanent Committee by His Excellency M. G. Zabiello, Russian delegate, and (2) a plan for the study of import and export statistics by Prof. Umberto Ricci, Chief of the General Statistical Service.

A volume which has particular interest for the western farmers of Canada, is devoted to insurance against hail and is intended to furnish materials in support of a proposed international agreement on this subject. This work, which is edited by Dr. Guiseppe Rocca, describes the losses caused by hail, the preventive measures employed and the organisation of hail insurance in Germany, Austria, France Hungary, Italy and Switzerland. The technical regulations governing hail insurance are also described, and finally the necessity is urged of statistical inquiries as to the frequency and amount of hail damage, encouragement of the work of agricultural associations in favour of hail insurance, and legislation unifying the system of control exercised over hail insurance societies by different countries. In a section dealing with the damage caused by hail it is stated that from 1872 to 1887 the damage from hail in Austria was estimated at 186,000,000 florins (\$88,280,000), an annual average of 12.4 million florins (\$5,952,000), while in France the average annual damage is estimated at above 100,000,000 francs (\$19,300,000).

As to the cause of hail storms scientific opinion, it is stated, differs; but the theory now prevalent is that the hot air mounting from the soil and brought into contact with high currents charged with moisture produces whirlwinds. Assuming the formation of a vacuum within these whirlwinds the temperature is lowered sufficiently to condense the water into small ice crystals. These borne away by the whirlwinds take the characteristic form of hailstones. The violence of hailstorms is said to depend upon the larger or smaller extent of forests, and it is stated that they are worse near hills or mountains. Where hailstorms increase in frequency the increase is believed to be due to the expansion of industries, and especially those that result in the deforestation of mountains. These industries facilitate the heating of the soil and throw masses of smoke and of solid particles into the air which later serve as centres of condensation.

**Canadian Seed Growers' Association.** A well prepared and well illustrated pamphlet of 64 pages has been issued by the Canadian Seed Growers' Association. It is edited by the Secretary (Mr. L. H. Newman) and gives complete information as to the Association's work, its objects, the general system of seed growing adopted, the process of the production and multiplication of "Elite Stock Seed", the registration of seed and the commercial handling of "registered seed", together with particulars of affiliation and the constitution, bye-laws and regulations of the Association. The pamphlet is filled with practical information of great value to all interested in the improvement of our agricultural crops by the use of the best seed.

## FRUIT PROSPECTS IN EUROPE.

We have received from the British Foreign Office through the High Commissioner for Canada the results of consular inquiries as to the prospects of the fruit crop in several European countries. In France there is generally speaking a great shortage in every kind of fruit for export, but more especially of plums, peaches and black currants. There will only be available for export to the United Kingdom this season, at most, one half of the ordinary available quantities in an average year for pears, cherries, apricots and apples; but for prunes, peaches and black currants there will only be available one third, if that, of the usual supplies, and their price will probably be about one-third higher than last year. Fruit prospects in Belgium are very meagre. It appears likely that the Belgian fruit crop this year will be unsatisfactory and the fruit poor in quality and restricted in quantity. The fruit crop in Holland is generally satisfactory. Plums form an exception as they were affected by night frosts at the time of blossoming. Peaches under glass are moderate on the whole: those in the open air are reported to be bad with the exception of the well-known district of Westland where the condition is from good to very good. It is probable that in Germany the crop of almost every kind of fruit will be small this year and considerably worse than in 1911. In the Berlin district it is expected that there will be a medium crop of apples and pears, a fairly small crop of stone fruit, a bad crop of all varieties of berries and a small crop of nuts. Considerable dissatisfaction existed amongst fruit growers with the prices obtained in 1911, and this year attempts are being made to fix a minimum price below which the growers will not sell. In Norway reports of the probable harvest of apples are somewhat discouraging, and the same applies more or less to pears. For cherries, plums and bush fruits the prospects are considerably better.

The Hungarian Agricultural Department reports (June 23) that for Hungary plums and pears show the best promise. Spring frosts injured other fruit trees and only an insignificant yield of peaches is looked for. Nuts also promise only a poor yield.

## DISPOSAL OF STRAW IN CANADA.

In connection with the inquiry into the cost of grain growing, the results of which were published in the Census and Statistics Monthly of March last, each correspondent was requested to state how straw and flax fibre were disposed of in his neighbourhood. The replies received in answer to this question have now been more carefully examined, and the following is a brief statement of the facts elicited.

Throughout the whole of eastern Canada grain straw is almost invariably consumed on the farm for fodder and litter and being thus eventually returned to the land in the form of manure aids in the maintenance of fertility. In Nova Scotia straw is sometimes baled and sold at \$5 per ton, the proceeds being invested in artificial fertilisers. Small quantities are

used for straw mattresses. In Ontario also straw is occasionally sold off the farm at prices which vary according to season and locality from \$5 or \$6 to \$8 or \$9 per ton. A correspondent at Peterborough reports that a few farmers sell their straw to the paper mill for the manufacture of wrapping paper.

In the Northwest provinces the wasteful practice of burning the straw is reported as everywhere prevalent. In Manitoba, in most cases, wheat straw is either all burnt or partly used as litter and the rest burnt. Farmers near enough to Winnipeg and other towns sell it for bedding purposes. Oat and barley straw is nearly all used for fodder. In Saskatchewan most of the oat and some of the barley straw is used as fodder, but wheat straw and flax fibre are burnt, except a small proportion that is used as litter. It is a practice with many farmers who have cattle to let the animals feed at the straw piles all the winter, the straw left over being burnt in the spring. In a few cases farmers use straw burners. A correspondent reports that straw in his district was either all fed to farmers' own stock or was sold to ranchers, generally at \$1 per load. Another correspondent asks, "Why does not an enterprising concern start a factory for making cardboard and packing paper from straw as in European countries?"

More live stock being kept in Alberta the straw in this province is largely used for fodder and litter; so that less is wasted by burning. As in Saskatchewan it is a common practice to allow cattle the run of the straw piles in the winter and to burn the surplus in the spring. In a few districts straw is sold to ranchers at prices quoted in one case as 25c. per load, buyer hauling, and in other cases at from 50c. to \$1 per load. A correspondent at Lamoureux states that baled straw is sold at \$5 per ton.

In British Columbia straw is mostly used as fodder and litter, but a quantity is baled and sold. A correspondent near Victoria reported straw as in great demand and the value as \$15 per ton.

Wherever mixed farming prevails the necessity for straw burning disappears. It has frequently been pointed out that the keeping of live stock provides an important additional source of revenue to supplement the sometimes precarious returns from grain growing, it gives winter occupation and enables the employment of permanent instead of casual labour, and last but not from the national point of view by no means least it secures the maintenance or increase of fertility through the necessary introduction of scientific rotations and the return to the land of manurial constituents by the use of straw as fodder and litter.

Whilst at present no economic use is made in the west of the fibre of flax grown for seed, in the province of Quebec, especially in the districts bordering upon both sides of the St. Lawrence, flax fibre is still made into linen by the ancient hand processes. Correspondents in Prince Edward Island and New Brunswick report the home industry of flax spinning as still in existence though only to a slight extent.



## CONTROL OF GRASSHOPPERS AND LOCUSTS.

By C. Gordon Hewitt, D. Sc., Dominion Entomologist, Ottawa.

In different parts of Canada many complaints are made of the serious destruction of crops by grasshoppers. The losses occasioned by the attacks of these pests, which losses are in some cases enormous, could be considerably reduced, if not prevented, were attempts made to control the insects at some stage of their life history. The following are the chief measures which have been found effectual. It should be pointed out that the failure of any one measure is no sign that it is universally ineffectual; the same measure may have different results when employed under different conditions, and the effectiveness of any one measure can only be tested by experiment.

**FALL PLOUGHING.** When grasshoppers have been abundant in a locality one of the most valuable control measures is to plough deeply in the fall or early spring. The female grasshoppers deposit their eggs in small bundles in the late summer or early fall, placing them about an inch or more below the surface. The eggs usually hatch in the following May. If the land is ploughed about six inches deep these packets of eggs will be buried to such a depth as to prevent emergence of the young "hoppers" in the following spring. If ploughing is impossible harrowing will do some good by breaking up the egg masses and exposing the eggs to adverse climatic conditions, birds, etc.

**POISONED BAITS.** The distribution of poisoned bait is the most effective and generally used remedial measure where grasshoppers are proving to be injurious. Advantage is taken of their fondness for certain substances, such as salt and horse droppings. Mr. Norman Criddle has devised a mixture, generally known as the "Criddle mixture," which has proved very successful in combating grasshoppers in Manitoba and other places. It is made of horse droppings which have been poisoned and slightly salted. The proportions used are as follows: horse droppings 100 lb., salt 2 lb., Paris green 1 lb. The horse droppings may be conveniently measured out in a three gallon pail, using five pailfuls to one pound of the Paris green; the salt may be dissolved in a pail of water. All the ingredients may be mixed up in a half barrel which is then drawn in a cart to the edge of the infested field or a field which is threatened by the grasshoppers. The mixture is scattered along the edge of the crop by means of a paddle or trowel. By scattering the mixture loosely among the standing grain the danger of poisoning stock and poultry is obviated. The most effective way of using this remedy is to spread a small quantity at a time every other day; this gives better results than distributing a large quantity less frequently. Bran may be substituted for the horse droppings, but of course it is more expensive. Mr. Criddle has found that sawdust is a cheap and usually effective substitute, if it is not possible to find a sufficient quantity of horse droppings; if sawdust is used the amount of salt should be increased.

**HOPPER-DOZERS.** The use of hopper-dozers is frequently resorted to and has been found effective in some regions in the destruction of grasshoppers in the various stages of their growth. A hopper-dozer consists of a long, shallow, iron pan mounted on runners and in most cases having a screen or sail of canvas at the back to prevent the grasshoppers leaping back over the pan. Water is placed in the pan and over the top of it a layer of kerosene or crude oil is poured as also on the screen at the back. A useful hopper-dozer may be made as follows. A sheet-iron pan is constructed 16 feet long, 18 to 20 inches wide from front to back and four inches deep, the interior being divided up by partitions into six or eight sections. This pan is mounted on 2-inch x 6-inch runners four feet long, projecting both from the front and back. Immediately in front of the pan one may with advantage fasten a board of 1-inch x 4-inch material on to the runners; this will strike the insects and make them leap into the pan which many might not do otherwise. At the back and ends of the pan a vertical sheet of canvas or sail cloth about two feet in height is fastened. This, with the addition of two short beams at each end, to which a whipple-tree is attached, completes the hopper-dozer. It is preferable to have the hauling attachment fastened to each end and to use two horses rather than to use a single horse attached to the middle of the hopper-dozer, as more grasshoppers will be caught. In the case of rough ground it may be preferable to have a shorter pan of eight or ten feet in length, or, what is better, to have the 16 foot hopper-dozer divided in the middle, making two eight-foot pans, which should be loosely attached to each other. To prepare for use water is placed in the pan and the canvas back is also wetted. Kerosene or crude oil is then poured on top of the water in the pan and the canvas is also drenched with it. The hopper-dozer is now dragged over the infested field and the grasshoppers jumping up in front of it are caught in the pans or against the canvas back and killed by contact with the kerosene.

A simple though less effective hopper-dozer may be made out of sheet iron. A piece eight feet long is turned up one or two inches at the front, and allowing a width of a foot is turned up about eighteen inches at the back; two ends are provided and one or two partitions made to prevent the water and oil slopping out. One, or several attached end to end, may be pulled along by boys by means of cords attached to the ends of the hopper-dozers.

## THE POPULATION OF CANADA.

Volume I of the Fifth Census of Canada, dated April 30 1912, shows the areas and population of the Dominion by provinces, districts and sub-districts according to the census of June 1 1911. It is a book of 623 8vo. pages, furnished with a general index and with a special index of names. The greater part of the volume is taken up with the first two tables, Table I giving areas and population and Table II the conjugal condition of the people by provinces, districts, and subdistricts. Table III repeats the conjugal condition by provinces and districts only and Table IV gives it by provinces only. Tables V to XIV give the comparative figures of the five Dominion censuses in respect of population, homes, families, cities, towns and villages, and Table XV shows the areas of Canadian lakes.

The total population, according to the finally revised figures, is 7,204,838, as compared with 5,371,315 in 1901, an increase of 1,833,523 or 34.13 p.c. At the first census of Canada in 1871 the total population numbered 3,689,257; so that the increase during the past 40 years is at the rate of 95.29 p.c. With a total area of 3,729,665 square miles the present density of population is 1.93 per square mile. Prince Edward Island has a density of 42.91, Nova Scotia of 22.98, New Brunswick of 12.61, Ontario of 9.67, Manitoba of 6.18 and Quebec of 5.69. The other three provinces are each below 2 per square mile. The male population of Canada is 3,821,067 and the female 3,383,771, so that the excess of the male population is in the ratio of 1.13 : 1 or 13 p.c. Families number 1,488,353, and this number divided into the total population gives an average of 4.8 persons per family.

Division of the population into urban and rural gives 3,280,444 of the former and 3,924,394 of the latter. The increase in the urban population is indeed one of the most striking facts revealed by the census. Whilst during the past decade the rural population has increased by 574,878, or 17.16 p.c., the increase of the urban population is 1,258,645 or at the rate of 62.25 p.c. Yet of the cities in Canada only four have over 100,000 inhabitants, these being Montreal (470,480), Toronto (376,538), Winnipeg (136,035) and Vancouver (100,401). Winnipeg has grown from 241 in 1871, 7,985 in 1881, 25,639 in 1891 and 42,340 in 1901 to 136,035 in 1911 and Vancouver from 13,709 in 1891 and 27,010 in 1901 to 100,401 in 1911.

## THE WEATHER DURING JUNE.

The Dominion Meteorological Office reports that the mean temperature for June exceeded the average from British Columbia to Manitoba, also over eastern parts of the Maritime provinces; elsewhere in Canada the values were subnormal. Excessive heat prevailed in the western provinces for a considerable period of the month, and positive departures from average of nearly 9° were noted in some districts. In Ontario and Quebec cool conditions predominated, with negative temperature departures of about 5° in many localities. Precipitation was deficient throughout Canada, except very locally in the central valleys of British Columbia and in southern parts of Vancouver Island and the lower mainland, where the normal amount was slightly exceeded; also very locally in Alberta, especially in the neighbourhood of Calgary, where the fall was considerably more than usual. The deficiency was particularly pronounced in Manitoba, where the fall was only a very small percentage of the normal.

## COLONIAL AND FOREIGN PRODUCE IN BRITISH MARKETS.

**Wheat, etc.** On June 24 the prices for imported wheats at Mark Lane per quarter of 496 lb. were as follows: Manitoba No 1 43s-43s 3d, No. 2 42s-42s 3d, No. 3 41s-41s 3d, No. 4 37s-37s 3d, No. 5 33s-33s 3d, No. 6 29s-29s 3d, feed 26s-26s 3d, Australian 41s 9d-42s, New Zealand 41d-41s 6d, Russian finest 42s-43s, good 41s-42s, com. 40s-41s, Californian 41s 6d-42s, Blue Stem 41s 3d-41s 9d, white Walla 40s 6d-40s 9d, red Walla 40s-40s 3d, white Bombay 42s 9d-43s 3d, white Calcutta 42s 3d-42s 9d, white Karachi 42s-42s 3d, red Karachi 41s 9d-42s, Bahia Blanca 40s-41s

Rosa Fé 39s-40s, Baruso 38s-39s. Canadian oats per 320 lb. 24s 6d-24s 9d. Split peas, per 504 lb., Canadian 45s-46s, Indian 50s-52s.

**Flour.** On June 24 the Mark Lane prices for imported flour per sack of 280 lb. were : Hungarian 37s 6d-38s, Iron Duke 27s 3d-57s 6d, American finest 31s 32s, 1st. pat. 30s-31s, 2nd pat. 29s-30s. 1st. bak. 27s-27s 3d, 2nd. bak. 26s-26s 3d, low grade 22s-22s 6d, Manitoba pat. 30s-30s 3d, straights 29s 3d-29s 6d, Kansas best 28s 6d-29s, firsts 28s-28s 3d, seconds 27s-27s 3d, Californian 31s-32s, Australian 27s 6d-28s 6d, French fine 32s 6d 33s, Belgian 31s 32s, Galatz 33s-35s.

**Fresh Meats.** The average official monthly prices in May were per 112 lb.: Canadian and U.S.A. port-killed, London 66s 6d and 64s; Liverpool 65s 6d and 62s 6d; Argentine frozen hind quarters, London 43s; Birmingham 42s; Liverpool and Manchester 41s; Edinburgh 40s 6d; Glasgow 43s 6d; fore quarters, London, Birmingham, Liverpool and Manchester 33s 6d, Edinburgh 34s; Glasgow 34s 6d; Argentine chilled hind quarters, London and Birmingham 52s 6d; Liverpool and Manchester 52s; Edinburgh 53s; Glasgow 54s; fore quarters, London 35s 6d; Birmingham and Edinburgh 36s 6d; Liverpool and Manchester 36s; Glasgow 38s 6d. Australian frozen hind quarters, London 41s 6d; Birmingham 40s; Liverpool and Manchester 38s 6d; Glasgow 41s; fore quarters, London 33s; Birmingham 32s 6d; Liverpool and Manchester 31s 6d; Glasgow 33s 6d. For the week ended June 26 the prices were : Canadian and U.S.A. port-killed, London 66s 6d and 64s 2d; Liverpool 58s 4d (second quality); Argentine frozen hind quarters, London, Leeds, Liverpool, Manchester, Dundee, Edinburgh and Glasgow 42s; Birmingham 40s 10d. Argentine chilled hind quarters, London 45s 6d; Birmingham and Leeds 44s 4d; Liverpool and Manchester 42s; Dundee and Edinburgh 47s 10d; Glasgow 49s. Australian frozen hind quarters, London 40s 10d; Birmingham, Liverpool, Manchester and Glasgow 39s 8d.

**Bacon and Hams.** The average official prices in May for Canadian bacon per 112 lb. were: London, 70s and 67s; Bristol 69s 6d and 67s; Liverpool 68s and 65s; Glasgow 69s 6d and 67s 6d. For American long cut hams the prices were: London 69s and 67s; Bristol 65s and 62s; Liverpool 67s and 62s; Glasgow 67s and 66s. For the week ended June 26 the prices for bacon were: Canadian sides, London and Glasgow 67s and 65s; Bristol 68s and 65s; Liverpool 65s and 62s; Canadian Cumberland cuts, Liverpool 67s and 64s; Glasgow 66s and 64s; Danish sides, London 73s and 70s; Bristol 72s and 68s; Liverpool 72s and 67s; Canadian long cut green hams, London 82s and 78s; Bristol 80s and 76s; Liverpool 79s and 73s; Glasgow 72s and 70s. American long cut green hams, London 75s and 72s; Bristol 66s and 61s; Liverpool 64s 6d and 60s; Glasgow 63s. American short cut green hams, London 62s and 59s; Bristol 60s and 58s; Liverpool 59s 6d and 56s 6d; Glasgow 58s and 56s.

**Cheese.** The average prices in May for Canadian cheese per 112 lb. were: London 76s and 74s; Bristol 75s 6d and 74s; Liverpool 72s and 70s 6d; Glasgow 64s 6d. For the week ended June 26 the prices were: Canadian, London 68s and 67s; Bristol 66s 6d and 64s; Liverpool 64s 6d and 63s 6d; Glasgow 66s; New Zealand, London 72s and 71s; Bristol 74s and 73s Glasgow 73s.



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PUBLISHED BY AUTHORITY OF HONOURABLE GEORGE E. FOSTER, MINISTER OF TRADE AND COMMERCE. CORRESPONDENCE RELATING TO THE CENSUS AND STATISTICS MONTHLY SHOULD BE ADDRESSED TO ARCHIBALD BLUE, CHIEF OFFICER OF THE CENSUS AND STATISTICS OFFICE, DEPARTMENT OF TRADE AND COMMERCE, OTTAWA, CANADA.

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## FIELD CROPS IN CANADA.

Report for the month ended July 31 1912.

Good rains which fell generally throughout Canada during July have improved the outlook, and on July 31 the condition of all grain crops was favourable, with the exception of fall wheat in Ontario and in Alberta, where this crop never fully recovered from the effects of the exceptionally severe winter. Fall sown wheat represents however only a comparatively small proportion, viz., 7 p.c., of the total area under wheat. The condition of spring wheat is 83 p.c. of the standard for the whole of Canada; it is above 90 in the two extreme provinces of Prince Edward Island and British Columbia and between 80 and 90 in each of the other provinces, except in Ontario, where it is just below 80, and in Quebec, where it falls to 70. Oats, barley, rye, mixed grains and flaxseed are all marked above 80 for Canada as a whole, and for each province except Quebec the range is between 80 and 90 and in certain cases even above 90. In Quebec the condition is lower, being between 70 and 80. Buckwheat in the Maritime provinces shows over 85; but in Ontario and Quebec the averages for this crop are respectively 75 and 73. Corn for husking is 70.37 and for fodder 73.19 for Canada, the condition being comparatively low in Ontario and Quebec, owing to the cold and wet weather of the early part of the summer.

The condition of potatoes, turnips, mangolds and other root crops is generally excellent, the figures being above 80 for Canada and either approaching or exceeding 90 in the Northwest provinces and in British Columbia. Only in Quebec are the prospects unfavourable, the condition being little above 70. Hay and clover crops are excellent upon the whole, Quebec being again the exception. The condition is especially high in the Northwest provinces and in British Columbia. Sugar beets are given as 77.17 in Ontario and 86.50 in Alberta.

The Canadian crop situation at the end of July may therefore be summarised as generally favourable, giving neither the exceptionally favourable promise of this time last year nor the equally exceptionally unfavourable promise of the year before. In Quebec the condition of all crops is below that of the other eight provinces.

A preliminary estimate of the yield per acre of fall wheat is 21.48 bushels as the average for the total effective area of 781,000 acres in the five provinces of Ontario, Manitoba, Saskatchewan, Alberta and British Columbia. This indicates a total yield of 16,773,300 bushels as compared with the final figures of 1911, viz., 26,014,000 bushels from 1,172,119 acres. The average yield per acre of hay and clover is placed at 1.45 ton, giving upon an area of 7,633,600 acres a total production of 11,036,000 tons. Alfalfa, with an average yield per acre of 1.59 ton, shows an estimated total production of 177,300 tons from 111,300 acres. The final estimates of 1911 gave 12,694,000 tons hay and clover and 227,900 tons alfalfa.

Census and Statistics Office  
Ottawa, August 15.

ARCHIBALD BLUE  
Chief Officer.

### I. Comparative Condition of Field Crops, 1910-12.

| Field crops           | Per cent of standard condition, July 31 |       |        | Field crops           | Per cent of standard condition, July 31 |       |        |
|-----------------------|---|-------|--------|-----------------------|---|-------|--------|
|                       | 1912                                    | 1911  | 1910   |                       | 1912                                    | 1911  | 1910   |
| Canada—               | p.c.                                    | p.c.  | p.c.   | Nova Scotia—          | p.c.                                    | p.c.  | p.c.   |
| Fall wheat.....       | 69.70                                   | 77.44 | 84.63  | Spring wheat.....     | 85.67                                   | 85.39 | 98.98  |
| Spring wheat.....     | 83.07                                   | 90.00 | 77.05  | Oats.....             | 83.34                                   | 86.20 | 100.12 |
| Oats.....             | 81.11                                   | 88.20 | 79.57  | Barley.....           | 85.78                                   | 84.16 | 95.11  |
| Barley.....           | 83.02                                   | 87.67 | 79.62  | Rye.....              | 87.11                                   | 75.61 | 95.58  |
| Rye.....              | 83.53                                   | 83.77 | 85.20  | Peas.....             | 87.02                                   | 83.15 | 92.82  |
| Peas.....             | 75.99                                   | 77.90 | 81.70  | Beans.....            | 86.56                                   | 86.00 | 92.36  |
| Beans.....            | 79.27                                   | 84.70 | 84.43  | Buckwheat.....        | 87.97                                   | 83.14 | 95.33  |
| Buckwheat.....        | 77.49                                   | 81.85 | 87.64  | Mixed grains.....     | 86.81                                   | 83.55 | 99.17  |
| Mixed grains.....     | 82.64                                   | 86.06 | 99.91  | Flax.....             | 88.33                                   | 85.00 | 81.25  |
| Flax.....             | 86.28                                   | 91.03 | 71.97  | Corn for husking..... | 90.00                                   | 86.59 | 96.59  |
| Corn for husking..... | 70.37                                   | 85.98 | 84.30  | Potatoes.....         | 90.59                                   | 89.01 | 91.58  |
| Potatoes.....         | 87.32                                   | 85.64 | 81.02  | Turnips.....          | 81.94                                   | 80.29 | 97.33  |
| Turnips.....          | 82.25                                   | 81.71 | 81.59  | Mangolds, etc.....    | 80.16                                   | 75.73 | 95.81  |
| Mangolds, etc.....    | 81.36                                   | 81.25 | 85.79  | Hay and clover.....   | 82.09                                   | 73.81 | 113.04 |
| Hay and clover.....   | 83.00                                   | 83.37 | 90.87  | Alfalfa.....          | 80.00                                   | 78.90 | 98.18  |
| Alfalfa.....          | 83.99                                   | 80.36 | 87.98  | Corn for fodder.....  | 84.33                                   | 78.69 | 96.95  |
| Corn for fodder.....  | 73.19                                   | 87.16 | 89.76  | Sugar beets.....      | 80.53                                   | 76.03 | 94.87  |
| Sugar beets.....      | 80.60                                   | 79.03 | 84.36  | Pasture.....          | 83.06                                   | 72.60 | 107.22 |
| Pasture.....          | 84.10                                   | 79.61 | 80.43  |                       |   |       |        |
| P. E. Island—         |   |       |        | New Brunswick—        |   |       |        |
| Spring wheat.....     | 94.73                                   | 94.98 | 94.06  | Spring wheat.....     | 82.59                                   | 93.84 | 91.92  |
| Oats.....             | 91.55                                   | 88.29 | 98.60  | Oats.....             | 82.38                                   | 94.46 | 97.80  |
| Barley.....           | 92.35                                   | 89.96 | 96.22  | Barley.....           | 79.75                                   | 90.95 | 90.69  |
| Peas.....             | 80.35                                   | 60.50 | 94.06  | Rye.....              | 86.00                                   | 95.00 | 90.00  |
| Beans.....            | 80.00                                   | 82.50 | 90.08  | Peas.....             | 83.33                                   | 86.74 | 89.03  |
| Buckwheat.....        | 89.00                                   | 86.17 | 91.34  | Beans.....            | 85.38                                   | 90.92 | 84.86  |
| Mixed grains.....     | 95.18                                   | 91.25 | 100.14 | Buckwheat.....        | 87.54                                   | 90.11 | 92.08  |
| Flax.....             | 91.87                                   | 83.92 | 88.00  | Mixed grains.....     | 85.93                                   | 93.40 | 95.96  |
| Potatoes.....         | 94.18                                   | 96.37 | 87.40  | Corn for husking..... | 76.36                                   | 87.50 | 76.66  |
| Turnips.....          | 80.00                                   | 84.18 | 98.69  | Potatoes.....         | 82.23                                   | 96.03 | 89.33  |
| Mangolds, etc.....    | 79.27                                   | 83.00 | 96.35  | Turnips.....          | 81.72                                   | 94.80 | 96.79  |
| Hay and clover.....   | 69.47                                   | 63.18 | 112.01 | Mangolds, etc.....    | 81.79                                   | 89.31 | 91.69  |
| Corn for fodder.....  | 83.61                                   | 89.70 | 85.44  | Hay and clover.....   | 88.91                                   | 83.76 | 115.00 |
| Sugar beets.....      | 74.87                                   | 75.69 | 94.53  | Corn for fodder.....  | 80.00                                   | 92.76 | 86.97  |
| Pasture.....          | 84.73                                   | 64.41 | 103.16 | Sugar beets.....      | 81.10                                   | 85.20 | 89.58  |
|                       |   |       |        | Pasture.....          | 91.91                                   | 85.94 | 106.71 |

## I. Comparative Condition of Field Crops, 1910-12—con.

| Field crops           | Percent of standard condition, July 31 |       |        | Field crops          | Percent of standard condition, July 31 |        |        |
|-----------------------|--|-------|--------|----------------------|--|--------|--------|
|                       | 1912                                   | 1911  | 1910   |                      | 1912                                   | 1911   | 1910   |
| Quebec—               | p.c.                                   | p.c.  | p.c.   | Manitoba—con.        | p.c.                                   | p.c.   | p.c.   |
| Spring wheat.....     | 73.59                                  | 89.17 | 90.92  | Sugar beets.....     | 88.75                                  | 92.63  | 59.77  |
| Oats.....             | 70.23                                  | 90.21 | 94.27  | Pasture.....         | 92.03                                  | 91.41  | 57.77  |
| Barley.....           | 75.60                                  | 88.20 | 90.72  | Saskatchewan—        |  |        |        |
| Rye.....              | 77.31                                  | 83.57 | 88.79  | Fall wheat.....      | 83.95                                  | -      | -      |
| Peas.....             | 70.92                                  | 82.69 | 83.38  | Spring wheat.....    | 85.84                                  | 94.76  | 68.25  |
| Beans.....            | 73.87                                  | 80.65 | 85.66  | Oats.....            | 82.28                                  | 92.30  | 62.76  |
| Buckwheat.....        | 72.82                                  | 84.84 | 88.22  | Barley.....          | 87.21                                  | 92.21  | 68.24  |
| Mixed grains.....     | 76.08                                  | 85.42 | 93.24  | Rye.....             | 91.87                                  | 95.00  | 76.38  |
| Flax.....             | 77.51                                  | 83.43 | 81.37  | Peas.....            | 88.26                                  | 96.82  | 82.32  |
| Corn for husking..... | 69.47                                  | 86.65 | 82.85  | Beans.....           | 94.29                                  | 94.68  | 73.43  |
| Potatoes.....         | 73.90                                  | 81.79 | 86.76  | Mixed grains.....    | 91.38                                  | 93.13  | 80.50  |
| Turnips.....          | 74.56                                  | 82.80 | 86.12  | Flax.....            | 90.93                                  | 97.69  | 64.39  |
| Mangolds, etc.....    | 72.99                                  | 81.36 | 87.52  | Potatoes.....        | 94.29                                  | 92.21  | 76.73  |
| Hay and clover.....   | 78.32                                  | 90.22 | 103.00 | Turnips.....         | 90.59                                  | 93.14  | 74.55  |
| Alfalfa.....          | 77.40                                  | 85.20 | 87.44  | Mangolds, etc.....   | 91.72                                  | 91.24  | 76.31  |
| Corn for fodder.....  | 67.58                                  | 88.82 | 87.62  | Hay and clover.....  | 88.67                                  | 96.40  | 58.64  |
| Sugar beets.....      | 73.11                                  | 86.34 | 82.49  | Alfalfa.....         | 85.38                                  | 94.90  | 71.42  |
| Pasture.....          | 72.90                                  | 78.95 | 91.97  | Corn for fodder..... | 83.00                                  | 83.10  | 83.61  |
| Ontario—              |  |       |        | Sugar beets.....     | 91.05                                  | 93.05  | 69.30  |
| Fall wheat.....       | 67.18                                  | 73.93 | 92.22  | Pasture.....         | 93.89                                  | 94.00  | 67.21  |
| Spring wheat.....     | 79.93                                  | 80.06 | 84.71  | Alberta—             |  |        |        |
| Oats.....             | 82.23                                  | 78.93 | 87.09  | Fall wheat.....      | 70.78                                  | 84.50  | 63.04  |
| Barley.....           | 81.05                                  | 79.34 | 85.20  | Spring wheat.....    | 90.73                                  | 96.61  | 56.70  |
| Rye.....              | 81.46                                  | 79.29 | 85.18  | Oats.....            | 84.30                                  | 97.13  | 53.02  |
| Peas.....             | 74.44                                  | 70.35 | 77.87  | Barley.....          | 88.04                                  | 103.13 | 63.86  |
| Beans.....            | 81.45                                  | 81.79 | 82.29  | Rye.....             | 92.65                                  | 94.21  | 72.00  |
| Buckwheat.....        | 74.87                                  | 73.87 | 81.74  | Peas.....            | 83.19                                  | 98.07  | 71.05  |
| Mixed grains.....     | 84.22                                  | 84.23 | 89.13  | Beans.....           | 80.29                                  | 92.14  | 67.50  |
| Flax.....             | 84.40                                  | 85.29 | 83.99  | Mixed grains.....    | 89.73                                  | 92.88  | 79.97  |
| Corn for husking..... | 68.53                                  | 84.74 | 87.64  | Flax.....            | 86.32                                  | 94.20  | 67.78  |
| Potatoes.....         | 85.58                                  | 73.27 | 83.22  | Potatoes.....        | 93.71                                  | 96.70  | 69.49  |
| Turnips.....          | 78.73                                  | 68.61 | 73.91  | Turnips.....         | 90.70                                  | 95.40  | 74.25  |
| Mangolds, etc.....    | 80.74                                  | 77.02 | 87.23  | Mangolds, etc.....   | 87.33                                  | 82.51  | 70.80  |
| Hay and clover.....   | 82.09                                  | 74.91 | 94.62  | Hay and clover.....  | 99.78                                  | 93.56  | 47.83  |
| Alfalfa.....          | 84.39                                  | 74.37 | 94.22  | Alfalfa.....         | 81.31                                  | 89.25  | 55.50  |
| Corn for fodder.....  | 72.69                                  | 85.81 | 96.05  | Corn for fodder..... | 91.60                                  | 91.25  | 51.11  |
| Sugar beets.....      | 79.63                                  | 87.15 | 88.18  | Sugar beets.....     | 86.50                                  | 81.90  | 70.72  |
| Pasture.....          | 77.17                                  | 63.72 | 77.13  | Pasture.....         | 96.23                                  | 100.77 | 58.68  |
| Manitoba—             |  |       |        | British Columbia—    |  |        |        |
| Fall wheat.....       | 86.00                                  | -     | -      | Fall wheat.....      | 93.50                                  | 85.50  | 82.64  |
| Spring wheat.....     | 82.17                                  | 89.93 | 56.24  | Spring wheat.....    | 95.15                                  | 85.58  | 83.21  |
| Oats.....             | 84.73                                  | 89.64 | 56.53  | Oats.....            | 99.64                                  | 88.96  | 82.25  |
| Barley.....           | 84.50                                  | 86.88 | 56.49  | Barley.....          | 95.83                                  | 87.22  | 75.55  |
| Rye.....              | 95.00                                  | 97.33 | 70.33  | Rye.....             | 86.25                                  | 91.66  | 88.00  |
| Peas.....             | -                                      | 88.75 | 59.41  | Peas.....            | 91.25                                  | 87.85  | 76.25  |
| Beans.....            | -                                      | 90.00 | 58.18  | Mixed grains.....    | 95.00                                  | 95.33  | 89.16  |
| Mixed grains.....     | 77.00                                  | 93.33 | 54.25  | Potatoes.....        | 97.14                                  | 86.66  | 82.88  |
| Flax.....             | 82.45                                  | 88.50 | 53.53  | Turnips.....         | 88.13                                  | 88.75  | 79.28  |
| Potatoes.....         | 93.11                                  | 92.83 | 66.66  | Mangolds, etc.....   | 92.56                                  | 88.05  | 80.88  |
| Turnips.....          | 88.58                                  | 88.88 | 64.32  | Hay and clover.....  | 96.32                                  | 88.93  | 81.56  |
| Mangolds, etc.....    | 91.31                                  | 91.75 | 65.94  | Alfalfa.....         | 105.00                                 | 90.83  | 76.66  |
| Hay and clover.....   | 80.49                                  | 90.45 | 53.52  | Sugar beets.....     | 100.00                                 | 71.25  | 100.00 |
| Alfalfa.....          | 84.05                                  | 91.11 | 64.75  | Pasture.....         | 101.33                                 | 84.23  | 65.66  |
| Corn for fodder.....  | 80.90                                  | 93.24 | 60.84  |                      |  |        |        |

**II. Area and preliminary estimate of yield of Fall Wheat, 1912.**

| Provinces                 | Area    | Yield per acre | Total yield |
|---------------------------|---------|----------------|-------------|
|                           | acres   | bush.          | bush.       |
| Ontario. . . . .          | 561,000 | 20 34          | 11,411,000  |
| Manitoba. . . . .         | 3,100   | 25 06          | 77,600      |
| Saskatchewan. . . . .     | 53,000  | 24 78          | 1,313,000   |
| Alberta. . . . .          | 161,000 | 24 09          | 3,878,400   |
| British Columbia. . . . . | 2,900   | 32 20          | 93,300      |
| Total. . . . .            | 781,000 | 21 48          | 16,773,300  |

**III. Area and preliminary estimate of yield of Hay and Clover and Alfalfa, 1912.**

| Provinces               | Area      | Yield per acre | Total yield |
|-------------------------|-----------|----------------|-------------|
|                         | acres     | tons           | tons        |
| Canada—                 |           |                |             |
| Hay and clover. . . . . | 7,633,600 | 1 45           | 11,036,100  |
| Alfalfa. . . . .        | 111,300   | 1 59           | 177,300     |
| Prince Edward Island—   |           |                |             |
| Hay and clover. . . . . | 188,000   | 1 17           | 219,900     |
| Alfalfa. . . . .        | 30        | 1 00           | 30          |
| Nova Scotia—            |           |                |             |
| Hay and clover. . . . . | 478,000   | 1 56           | 745,600     |
| Alfalfa. . . . .        | 30        | 1 25           | 37          |
| New Brunswick—          |           |                |             |
| Hay and clover. . . . . | 558,000   | 1 46           | 814,700     |
| Alfalfa. . . . .        | 140       | 2 00           | 280         |
| Quebec—                 |           |                |             |
| Hay and clover. . . . . | 2,750,000 | 1 37           | 3,767,500   |
| Alfalfa. . . . .        | 10,000    | 1 64           | 16,400      |
| Ontario—                |           |                |             |
| Hay and clover. . . . . | 3,240,000 | 1 48           | 4,795,000   |
| Alfalfa. . . . .        | 85,000    | 1 58           | 134,300     |
| Manitoba—               |           |                |             |
| Hay and clover. . . . . | 141,000   | 1 42           | 200,200     |
| Alfalfa. . . . .        | 2,900     | 1 63           | 4,700       |
| Saskatchewan—           |           |                |             |
| Hay and clover. . . . . | 20,600    | 1 84           | 37,900      |
| Alfalfa. . . . .        | 1,100     | 1 92           | 2,100       |
| Alberta—                |           |                |             |
| Hay and clover. . . . . | 174,000   | 1 56           | 271,400     |
| Alfalfa. . . . .        | 8,350     | 1 58           | 13,100      |
| British Columbia—       |           |                |             |
| Hay and clover. . . . . | 84,000    | 2 19           | 183,900     |
| Alfalfa. . . . .        | 3,800     | 1 70           | 6,400       |

**Prizes for Powder Spraying Machines.** At the Royal Agricultural Show at Bristol next year prizes of £10 and £5 will be offered for hand-power machines for applying dry insecticides or fungicides in powder form to bushes and trees.



## INTERPRETATION OF CROP REPORTS.

In the following statement the figures representing the average standard condition on July 31, 1912, have been converted into the percentage of a condition according to the scale in which 100 represents an average yield per acre equal to that of the four years 1908-11. It is assumed that the conditions between the end of July and the time of harvest will be equal to the average conditions of the same period for the four years 1908-11.

| Crop                  | Average standard condition July 31 1908-11 | Average yield per acre 1908-11 | Standard condition July 31 1912 | Anticipated yield per acre 1912 | Condition (100=average yield per acre 1908-11) |
|-----------------------|--|--------------------------------|---------------------------------|---------------------------------|--|
|                       | p. c.                                      | bush.                          | p. c.                           | bush.                           | p. c.  |
| Spring wheat.....     | 82.90                                      | 18.48                          | 83.07                           | 18.52                           | 100  |
| Rye.....              | 83.26                                      | 18.32                          | 83.53                           | 18.38                           | 100  |
| Barley.....           | 83.36                                      | 27.44                          | 83.02                           | 27.33                           | 100  |
| Oats.....             | 84.03                                      | 35.11                          | 81.11                           | 33.89                           | 96   |
| Flaxseed.....         | 81.80                                      | 10.83                          | 86.28                           | 11.42                           | 105  |
| Corn for husking..... | 84.48                                      | 58.41                          | 70.37                           | 48.65                           | 83   |
| Corn for fodder.....  | 88.32                                      | 9.97 tons                      | 73.19                           | 8.26                            | 83   |

Compared with June 30, 1912, the per cent condition in relation to the average yield of the four years 1908-11 has receded by 2 points spring wheat and by 1 point rye; barley has advanced from 99 to 100 and oats remain as last month, viz 96. On the same date last year spring wheat was 114 rye 101, barley and oats 108, corn for husking 103 and corn for fodder 98.

## NOTES OF REPORTS FROM THE PROVINCES.

**Maritime Provinces.** In Prince Edward Island heavy rains during the latter part of July interfered with the gathering of hay, much of which has been badly spoilt. The crop too was short owing to the effects of last summer's drouth. The condition of the grain crops continues to be very favourable. In Nova Scotia a long drouth in June and July retarded growth. Heavy rains which followed interfered with the hay harvest, but greatly improved other crops. The hay harvest in New Brunswick is abundant but very late, only a small proportion having been cut at the end of July.

**Quebec.** In this province the crops have never recovered from the ill effects of the cold and wet spring; they were put in late and a long period of drouth followed the excessive rains of May and June. On the whole therefore the crop prospect in the province of Quebec at the end of July was distinctly unfavourable, though in some places much needed rains were, though late, beginning to effect a slight improvement. A cor-

respondent near Quebec city writes : "At the present time one may state that the harvest in general in the district of Quebec will be the poorest for 25 years." Our correspondent at Mont Carmel, Kamouraska, writes : "A quarter of the grain did not come up owing to drowning out ; only the Marquis wheat resisted the wet, for it is in perfect condition. I strongly recommend this variety of wheat to farmers in the east of the province of Quebec."

**Ontario.** Conditions vary so greatly throughout this province this season that it is difficult to make any true generalisations. One may state however that the effects of the abnormally cold and wet spring continue to be felt and that harvesting of the grain crops will be later than usual. As a rule the fall wheat is poor ; yet there are notable exceptions. This crop is decidedly worst in southwestern Ontario and the Essex peninsula, where correspondents frequently report losses of 50 p.c. and over through winter killing. Root crops are generally good, and there are many reports of good hay and clover crops both as to quantity and quality. A correspondent at Glengarry, in eastern Ontario, states that noxious weeds such as the ox-daisy, mustard, quackgrass and thistles are getting very numerous in the neighbourhood, and he wonders whether strict means could be taken to make farmers more careful to prevent such weeds. Another correspondent, in North Wentworth, remarks as a pleasing feature the disappearance of the potato bug, and states that some attribute this to the work of a parasitic insect. Mr. E. Terrill, our correspondent at Wooler, Northumberland, states that Prof. Barton of the Macdonald College and himself acted as judges for the interprovincial farm prize competition for Ontario and Quebec, and they had therefore recently toured over a large portion of the two provinces paying particular attention to the condition of the crops. They estimated the grain, hay and corn at about two-thirds of a full crop, potatoes and turnips at a full crop and mangolds at a two-thirds crop. They noted also that the condition of the crops varied very much, as in some localities it was excellent, in others poor.

**Northwest Provinces.** In Manitoba crops are late owing to the dry, hot weather of June ; but an abundance of rain fell in July, and with favourable weather there may yet be full crops. Unless the autumn is rather later than usual wheat and barley may suffer from frost. Hail has done damage in some districts. In Saskatchewan drouth in June caused the crops to be later than usual, but an abundant rainfall in July has improved the condition wonderfully. If the wet weather continues however it is feared that the grain will not ripen before frost comes. In some places the wild hay in the sloughs is flooded. In many districts gophers have done much damage. In Alberta the drouth of June made crops late. The moist, cool weather in July has improved conditions, though it has delayed breaking and summer fallowing. From all quarters come complaints of gophers.

**British Columbia.** Rain damaged hay and alfalfa somewhat, but improved the pastures. Everything promises a full crop. Fruit prospects are favourable.

## DEPARTMENTAL NOTES.

**Experimental Farms and Stations:** At the Central Farm, Ottawa, the readings of the thermometer during July average lower than for the corresponding period in 1911—the highest temperature being 95·8, the lowest 45·6 and the mean 69·03, compared with extremes of 97·8 and 48 and a mean of 71·46 a year ago. The month opened however with a very warm spell, which continued for the unusual period of ten days. The rainfall totals 3·89 inches and the bright sunshine averages 10·08 hours a day, compared with a precipitation of 2·79 inches and a daily average of 10·53 hours of sunshine in July 1911.

In this immediate neighbourhood, crops generally, and especially roots and potatoes, have made good progress during the month. The warm weather of the early part of it, while it lasted, caused a noticeable improvement in the growth of Indian corn at the Experimental Farm, but since it turned cool development has been slower. Haying was finished early in the month, the yield averaging about 2½ tons per acre.

The live stock and field work, heretofore under the Dominion Agriculturist, was from the 1st of July divided, Mr. E. S. Archibald, from the Agricultural College, Truro, N.S., being appointed Dominion Animal Husbandman. The other new office, that of Dominion Field Husbandman, has not yet been filled; but Mr. O. C. White, who for the past two years has been Assistant to the Agriculturist, has been named Assistant Field Husbandman. In the Division of Animal Husbandry the herd of dairy cattle has been considerably augmented and a milking machine is being given a thorough trial.

J. A. Clark, Superintendent of the Station at Charlottetown, P.E.I., reports: "The first half of July was warm, with occasional showers. On the 10th a temperature of 91·5 was reached. The closing ten days of the month have been extremely wet, causing great loss to the hay crop. Very little hay was saved in good shape during the month and large quantities have been practically ruined owing to the very excessive rainfall of 6·83 inches. The grain crops at the Station are very promising, and, although rust and joint-worm have injured the wheat somewhat, and loose smut is very prevalent, yields are likely to be good. Oats and barley are heading out well and the yields promise to be above the average of the past few years. Pastures have thickened up well, resulting in an increased flow of milk for the cheese factories. A series of farmers' excursions to this Station has been held and others are planned for the period immediately after haying."

Robert Robertson, Superintendent of the Farm at Nappan, N.S., reports: "The weather during July has been in turn very cold and very wet, being consistently dry until the 22nd with rain on every day afterwards until the 31st, 6·2 inches of precipitation being recorded from the 22nd to the 25th. Seeding was unusually late, owing to the cold, wet weather of June, this followed by three weeks of extreme drouth caused rather poor growth in the case of root crops, which, particularly mangels, also suffered a good deal from cutworms. Very little haying had been done up to the commencement of the wet spell and none has been done since. Much of the season's hoeing

remains still to be done. Grain crops are in fairly good condition. Hay has been growing well all through the month and is ripening fast."

G. A. Langelier, Superintendent of the Station at Cap Rouge, Que., reports: "July has been very dry, and as the latter part of June was also dry, all vegetation suffered very much in this district. Last year 3.46 inches of rain were recorded during the month, which is nearly four times as much as this year. The oat crop, which is practically the only one grown here amongst the cereals, will not be more than half an ordinary one. On account of the continuous rainy weather from May 15 to June 15 the grain was all put in late, and as there has been practically no rain since, growth has been poor. There is no doubt that the new meadows will be patchy next year and the crop of clover poor to bad. Potatoes and roots have also been badly hurt by the drouth, while corn missed in many spots, because the ground was packed hard by the rain when it was worked, and, as it was getting late, farmers hurried and did not prepare a good seed bed. To sum up it can be said that this is one of the worst years in the last twenty-five for the farmers of this district. Haying is not finished yet in this section, although by the 20th it was all in at the Experimental Station, where there was a very good crop."

W. C. McKillican, Superintendent of the Farm at Brandon, Man., reports: "July opened with dry weather, and this following the extreme drouth of June, crop prospects up to about the 5th were not very promising. However the drouth broke at this time and the remainder of the month has been wet. The effect has been marvellous and now there is every prospect of a good crop. The late crops, which appeared to be almost a failure at the beginning of the month, are now the heaviest. On the other hand the wet spell has made haying and the cultivation of summer fallows rather difficult, and as a result this work is not as far advanced as usual. At the time of writing (July 31) wheat and barley are beginning to turn colour, and from appearances cutting is likely to commence from the 10th to the 15th of August."

Angus Mackay, Superintendent of the Farm at Indian Head, Sask., reports: "July has been favourable for grain but not for hay. The month's rainfall of 3.42 inches has resulted in a very noticeable improvement in all late grain, both in the growth of straw and length of head. Hail did some injury in the district, several farmers losing heavily from this cause. So far little or no rust has appeared, and, as the grain is well advanced in all cases but the very late crops, danger from this source is not very great. The crops on the Experimental Farm, with the exception of a field of oats on stubble land, are very promising, for, while the straw is less than last year, grain of all kinds is more advanced and better filled. The barley and one of the varieties of wheat are ripening fast. The hay crop was secured during July, but repeated rains gave extra work in saving it. The work on the Experimental Farm during the month has included cultivating fallows, hoeing weeds and picking mixed grain."

Wm. A. Munro, Superintendent of the Station at Rosthern, Sask., reports: "July has been unusually wet, cool and cloudy, the abundance of moisture counteracting the drouth of early June. The growth of crops is rank in almost every case except wheat that was sown on summer fallow.



With three weeks of bright weather there does not seem to be anything likely to interfere with a bountiful harvest. Haying was done during the month under unfavourable circumstances, there being no spell sufficiently dry to afford an opportunity of properly curing the crop. As a consequence a considerable quantity was spoiled. The hay harvested includes rye grass and alfalfa. One two-acre plot of rye grass yielded within a few pounds of three tons to the acre. The grain at the Experimental Station is all headed out, one plot of barley, "Early Indian", was ripe on the 24th. This is a new variety recently introduced from India; but unfortunately its yield cannot be accurately estimated this year owing to its being partially destroyed by the crows."

R. E. Everest, Superintendent of the Station at Scott, Sask., reports: "The weather during July has been on the whole wet and warm, rain falling on seventeen different days. Crops throughout the district are looking well, this being particularly so of those on summer fallow and breaking. The main work engaging the attention of farmers generally in this section has been the cultivation of summer fallows and haying. On the Experimental Station "Early Indian" barley was cut on the 29th. Field grain, grain in plots, vegetables and flower borders are all looking well, growth throughout the month being excellent. Work at the Station has consisted in part of hoeing, haying and preparing summer fallows. The horses are in hard-working condition, while the two foals are making quite satisfactory progress."

G. H. Hutton, Superintendent of the Station at Lacombe, Alta., reports: "The first twenty days of July were exceptionally wet, and the precipitation for the month totals 5.29 inches, which is greater than any previous July since records have been kept here. The closing days of the month have been warm and dry, making it possible to begin haying and also hastening maturity of grain crops. The earlier varieties of oats and barley will be ready for harvesting within ten days. The hay crop will be fair to good; but the first cutting of alfalfa, though producing a good yield, has been almost completely destroyed by the continued rains of the first part of the month. The crop of small fruits, particularly of black, red and white currants and of strawberries, has been heavy and the quality first class. The annual excursion to this Station was run on the 29th, the visitors numbering between 700 and 800."

W. H. Fairfield, Superintendent of the Station at Lethbridge, Alta., reports: "Rain was quite frequent from the 1st to the 22nd of July, precipitation being experienced on fifteen different days during that period. This wet weather interfered with haying operations, but it insured the filling of all the early grain and materially improved the late grain. The drouth of May and early June damaged winter wheat and early-sown spring wheat; but the rains during July have brought on the late-sown stuff, which would now be generally very fair were it not for the fact that during the dry weather, just after it was sown, it did not germinate well and so is uneven and late. Flax throughout is in excellent condition and promises to be a heavy crop. Two excursions were run to the Experimental Station, each by a special train, one on the 22nd from Medicine Hat and the other from Calgary on the 23rd, there being in all between 400 and 500 visitors.

All the winter wheat on the non-irrigated part of the Station and a few plots of barley have been cut. The warm weather during the last ten days of the month had a tendency to ripen the grain rapidly."

P. H. Moore, Superintendent of the Farm at Agassiz, B.C., reports: "July has been rather dark and cool on the whole; but the weather has been very changeable. The second crop of hay came along in good shape and cutting was commenced before the end of the month; it is of excellent quality and quite equal in weight to the first cutting. Grain ripened up quickly during the latter half of the month, and on the last two days harvesting was commenced. Work on the Farm during the early part of July consisted mainly of singling roots and hoeing and cultivating roots and corn. The painting of the buildings has all been finished, the appearance of the barns, etc., being very much improved. The new laying house for the poultry is well under way, the exterior being nearly completed. Stock are doing very well. The cows are out on pasture and in excellent condition. The horses, when not working, are also out on pasture, and are in good shape for the extra harvest work. Pigs are all in good condition, the young litters that are huddled out growing rapidly. The sheep and poultry are thriving, the sheep being on rough pasture and very fat. There have been upwards of three hundred visitors to the Experimental Farm during the month, all of them evidencing a great deal of interest in the work."

The records of temperature, precipitation and sunshine at the several Experimental Farms and Stations for the month of July are given in the following table:

**Meteorological Record for July 1912.**

| Experimental Farm<br>or Station at— | Degrees of temperature, F. |        |       | Precipitation<br>in<br>inches | Hours of sunshine |        |
|-------------------------------------|----------------------------|--------|-------|-------------------------------|-------------------|--------|
|                                     | highest                    | lowest | mean  |                               | possible          | actual |
| Ottawa, Ont. ....                   | 95.8                       | 45.6   | 69.03 | 3.89                          | 473               | 312.5  |
| Charlottetown, P. E. I. ....        | 91.5                       | 39.0   | 64.90 | 6.83                          | 476               | 195.8  |
| Nappan, N. S. ....                  | 92.0                       | 40.0   | 63.61 | 6.62                          | 474               | 1      |
| Cap Rouge, Que. ....                | 92.0                       | 44.2   | 66.81 | .92                           | 479               | 224.7  |
| Brandon, Man. ....                  | 97.8                       | 36.0   | 63.10 | 6.46                          | 491               | 166.3  |
| Indian Head, Sask. ....             | 90.0                       | 39.0   | 60.29 | 3.42                          | 494               | 141.2  |
| Rosthern, Sask. ....                | 76.0                       | 38.0   | 57.70 | 5.25                          | 507               | 164.9  |
| Scott, Sask. ....                   | 88.0                       | 34.2   | 58.00 | 6.16                          | 505               | 183.5  |
| Lacombe, Alta. ....                 | 78.5                       | 30.4   | 56.66 | 5.29                          | 505               | 177.1  |
| Lethbridge, Alta. ....              | 86.6                       | 36.0   | 58.57 | 2.78                          | 491               | 250.6  |
| Agassiz, B. C. ....                 | 89.0                       | 43.0   | 63.26 | 5.09                          | 489               | 165.9  |

<sup>1</sup> Not available.

J. H. GRISDALE, Director Experimental Farms.

Ottawa, August 13.

**Seed Branch.** During July the district officers of the Seed Branch were engaged in inspecting the seed plots and fields of the members of the Canadian Seed Growers' Association and in assisting the provincial departments of Agriculture in organising and conducting field crop competitions in British Columbia, Quebec and the Maritime provinces. Reports of the inspection work are very incomplete as yet and the indications are

that the production of high class registered seed will again be much below the demand.

During the summer months seed testing in the laboratories is very light, although more samples than usual have been received this season. Seed testing work has increased very rapidly during the last few years, and it promises to be heavier than ever before when this year's crop is harvested. For the guidance of seed merchants and farmers a circular has been prepared giving the main points to be observed in sending samples for test and interpreting the reports. The following are some of the principal points to which this circular, when issued, will draw attention :

**DESPATCH OF SAMPLES.** Samples should be addressed to either the Seed Commissioner, Department of Agriculture, Ottawa, where samples will be carried free of postage ; or, for the west of Canada, to the Seed Laboratory, Department of Agriculture, Calgary, Alberta, where all samples sent must have postage prepaid. Manilla paper or cotton bags should be used for sending samples of seed by mail. Glass bottles or cardboard boxes are apt to be broken in the mails. All samples should be marked by the sender with (a) his name and address, (b) a distinguishing number, letter or other mark, (c) the word or words "purity" "grade" or "germination" according to the information desired. During the busy season germination tests may not be made of timothy, clovers, and cereal seeds unless there is reason to suspect that they are deficient in percentage vitality. When referring to the analysis of any sample by letter always quote the laboratory test number. Make letters short and to the point. Information regarding any test is available only for the person who submitted the sample.

**NATURE OF SAMPLES.** For purity and grading the size of the samples should be for timothy, alsike and seeds of like size, 1 oz. ; for red clover and seeds of like size, 2 oz. and for cereal grains, 1 lb. For official analyses under the provisions of the Seed Control Act twice these quantities should be sent in sealed packets. For germination test smaller quantities of seeds will suffice.

The analysis of a sample is worthless and often misleading unless the bulk lot from which it is taken is thoroughly uniform in quality. First prove the uniformity of the bulk lot by drawing samples from the top, middle, and bottom of a number of sacks, measure or weigh out a small quantity of the seeds from each sample and count the number of the most prevalent foreign seed in each measured quantity. If the samples drawn prove to be reasonably uniform mix them together to make a composite sample for purity analysis and grading. Reports on purity and grading are seldom delayed more than two days from the time when the samples are received. Germination tests require from ten to twenty-eight days according to the kind of seed. When the first test shows a wide variation between duplicate samples used for check test the report is not issued until a re-test is made.

**ISSUE OF REPORTS ON SAMPLES.** The reports on tests of purity include the following information :

- (a) the kind of seed ;
- (b) the laboratory test number ;
- (c) the sender's designation ;

- (d) the number of noxious weed seeds per ounce;
- (e) the total number of all kinds of weed seeds per ounce;
- (f) the grade of timothy, red clover, alsike or alfalfa;
- (g) the name and number per ounce of all noxious weed seeds and the principal kinds of other impurities;
- (h) the principal kinds of seeds of other cultivated plants and their relative proportions in the sample.

Reports are also marked "Sample too small for official grading" when the size of the sample does not permit of a check test. This is often needed, especially when the sample proves to be close to the line between two grades; "Not No. 1 (or other grade) on account of general quality," when a sample will grade No. 1 in point of purity, but is inferior to that grade in point of general cleanliness, dead seed, hulled timothy or other quality; "Must be labelled with the name of the noxious weed seeds present," when cereal and other seeds are required to be so labelled if exposed for sale under the provisions of section 6 of the Seed Control Act 1911.

**SEED CONTROL ACT.** The maximum number of weed seeds per ounce permitted in the different grades of timothy, red clover, alfalfa and alsike is as follows:

| Kind of seed    | Extra No. 1        |                  | No. 1              |                  | No. 2              |                  | No. 3              |                  |
|-----------------|--------------------|------------------|--------------------|------------------|--------------------|------------------|--------------------|------------------|
|                 | noxious weed seeds | total weed seeds | noxious weed seeds | total weed seeds | noxious weed seeds | total weed seeds | noxious weed seeds | total weed seeds |
| Timothy.....    | -                  | 30               | 5                  | 100              | 20                 | 200              | 80                 | 400              |
| Red clover..... | -                  | 30               | 5                  | 100              | 20                 | 200              | 80                 | 400              |
| Alfalfa.....    | -                  | 30               | 5                  | 100              | 20                 | 200              | 80                 | 400              |
| Alsike.....     | -                  | 30               | 10                 | 100              | 40                 | 200              | 160                | 400              |

The standards for general quality, as defined by the Act for each of the grades of timothy, red clover, alfalfa and alsike, may not be made permanent during the first few years of the operation of the amended Act of 1911. They are arrived at in the month of November, or as soon as the seed crop for the year is available in bulk quantities. Then composite standard samples are prepared in bulk quantities to represent the minimum quality for each grade of each of the four kinds of seeds. The grading of samples sent in for that purpose is thereafter arrived at by carefully comparing them with the standard samples. The standard samples are available for seed merchants who operate a seed cleaning plant.

Variation between purity tests of seed taken from the same bulk lot cannot be avoided, even with the best possible equipment, for bulking grass and clover seeds. When the purity test of any bulk lot of seed shows that in point of weed seeds the sample taken to represent the bulk lot is near the line between two grades, the merchant is assuming considerable risk if he marks all of the bulk lot with the higher grade. Even with efficient bulking a margin of at least ten per cent should be allowed for natural variation in the proportion of weed seeds, and seed merchants who are held responsible for the accuracy of the grades marked by them are expected to make reasonable allowance for such natural variation.



The certificate test number of the sample originally tested and graded should be given with samples sent in for re-test and grading by retail seed vendors or farmers. This enables the seed analyst to compare the original with the re-test sample and if the two samples are found to be identical in every particular and the variation in proportion of weed seeds is not unreasonable, the grading of the original sample is confirmed on the certificate for the retail sample, although the details of its analysis may show the presence of weed seeds slightly in excess of the number fixed in the Act for that grade.

The information given in a germination test report includes :

- (a) the kind of seed ;
- (b) the laboratory test number ;
- (c) the sender's designation ;
- (d) the preliminary test or proportion of the seeds that germinated during the first few days ;
- (e) the final test or total number of seeds that germinated.

A high preliminary test usually indicates strong vital energy. Some kinds of seeds, as clovers, turnips, radish and others, have an impervious seed coat when freshly harvested and are slow to germinate for that reason.

The report, where necessary, also comments on the condition or value of the seed for sowing.

GEO. H. CLARK, Seed Commissioner.

Ottawa, August 15.

## CROP REPORTS FROM OTHER COUNTRIES.

**England and Wales.** The Board of Agriculture reports (August 1) that wet and stormy weather during July over the greater part of the country seriously delayed the hay harvest, and laid the grain in many counties. Warmer weather and sunshine are now much desired for all crops, as well as for the grain harvest, which had generally started in the southern half of the country. The estimates for the yield of wheat have undergone a slight reduction on the month, but not amounting to more than one point, the present figure being about 2 p.c. below average. Barley is reported as somewhat improved throughout the country and now promises to be the best of the cereals. Oats still remain a very poor crop, as indicated in last month's report, and the yield is estimated to be nearly 10 p.c. short of an average for England and Wales as a whole. Satisfactory yields of oats are being obtained only in the extreme north and southeast and in central Wales. Beans have not done well during July owing to lack of sunshine, and the estimates for this crop have been lowered. Peas have apparently suffered from the wet weather to an even greater extent. The excessively wet weather has proved detrimental to the potato crop, especially in Lincolnshire, where disease is widespread. In other parts of the country the attacks are not as yet so severe as in Lincolnshire ; but sunshine is badly needed to save the crop from further injury. Estimates of the yield show a reduction of 2 p.c., but an average yield was considered to be probable for the country as a whole. Summarising the reports and representing an average crop by 100 the appearance of the crops on August 1 indicates yields for England and Wales which

may be represented by the following percentages : Wheat 98, barley 102, oats 91, beans 97, peas 99, potatoes 100, mangolds 104, "Seeds" hay 92 meadow hay 102, hops 100.

**Scotland.** The first monthly agricultural report of the new Board of Agriculture for Scotland (July 1) states that in all districts of Scotland, almost without exception, the grain crops are in a highly flourishing condition. The greater part of the wheat crop is estimated at about 5 p. c. above the average.

**France.** The crop reports of the French Department of Agriculture, published for cereals on July 9 and for other crops on July 10, showing their condition on July 1, are less favourable than those published for the 1st May. Wheat, for instance, for which on May 1 the word "good" was applied to 8,352,500 acres out of the 15,539,700 acres sown, had on July 1 the description "good" applied to only 4,549,700 acres of the total. A similar falling off is noticeable in respect of other cereals, excepting spring barley, the general condition of which has improved. The Journal d'Agriculture Pratique of August 1 and 8 reports a renewal of the vagaries which have characterised the present season. Violent storms over a great part of the country have interfered with the harvesting whilst in full operation, or have lodged those crops already standing. Seasonable, that is to say, dry and warm weather, is ardently desired. Hoed crops, potatoes, sugar beet, etc., have nearly everywhere a vigorous appearance.

**Holland.** H. M. Consul at Rotterdam transmits (July 13) the following statement by the Dutch Department of Agriculture as to the areas under field crops in 1912 compared with 1911 and 1910 :

| Crops           | 1912    | 1911    | 1910    | Crops          | 1912    | 1911    | 1910    |
|-----------------|---------|---------|---------|----------------|---------|---------|---------|
|                 | acres   | acres   | acres   |                | acres   | acres   | acres   |
| Winter wheat..  | 134,000 | 132,000 | 119,000 | Oats.....      | 339,000 | 341,000 | 348,000 |
| Spring wheat..  | 9,000   | 10,000  | 16,000  | Buckwheat...   | 29,000  | 32,000  | 35,000  |
| All wheat..     | 143,000 | 142,000 | 135,000 | Beans.....     | 59,000  | 63,000  | 66,000  |
| Winter rye....  | 577,000 | 552,000 | 544,000 | Peas.....      | 64,000  | 55,000  | 55,000  |
| Spring rye....  | 6,000   | 5,000   | 5,000   | Flax.....      | 37,000  | 39,000  | 29,000  |
| All rye....     | 583,000 | 557,000 | 549,000 | Potatoes....   | 416,000 | 411,000 | 401,000 |
| Winter barley.. | 53,000  | 55,000  | 51,000  | Sugar beets... | 155,000 | 132,000 | 139,000 |
| Spring barley.. | 15,000  | 14,000  | 19,000  |                |         |         |         |
| All barley.     | 68,000  | 69,000  | 70,000  |                |         |         |         |

The rainfall in June and the warm, dry weather of July have had a beneficial influence on the condition of most cereals. The meadows are in splendid condition and hay is generally abundant. Cereals promise an excellent yield and sugar beets and potatoes are developing satisfactorily. Flax on the whole is likewise well developed.

**Germany.** The Imperial Statistical Bureau reported (July 8) that the weather of June was generally favourable to crop development. Autumn sown wheat showed thin owing to the effects of the winter, and was somewhat badly infested with weeds. Spring sown grains have developed well in the moist weather, and a fairly good yield of oats is anticipated. Potatoes have only improved slightly during the month. The first cut of hay

and clover was not very satisfactory owing to the poor condition of the fields through drouth and cold; but the second cutting promises to be more satisfactory. The numerical condition of the crops is expressed as follows for the present season and for July 1 1911:

| Crops                   | Jul.<br>1<br>1912 | Jun<br>1<br>1912 | May<br>1<br>1912 | Apr<br>1<br>1912 | Jul.<br>1<br>1911 | Crops                      | Jul.<br>1<br>1912 | Jun<br>1<br>1912 | May<br>1<br>1912 | Jul.<br>1<br>1911 |
|-------------------------|-------------------|------------------|------------------|------------------|-------------------|----------------------------|-------------------|------------------|------------------|-------------------|
| Winter wheat . . . .    | 2.3               | 2.3              | 2.5              | 2.3              | 2.6               | Oats . . . . .             | 2.5               | 2.4              | -                | 2.9               |
| Spring wheat . . . .    | 2.2               | 2.3              | -                | -                | 3.0               | Potatoes . . . . .         | 2.6               | 2.7              | -                | 2.5               |
| Winter spelt . . . . .  | 2.0               | 2.0              | 2.0              | 1.9              | 2.4               | Grasses and clover . . . . | 3.2               | 3.4              | 3.5              | 3.1               |
| Winter rye . . . . .    | 2.4               | 2.6              | 2.6              | 2.2              | 2.7               | Alfalfa . . . . .          | 2.5               | 2.8              | 2.9              | 2.8               |
| Spring rye . . . . .    | 2.3               | 2.4              | -                | -                | 2.7               | Water meadows . . . . .    | 2.0               | 2.2              | 2.5              | 2.2               |
| Spring barley . . . . . | 2.1               | 2.2              | -                | -                | 2.5               | Other meadows . . . . .    | 2.3               | 2.7              | 3.0              | 2.8               |

Scale 1=very good, 2=good, 3=average, 4=poor.

**Austria.** The Austrian Department of Agriculture reported at the beginning of July that normal weather was generally experienced in June. Wheat is satisfactorily long in the straw, the ears have developed normally and the grains are well filled. Heavy rainfalls have however caused lodging, especially on the better soils, and rust is frequently reported. Rye is less lodged, the amount of rust is less, and the straw, except on the lighter soils, is long. Barley and oats have come on well, but are thin, short and weed-grown on the lighter soils. Corn looks well owing to warm, moist weather. Potatoes show a fresh, sound haulm and are in flower, though on the lowlands they have suffered from too much wet. The harvesting of hay and clover, almost ended, was greatly hindered by wet weather, and the quality of the hay will be inferior. Pastures have greatly benefited from the rain. The following statement shows the condition of the principal crops at the beginning of July expressed numerically:

| Crops            | July<br>1<br>1912 | June<br>1<br>1912 | July<br>15<br>1911 | July<br>15<br>1910 | Crops                | July<br>1<br>1912 | June<br>1<br>1912 | July<br>15<br>1911 | July<br>15<br>1910 |
|------------------|-------------------|-------------------|--------------------|--------------------|----------------------|-------------------|-------------------|--------------------|--------------------|
| Wheat . . . . .  | 2.1               | 2.1               | 2.7                | 2.5                | Potatoes . . . . .   | 2.3               | 2.5               | 2.4                | 2.3                |
| Rye . . . . .    | 2.1               | 2.3               | 2.7                | 2.3                | Sugar beet . . . . . | 2.1               | 2.8               | 3.3                | 2.1                |
| Barley . . . . . | 2.3               | 2.3               | 2.4                | 2.7                | Clover . . . . .     | 2.9               | 3.1               | 3.3                | 2.2                |
| Oats . . . . .   | 2.3               | 2.4               | 2.6                | 2.9                | Meadows . . . . .    | 2.2               | 2.4               | 2.4                | 2.0                |
| Corn . . . . .   | 2.1               | 2.3               | 2.5                | 2.1                | Pasture . . . . .    | 2.4               | 2.8               | 3.0                | 2.3                |

Scale 1=very good, 2=over average, 3=average, 4=under average.

**Hungary.** The Hungarian Department of Agriculture reports that from June 23 to July 20 the weather was moderately warm and generally dry, but from this date storms and rains all over the country interfered with the harvesting of the grain crops, but greatly improved the growth of fodder plants and vegetables. In the more important agricultural districts the wheat harvest is almost everywhere finished. Preliminary threshings have been somewhat deceptive, and the grain, especially as to quality, is not turning out so well as was expected; in some parts however these results are compensated for by yields superior to the original forecasts. The rye harvest was almost ended, but the yields hardly come up to expectation. Barley was nearly all in, and the results up to the present give an average yield. The cutting of oats had commenced in some parts, but in others this crop

was still standing. An average yield was expected. The following are the latest estimates of yield for the principal cereals :

| Crops       | Area<br>1912 | Yield<br>per acre<br>1912 | Total<br>yield<br>1912 | Final<br>estimate<br>1911 |
|-------------|--------------|---------------------------|------------------------|---------------------------|
|             | acres        | bush.                     | bush.                  | bush.                     |
| Wheat.....  | 8,651,000    | 19·67                     | 170,197,000            | 174,889,000               |
| Rye.....    | 2,776,000    | 19·54                     | 54,214,000             | 50,353,000                |
| Barley..... | 2,646,000    | 25·22                     | 66,728,000             | 73,596,000                |
| Oats.....   | 2,497,000    | 30·22                     | 75,453,000             | 84,383,000                |

Corn has developed well everywhere and its condition is generally satisfactory. It is marked as excellent in 3, good in 50, average in 6 and poor in 2 counties.

**Greece.** H. M. Consul at Patras reports (July 6) that the growing crop of currants promises to be a fine and abundant one if weather continues favourable during the month. Sultanias also promise to be fine and abundant. The yield of olive oil will be moderate, but this is to be expected after last season's plentiful production. Cereals are fine and abundant throughout the district but the tobacco crop has suffered from extreme drouth.

**Russia.** Mr. Henry Cooke, Commercial Attaché at the British Embassy, St. Petersburg, sends (July 29) a summary of Russian crop reports which appeared in the official Commercial Gazette of July 11/24. The reports state that in the Ural region both winter and spring grains are satisfactory. In the lower Volga region wheat is good and rye excellent except in the Nikolaieff and Ural Cossack districts. In the central Volga region the prospects are generally good, though in certain governments they are only medium. In the central agricultural and industrial regions the crops are as a rule good or satisfactory. In Poland oats are good, wheat, rye and barley are satisfactory. In the New Russian region, in parts of which reaping has begun under satisfactory conditions, the prospects are generally good or satisfactory. In the Caucasus good crops were being gathered under favourable conditions. In the Lake region winter grain promises better than spring grain. In the Baltic region the promise of winter grain is good and of spring grain satisfactory. In western Siberia the prospects are generally favourable. The sugar beet crop promises most favourably, the prospects being much better than on June 1/14. The area under this crop is stated to be 1,884,000 acres against 1,957,000 acres in the previous year.

The British Acting Consul General at Odessa reports (August 5) that in those parts of South Russia which might be described as the Black Sea and Azov coast belt, the grain crop as regards quantity is rather below the average, and has moreover been damaged by rain at and after the time of cutting. It is in fact very bad in patches. Further inland the quantity is far greater and the quality is generally good, having escaped rain damage. On the whole the harvest is about the average. What little threshing has taken place has in some cases given very disappointing results.

**Finland.** H. M. Consul at Helsingfors reports (July 27) the prospects of an excellent harvest throughout the country. Rye, barley and oats promise well. Potatoes flowered about the middle of the month. Frosts



have done some damage, and growth has suffered from the prevailing drouth. A somewhat early harvest is anticipated. An exceptionally good harvest of hay is anticipated and fine weather has prevailed during the cuttings.

**United States.** The Crop Reporting Board of the U.S. Department of Agriculture issued on August 9 the following estimates of average condition and yield. The yields for 1912 of winter wheat, rye and barley are those of the preliminary estimate; the yields for 1912 of the other crops are interpreted from the reports on condition.

| Crops                    | Condition in per cent of normal |             |                   |             | Yield per acre    |            |                 | Total yield in millions of bushels |            |            |             |
|--------------------------|---------------------------------|-------------|-------------------|-------------|-------------------|------------|-----------------|------------------------------------|------------|------------|-------------|
|                          | Aug. 1 1912                     | Aug. 1 1911 | ten year average  | July 1 1912 | 1912 <sup>1</sup> | 1911 final | average 1906-10 | 1912 <sup>1</sup>                  | 1911 final | 1910 final | 1909 census |
|                          | p.c.                            | p.c.        | p.c.              | p.c.        | bush.             | bush.      | bush.           | bush.                              | bush.      | bush.      | bush.       |
| Corn.....                | 80.0                            | 69.6        | 82.8              | 81.5        | 26.0              | 23.9       | 27.1            | 2,811                              | 2,531      | 2,886      | 2,552       |
| Winter wheat             | -                               | -           | -                 | 73.3        | 15.1 <sup>2</sup> | 14.8       | 15.5            | 390 <sup>2</sup>                   | 430        | 434        | 418         |
| Spring wheat.            | 90.4                            | 59.8        | 80.3              | 89.3        | 15.1              | 9.4        | 13.4            | 290                                | 191        | 201        | 265         |
| All wheat.               | -                               | -           | -                 | 80.1        | 15.1              | 12.5       | 14.6            | 680                                | 621        | 635        | 683         |
| Oats.....                | 90.3                            | 65.7        | 81.4              | 89.2        | 31.9              | 24.4       | 28.4            | 1,207                              | 922        | 1,186      | 1,007       |
| Barley.....              | 89.1                            | 66.2        | 83.1              | 88.3        | 26.7              | 21.0       | 24.8            | 202                                | 160        | 174        | 173         |
| Rye.....                 | -                               | -           | -                 | 88.2        | 16.9 <sup>2</sup> | 15.6       | 16.3            | 35 <sup>2</sup>                    | 33         | 35         | 30          |
| Buckwheat..              | 88.4                            | 82.9        | 90.2              | -           | 19.3              | 21.1       | 19.5            | 16                                 | 18         | 18         | 15          |
| White pota-<br>toes..... | 87.8                            | 62.3        | 84.8              | 88.9        | 100.7             | 80.9       | 96.8            | 371                                | 293        | 349        | 389         |
| Flax.....                | 87.5                            | 71.0        | 82.4 <sup>3</sup> | 88.9        | 9.4 <sup>3</sup>  | 7.0        | 8.7             | 28                                 | 19         | 13         | 20          |
| Rice.....                | 86.3                            | 88.3        | 87.9              | 86.3        | 31.9              | 32.9       | 32.4            | 23                                 | 23         | 25         | -           |
|                          |                                 |             |                   |             | ton               | ton        | ton             | tons                               | tons       | tons       | tons        |
| Hay(all tame)            | 91.0                            | 68.6        | 82.6 <sup>6</sup> | 85.2        | 1.49 <sup>4</sup> | 1.14       | 1.42            | 73                                 | 55         | 69         | 69          |
|                          |                                 |             |                   |             | lb.               | lb.        | lb.             | lb.                                | lb.        | lb.        | lb.         |
| Tobacco.....             | 82.8                            | 68.0        | 81.8              | 87.7        | 820.6             | 893.7      | 828.0           | 980                                | 905        | 1,103      | 1,056       |

<sup>1</sup> Interpreted from condition reports.    <sup>2</sup> Preliminary estimate.    <sup>3</sup> Based upon average for 1905-9.    <sup>4</sup> Based on average for 1908-10.    <sup>5</sup> Nine year average.    <sup>6</sup> Four year average.

The quality of winter wheat is 90.7, against 92.0 last year and 91.1 the five-year average (1907-11). The quality of rye is 94.0, against 91.5 last year and 92.0 the ten-year average. The amount of oats remaining on farms August 1 is estimated at 3.8 per cent of last year's crop, or about 34,872,000 bushels as compared with 67,793,000 bushels on August 1, 1911, and 64,199,000 on August 1, 1910.

## INTERNATIONAL INSTITUTE OF AGRICULTURE.

The Bulletin of agricultural statistics for July publishes further estimates of the areas and yields of the principal cereal crops for which data are available; also totals for the countries named. These totals do not include all the countries in the northern hemisphere, the figures for both Russia and Canada for instance being not yet available.

# 1. Area and production of Wheat, Rye, Barley and Oats in 1912 compared with 1911.

| Countries           | Harvested<br>1911 | Harvest of 1912       |                  | Harvested<br>1911 | Estimate for 1912     |                  |
|---------------------|-------------------|-----------------------|------------------|-------------------|-----------------------|------------------|
|                     |                   | compared<br>with 1911 | total<br>figures |                   | compared<br>with 1911 | total<br>figures |
|                     | 000<br>acres      | p.c.                  | 000<br>acres     | 000<br>bush.      | p.c.                  | 000<br>bush.     |
| Wheat—              |                   |                       |                  |                   |                       |                  |
| Belgium.....        | 378               | 108.8                 | 411              | 14,617            | 108.8                 | 15,906           |
| Spain.....          | 9,706             | 98.1                  | 9,517            | 148,497           | 75.7                  | 112,417          |
| England and Wales.. | 1,842             | 101.5                 | 1,871            | 59,956            | 98.5                  | 59,072           |
| Hungary.....        | 9,161             | 102.7                 | 9,404            | 190,100           | 98.5                  | 187,264          |
| Italy.....          | 11,741            | 100.0                 | 11,737           | 192,397           | 90.7                  | 174,533          |
| Luxembourg.....     | 27                | 102.0                 | 28               | 641               | 102.1                 | 654              |
| Switzerland.....    | 105               | 100.0                 | 105              | 3,524             | 101.0                 | 3,560            |
| United States.....  | 49,544            | 90.7                  | 44,946           | 621,338           | 101.2                 | 629,010          |
| India.....          | 30,490            | 99.7                  | 30,386           | 374,845           | 97.7                  | 366,370          |
| Japan.....          | 1,223             | 102.0                 | 1,248            | 24,851            | 98.4                  | 24,452           |
| Tunis.....          | 1,248             | 101.2                 | 1,263            | 8,635             | 48.9                  | 4,226            |
| Totals.....         | 115,465           | 96.1                  | 110,916          | 1,639,401         | 96.1                  | 1,577,464        |
| Rye—                |                   |                       |                  |                   |                       |                  |
| Prussia.....        | 11,487            | 101.1                 | 11,618           | 329,365           | 104.3                 | 343,664          |
| Belgium.....        | 630               | 102.0                 | 642              | 23,089            | 102.0                 | 23,542           |
| Spain.....          | 1,987             | 100.0                 | 1,988            | 28,897            | 89.1                  | 25,755           |
| Hungary.....        | 2,930             | 103.1                 | 3,023            | 54,146            | 110.6                 | 59,899           |
| Italy.....          | 302               | 99.8                  | 301              | 5,297             | 104.0                 | 5,512            |
| Luxembourg.....     | 26                | 103.0                 | 27               | 669               | 103.0                 | 679              |
| Switzerland.....    | 60                | 100.0                 | 60               | 1,828             | 103.2                 | 1,886            |
| Algeria.....        | 2                 | 3.9                   | 1                | 3                 | 23.5                  | 1                |
| Totals.....         | 17,424            | 101.3                 | 17,659           | 443,285           | 104.0                 | 460,938          |
| Barley—             |                   |                       |                  |                   |                       |                  |
| Belgium.....        | 85                | 98.6                  | 84               | 4,595             | 101.9                 | 4,686            |
| Spain.....          | 3,568             | 91.3                  | 3,258            | 86,793            | 67.5                  | 58,606           |
| England and Wales.. | 1,424             | 99.4                  | 1,416            | 46,560            | 105.2                 | 48,975           |
| Hungary.....        | 2,895             | 96.8                  | 2,804            | 76,236            | 92.3                  | 70,398           |
| Italy.....          | 612               | 98.9                  | 605              | 10,882            | 80.2                  | 8,727            |
| Luxembourg.....     | 2                 | 107.8                 | 3                | 70                | 100.9                 | 70               |
| Switzerland.....    | 13                | 100.0                 | 13               | 454               | 102.2                 | 464              |
| United States.....  | 7,627             | 99.3                  | 7,574            | 160,240           | 121.1                 | 193,996          |
| Japan.....          | 3,102             | 100.7                 | 3,123            | 95,037            | 100.6                 | 95,589           |
| Tunis.....          | 1,120             | 98.5                  | 1,102            | 9,416             | 51.2                  | 4,823            |
| Totals.....         | 20,448            | 97.7                  | 19,982           | 490,283           | 99.2                  | 486,334          |
| Oats—               |                   |                       |                  |                   |                       |                  |
| Belgium.....        | 605               | 104.3                 | 631              | 38,921            | 106.4                 | 41,418           |
| Spain.....          | 1,268             | 95.6                  | 1,212            | 31,867            | 72.2                  | 23,022           |
| England and Wales.. | 2,047             | 100.4                 | 2,056            | 90,303            | 98.5                  | 88,975           |
| Hungary.....        | 2,653             | 94.1                  | 2,497            | 84,383            | 89.9                  | 75,874           |
| Italy.....          | 1,271             | 97.2                  | 1,236            | 38,563            | 77.3                  | 29,827           |
| Luxembourg.....     | 78                | 99.3                  | 77               | 3,259             | 96.2                  | 3,136            |
| Switzerland.....    | 81                | 100.0                 | 81               | 4,565             | 103.4                 | 4,721            |
| United States.....  | 37,764            | 100.2                 | 37,845           | 868,045           | 123.5                 | 1,072,003        |
| Algeria.....        | 448               | 39.1                  | 175              | 11,380            | 9.5                   | 1,076            |
| Tunis.....          | 124               | 100.0                 | 124              | 3,566             | 54.5                  | 1,945            |
| Totals.....         | 46,339            | 99.1                  | 45,934           | 1,174,852         | 114.2                 | 1,341,997        |

<sup>1</sup> 62 acres.

## II. Average yields per acre in 1912 compared with 1911.

| Countries              | Wheat |       | Rye   |       | Barley |       | Oats  |       |
|------------------------|-------|-------|-------|-------|--------|-------|-------|-------|
|                        | 1912  | 1911  | 1912  | 1911  | 1912   | 1911  | 1912  | 1911  |
|                        | bush. | bush. | bush. | bush. | bush.  | bush. | bush. | bush. |
| Prussia.....           | -     | -     | 29·63 | 28·68 | -      | -     | -     | -     |
| Belgium.....           | 38·66 | 38·66 | 36·64 | 36·64 | 55·76  | 53·90 | 65·60 | 64·29 |
| Spain.....             | 11·75 | 15·32 | 12·90 | 14·49 | 18·02  | 24·35 | 18·89 | 25·19 |
| England and Wales..... | 31·52 | 32·56 | -     | -     | 34·57  | 32·71 | 43·30 | 44·08 |
| Hungary.....           | 19·93 | 20·81 | 19·75 | 18·48 | 25·69  | 26·39 | 30·43 | 31·75 |
| Italy.....             | 14·87 | 16·36 | 18·32 | 17·52 | 14·50  | 17·84 | 24·14 | 30·44 |
| Luxemburg.....         | 23·79 | 23·79 | 25·49 | 25·49 | 27·88  | 29·74 | 40·67 | 41·98 |
| Switzerland.....       | 34·05 | 33·60 | 31·39 | 30·43 | 36·24  | 35·50 | 58·52 | 56·68 |
| United States.....     | 13·98 | 12·49 | -     | -     | 25·65  | 21·00 | 28·34 | 23·09 |
| India.....             | 12·04 | 12·34 | -     | -     | -      | -     | -     | -     |
| Japan.....             | 19·63 | 20·37 | -     | -     | 30·67  | 30·67 | -     | -     |
| Algeria.....           | -     | -     | 12·75 | 2·07  | -      | -     | 6·03  | 25·45 |
| Tunis.....             | 3·42  | 7·00  | -     | -     | 4·46   | 8·36  | 15·74 | 28·86 |
| Averages.....          | 14·27 | 14·12 | 26·12 | 25·49 | 24·35  | 23·98 | 29·12 | 25·45 |

## III. Area and condition of Cereals on July 1 1912.

| Countries                    | Wheat                        |                             |                |                |                | Rye                          |                             |                |                |                |
|------------------------------|------------------------------|-----------------------------|----------------|----------------|----------------|------------------------------|-----------------------------|----------------|----------------|----------------|
|                              | area to be harvested<br>1912 | per cent of area of<br>1911 | condition      |                |                | area to be harvested<br>1912 | per cent of area of<br>1911 | condition      |                |                |
|                              |                              |                             | July 1<br>1912 | June 1<br>1912 | June 1<br>1911 |                              |                             | July 1<br>1912 | June 1<br>1912 | June 1<br>1911 |
|                              | 000 acres                    | p.c.                        | p.c.           | p.c.           | p.c.           | 000 acres                    | p.c.                        | p.c.           | p.c.           | p.c.           |
| Denmark....                  | 100                          | 100·0                       | 91             | 99             | 104            | 682                          | 100·0                       | 95             | 90             | 103            |
| France.....                  | 16,179                       | 104·1                       | -              | -              | -              | 29,988                       | 109·9                       | -              | -              | -              |
| Norway....                   | 12                           | 100·0                       | -              | -              | -              | 37                           | 100·0                       | -              | -              | -              |
| Rumania....                  | 5,041                        | 105·7                       | -              | 133            | -              | 281                          | 86·1                        | -              | 120            | 115            |
| Sweden.....                  | -                            | -                           | 115            | 105            | -              | -                            | -                           | 106            | 102            | -              |
| Canada <sup>1</sup> (a)..... | 781                          | 66·6                        | 86             | 86             | -              | 149                          | 104·5                       | 101            | 98             | -              |
| " (b).....                   | 9,266                        | 100·7                       | 102            | 101            | -              |                              |                             |                |                |                |
| United States ..             | -                            | -                           | -              | -              | -              | 2,436                        | 114·5                       | 98             | 98             | 94             |
| Egypt (Lower).....           | -                            | -                           | 90             | 107            | 132            | -                            | -                           | -              | -              | -              |
| Egypt (Upper).....           | -                            | -                           | 95             | 125            | 117            | -                            | -                           | -              | -              | -              |

| Countries   | Barley |       |     |     |     | Oats  |       |     |     |     |
|-------------|--------|-------|-----|-----|-----|-------|-------|-----|-----|-----|
|             |        |       |     |     |     |       |       |     |     |     |
| Denmark.... | 578    | 100·0 | 110 | 100 | 100 | 996   | 100·0 | 112 | 100 | 99  |
| France..... | 1,869  | 97·4  | -   | -   | -   | 9,897 | 99·4  | -   | -   | -   |
| Norway....  | 89     | 100·0 | -   | -   | -   | 262   | 100·0 | -   | -   | -   |
| Rumania.... | 90     | -     | -   | 120 | 100 | -     | -     | -   | 120 | 120 |
| Sweden..... | -      | -     | 123 | 118 | -   | -     | -     | 125 | 118 | -   |
| Canada..... | 1,449  | 103·2 | 99  | 98  | -   | 9,495 | 103·0 | 96  | 100 | -   |
| Japan.....  | -      | -     | -   | -   | -   | 114   | 103·1 | -   | -   | -   |

<sup>1</sup> Figures of condition refer to average of four years instead of ten years.

(a) Winter wheat. (b) Spring wheat.

**Corn.** The following statement shows the areas under corn, with a percentage comparison with the previous year and for certain countries the condition in relation to average yield:

**IV. Area and condition of Corn 1912.**

| Countries                 | Harvest<br>of<br>1912 | Compared<br>with<br>1911 | Condition<br>(100= promise of average<br>yield) |                |                |
|---------------------------|-----------------------|--------------------------|---|----------------|----------------|
|                           |                       |                          | July 1<br>1912                                  | June 1<br>1912 | July 1<br>1911 |
|                           | 000<br>acres          | p.c.                     | p.c.  | p.c.           | p.c.           |
| Spain.....                | 1,147                 | 100·1                    | 100   | 100            | 100            |
| France <sup>1</sup> ..... | 734                   | -                        | -   | -              | -              |
| Hungary.....              | 6,187                 | 101·6                    | 110   | 110            | -              |
| Croatia and Slavonia..... | 1,001                 | -                        | -   | -              | -              |
| Italy (a).....            | 3,830                 | 100·0                    | -   | -              | -              |
| (b).....                  | 235                   | 99·5                     | -   | -              | -              |
| Switzerland.....          | 3                     | 100·0                    | 100   | 100            | 97             |
| Canada.....               | 293                   | 92·7                     | -   | -              | -              |
| United States.....        | 1,081,111             | 102·2                    | 96  | -              | 95             |
| Japan.....                | 136                   | 100·0                    | -   | -              | -              |
| Algeria.....              | 23                    | 106·0                    | 96  | -              | -              |
| Tunis.....                | 49 <sup>2</sup>       | 100·0 <sup>2</sup>       | -   | -              | -              |

<sup>1</sup> Principal producing departments only.    a Late crop.    b Early crop.    <sup>2</sup> Including sorghum.

**§ Sugar Beet.** The areas under sugar beet for 1912, expressed in acres, are reported as follows, the figures within parentheses representing the harvested areas of 1911: Belgium 149,000 (147,500); Denmark 74,800 (61,500); Spain 69,000; France 610,000 (591,000); Hungary 418,400 (284,000); Croatia and Slavonia 7,400 (7,400); Italy 131,000 (131,000); Russia 1,815,000 (1,903,000); Canada 19,000 (21,000). The production of sugar beet in Servia was 101,000 short tons from 11,200 acres for the year 1911 compared with 70,000 tons from 7,400 acres in 1910.

## REPORTS OF THE DEPARTMENT OF AGRICULTURE, 1912.

**Report of the Minister of Agriculture.** This report for the year ended March 31, 1912, summarises the work of the various branches, giving a variety of information most of which has already been published in more or less detail. The Appendices however give a good deal of interesting information not otherwise published, including reports of Canadian representatives at international gatherings. These comprise the ninth International Agricultural Congress held at Madrid, May 1 to 8, 1911, at which Canada was represented by Mr. T. K. Doherty, and the meeting of the third General Assembly of the International Institute of Agriculture at Rome, which opened on May 14, 1911. At the Madrid Congress, which was divided into



eight sections, the following resolutions were passed by the second section, which was devoted to agricultural statistics :

1. That an official statistical department should be organised in every country for the purpose of providing farmers with all the information they require to enable them to arrange their production, and that sufficient financial resources should be placed at the disposal of this department. It should be arranged that the statistics should be published as often and as rapidly as possible.

2. That legislative or administrative means should be taken in each country to verify and publish as frequently as possible, not only the prices actually current for the products of agriculture and agricultural industries, but also the quantities offered and sold at each rate quoted in the official lists.

3. That the International Institute of Agriculture at Rome should be recommended to continue the plan which it has adopted of putting at the disposal of the world the agricultural material transmitted to it by the various governments, and to develop, on as extensive a scale as possible, the series of statistical inquiries at present in course of publication.

4. That in order to facilitate the comparative study of the statistics of different countries, relating to the trade in the products of agriculture and agricultural industries, standards of quality should be established in each country, which would serve as a basis for comparison. The Congress suggested that the International Agricultural Institute at Rome should examine this question with the object of defining useful types.

5. That for the most important crops, cereals, for example, the reports published should begin at the earliest stage of growth, and should be published every month up to the time immediately preceding the harvest.

The Forestry section was also an active one and passed resolutions largely upon the lines of the work which is being carried on in Canada by the Commission of Conservation.

**Report of the Dairy and Cold Storage Commissioner.** The report of the Commissioner (Mr. J. A. Ruddick) consists of 150 pages and six plates of half-tone illustrations. In the opening report by the Commissioner himself reference is made to the shortage of butter during the past winter, which made it necessary to import supplies from other countries, notably New Zealand and the United States. The following paragraph is from the report :

At first glance it may appear strange that Canada should go almost to the opposite end of the earth for a portion of her butter supply, but when it is considered that the freight and duty (3 cents per pound under the preferential tariff) on freshly made butter from New Zealand amounts to about the same as the cost of carrying the Canadian article from June, July or August to the month of March, to say nothing of the loss through deterioration in the quality of the butter, the matter is not so surprising after all.

The total quantity of butter imported by Canada during the fiscal year ended March 31, 1912, was 3,874,587 lb. of the value of \$1,016,418, the imports from New Zealand being 2,139,944 lb., \$569,171, Australia 101,640 lb., \$21,642, United States 929,318 lb., \$223,841 and Great Britain 700,900 lb., \$201,219. The exports of butter during the same fiscal period amounted to 8,844,402 lb. of the value of \$2,077,916.

One would think that there should be good future possibilities of the winter production of butter in the valleys of British Columbia and for the organisation of a trade therein with the prairie and eastern provinces, though Mr. Ruddick expresses the opinion that Canada will never probably produce enough butter during the winter to supply current demands.

Another subject dealt with is the establishment of dairy record centres, which is a new scheme for the advancement of cow testing. Six of these centres have now been established. Some interesting figures are given as

to the average yields, cost of feeding, cash receipts and net profits from the cows of five of these centres. From a total of 3,188 cows in 331 herds the average yield of milk per cow for the period of milking was 4,547 lb., the average cash receipts per cow were \$45.45, the average cost of feed per cow was \$32.19 and the average net profit per cow was \$13.28.

### THE BEAN MAGGOT.

Mr. William Blue of Orford, in Kent county, has reported that his field of beans has been injured by a worm which attacks the stalks. He had planted 24 acres about the middle of June, which owing to the dryness of the season was about ten days later than usual. The soil was a clay loam, well under-drained, manured and tilled, and in previous years had yielded 25 to 35 bushels per acre; but this year it does not promise half a crop. Samples of the stalks have been submitted to the Dominion Entomologist at the Ottawa experimental farm, who reports that the worm is known as the Bean Maggot (*Phorbia fuscicets*), which in some years is a pest of considerable importance in the bean growing districts of Ontario. It is by no means, he says, an insect easy to control, and the only recommendations are of a preventive nature, such as planting the seed in good season, in well prepared soil, and not deeper than one or two inches. It is advisable to avoid stable manure as a fertiliser, and, where the insect has been present, the same ground should not be replanted. Kent county is the chief bean growing district of the Dominion, and Mr. Blue has several times won the first prizes for his field crops in public competitions.

### THE CENSUS OF MANUFACTURES.

The census reports of manufactures taken in 1911 for the calendar year 1910 are now compiled. Compared with the census of 1901 for the year 1900 they show an increase in the ten years of 4,559 in the number of working establishments, of \$798,829,009 in the value of capital, of 175,108 in the number of persons employed, of \$127,274,301 in the earnings of salaries and wages and of \$683,722,157 in the value of products. The following table gives the principal statistics for the two census years, together with the total increase and the increase per cent in the decade, viz.:

| Schedule                |     | 1900        | 1910          | Increase    |          |
|-------------------------|-----|-------------|---------------|-------------|----------|
|                         |     |             |               | totals      | per cent |
| Establishments.....     | No. | 14,650      | 19,209        | 4,559       | 31.12    |
| Capital.....            | \$  | 446,916,487 | 1,245,745,496 | 798,829,009 | 178.74   |
| Employees.....          | No. | 339,173     | 514,281       | 175,108     | 51.62    |
| Salaries and wages..... | \$  | 113,219,350 | 240,523,651   | 127,274,301 | 112.38   |
| Products.....           | \$  | 481,053,375 | 1,164,775,532 | 683,722,157 | 142.13   |

The instructions for the census of 1901 provided that no factory should be so recognised which employed less than five persons, but made exceptions in the case of butter and cheese factories and brick and tile works, in which

industries comparatively large operations may be carried on with less than five employees. But it was observed that the same rule might have been applied in the case of flour and gristing mills and electric light plants, and in the censuses of 1906 and 1911 the exceptions were extended to the industries of flour and gristing mills, saw and shingle mills (lumber products), fish curing plants, lime kilns and electric light and power plants, as well as butter and cheese factories and brick and tileworks when operated by less than five persons. These exceptions added \$8,886,303 to the value of capital in 1905 and \$14,658,010 in 1910, and to the value of products \$8,901,486 in 1905 and \$17,753,848 in 1910. They did not however affect to more than a negligible extent the totals of all industries, being a little more than one per cent of the value of capital in 1905 and 1910, 1.24 per cent of the value of products in 1905 and 1.26 per cent in 1910.

The reduction of the number of industries in 1905 employing less than five persons, as explained in the report for that year, was owing in part to the merging of small industries with larger concerns under one management, and also that in the case of large establishments carrying on several kinds of industries one return was made for 1905, whereas for 1900 separate returns were made for each kind. The merging of industries continued to operate during the second period, so that while the number employing five hands and over was 12,547 in 1905, and 16,198 in 1910, as compared with 14,650 in 1900, the values of products had risen in the successive census periods from \$481,053,375 in 1900 to \$706,446,578 in 1905 and to \$1,147,021,684 in 1910.

A summary of all establishments by groups of products is presented in the following table for the year 1910, showing for each group the number of establishments, the number of employees, the value of products, the average number of employees and the average production per establishment, viz.:

| Groups of products                  | Establishments<br>No. | Employees<br>No. | Value<br>of products<br>\$ | Average<br>employees<br>No. | Average<br>production<br>\$ |
|-------------------------------------|-----------------------|------------------|----------------------------|-----------------------------|-----------------------------|
| Under \$200,000. ....               | 18,112                | 254,998          | 430,136,426                | 14.1                        | 23,749                      |
| \$200,000 to under \$500,000. .     | 716                   | 98,496           | 219,099,372                | 137.6                       | 306,005                     |
| \$500,000 to under \$1,000,000. .   | 231                   | 67,641           | 156,519,094                | 292.8                       | 677,572                     |
| \$1,000,000 to under \$5,000,000. . | 136                   | 73,480           | 261,081,166                | 540.3                       | 1,919,715                   |
| \$5,000,000 and over. ....          | 14                    | 19,666           | 97,933,474                 | 1,404.7                     | 6,995,677                   |
| Totals and averages. ....           | 19,209                | 514,281          | 1,164,775,532              | 26.8                        | 60,637                      |

For groups producing \$200,000 to under \$500,000 in 1900 there were 323 establishments with \$94,531,698 for value of products, and in 1905 there were 479 with \$145,587,183. For groups producing \$500,000 to under \$1,000,000 in 1900 there were 68 with \$46,729,825, and in 1905 there were 139 with \$92,065,800. For groups producing \$1,000,000 and over there were 39 with \$71,051,834 in 1900 and 81 with \$177,273,913 in 1905. The average value per establishment producing \$200,000 to under

\$500,000 was \$292,668 in 1900, of \$303,940 in 1905 and of \$306,005 in 1910, compared with an average producing \$500,000 to \$1,000,000 of \$687,203 in 1900, of \$662,344 in 1905, and of \$677,572 in 1910, and an average over \$1,000,000 of \$1,821,242 in 1900, of \$2,188,567 in 1905 and of \$2,393,471 in 1910. One establishment in Nova Scotia gave a product in 1910 of more than \$8,000,000, one in Ontario gave more than \$9,000,000, and two in Quebec gave more than \$10,000,000. Fourteen establishments of the highest class in the Dominion gave for 1910 an average of \$6,995,677.

Compared by provinces the census of manufactures shows the following records for the years 1900, 1905 and 1910, as taken in the years 1901, 1906 and 1911, viz.:

| Provinces                     | Establishments | Capital       | Employees | Salaries and wages | Value of products |
|-------------------------------|----------------|---------------|-----------|--------------------|-------------------|
| 1900                          | No.            | \$            | No.       | \$                 | \$                |
| <b>Canada</b> .....           | 14,650         | 446,916,487   | 339,173   | 113,249,350        | 481,053,375       |
| Alberta and Saskatchewan..... | 105            | 1,689,870     | 1,168     | 465,763            | 1,964,987         |
| British Columbia.....         | 392            | 22,901,892    | 11,454    | 5,456,538          | 19,447,778        |
| Manitoba.....                 | 324            | 7,539,691     | 5,219     | 2,419,549          | 12,927,439        |
| New Brunswick.....            | 919            | 20,741,170    | 22,158    | 5,748,990          | 20,972,470        |
| Nova Scotia.....              | 1,188          | 34,586,416    | 23,284    | 5,613,571          | 23,592,513        |
| Ontario.....                  | 6,543          | 214,972,275   | 161,757   | 56,548,286         | 241,533,486       |
| P. E. Island.....             | 334            | 2,081,766     | 3,804     | 445,998            | 2,326,708         |
| Quebec.....                   | 4,845          | 142,403,407   | 110,059   | 36,550,655         | 158,287,994       |
| <b>1905</b>                   |                |               |           |                    |                   |
| <b>Canada</b> .....           | 15,796         | 846,585,023   | 392,530   | 165,100,011        | 718,352,603       |
| Alberta.....                  | 120            | 5,645,821     | 2,045     | 1,167,107          | 5,116,782         |
| British Columbia.....         | 459            | 53,022,033    | 23,748    | 11,413,315         | 38,288,378        |
| Manitoba.....                 | 354            | 27,517,297    | 10,333    | 5,909,971          | 28,155,732        |
| New Brunswick.....            | 628            | 26,792,698    | 19,426    | 6,581,411          | 22,133,951        |
| Nova Scotia.....              | 909            | 75,089,191    | 24,237    | 9,284,864          | 32,574,323        |
| Ontario.....                  | 7,996          | 397,484,705   | 189,370   | 82,415,620         | 367,850,002       |
| P. E. Island.....             | 285            | 1,680,541     | 2,919     | 445,676            | 1,851,615         |
| Quebec.....                   | 4,965          | 255,479,602   | 119,008   | 47,160,452         | 219,861,648       |
| Saskatchewan.....             | 80             | 3,973,075     | 1,444     | 721,875            | 2,520,172         |
| <b>1910</b>                   |                |               |           |                    |                   |
| <b>Canada</b> .....           | 19,209         | 1,245,745,496 | 514,281   | 240,523,651        | 1,164,775,532     |
| Alberta.....                  | 290            | 29,518,346    | 6,980     | 4,365,661          | 18,698,826        |
| British Columbia.....         | 651            | 123,027,521   | 33,312    | 17,240,670         | 65,141,235        |
| Manitoba.....                 | 439            | 47,941,540    | 17,325    | 10,912,866         | 53,673,609        |
| New Brunswick.....            | 1,158          | 36,125,012    | 24,755    | 8,314,212          | 35,422,302        |
| Nova Scotia.....              | 1,480          | 79,596,341    | 28,745    | 10,628,955         | 52,706,184        |
| Ontario.....                  | 7,992          | 593,556,495   | 237,895   | 117,161,019        | 578,763,118       |
| P. E. Island.....             | 442            | 2,013,365     | 3,762     | 531,917            | 3,136,470         |
| Quebec.....                   | 6,584          | 326,946,925   | 158,207   | 69,432,967         | 350,901,656       |
| Saskatchewan.....             | 173            | 7,019,951     | 3,250     | 1,936,284          | 6,332,132         |



The statistics of establishments by kinds of industries for the year 1910 are given in the next table. The number of industries is 300, as compared with 274 in 1905 and 264 in 1900.

**Census of the Manufactures of Canada, 1911.**

| No.    | Name or kind of industry                      | Estab-<br>lish-<br>ments<br><br>No. | Capital<br>employed<br><br>\$ | Employees on salaries<br>and wages |                          | Value<br>of<br>products<br><br>\$ |               |
|--------|---|-------------------------------------|-------------------------------|------------------------------------|--------------------------|-----------------------------------|---------------|
|        |   |                                     |                               | No.                                | Salaries and<br>wages \$ |                                   |               |
| Canada |   |                                     | 19,209                        | 1,245,745,496                      | 514,281                  | 240,523,651                       | 1,164,775,532 |
| 1      | Abrasive goods .....                          | 6                                   | 272,863                       | 109                                | 57,381                   | 146,388                           |               |
| 2      | Aerated and mineral waters ..                 | 128                                 | 3,870,005                     | 1,476                              | 811,619                  | 2,808,230                         |               |
| 3      | Agricultural implements .....                 | 77                                  | 45,232,098                    | 9,560                              | 5,551,647                | 20,722,722                        |               |
| 4      | Artificial ice .....                          | 4                                   | 740,779                       | 89                                 | 60,699                   | 170,226                           |               |
| 5      | Artificial limbs and trusses ..               | 4                                   | 73,300                        | 42                                 | 21,912                   | 71,116                            |               |
| 6      | Asbestos .....                                | 9                                   | 867,750                       | 172                                | 105,267                  | 468,614                           |               |
| 7      | Asphalt .....                                 | 6                                   | 586,000                       | 284                                | 130,202                  | 357,190                           |               |
| 8      | Automobiles .....                             | 8                                   | 4,699,256                     | 2,438                              | 903,349                  | 6,251,885                         |               |
| 9      | Automobile repairs and ac-<br>cessories ..... | 11                                  | 361,272                       | 132                                | 76,060                   | 170,930                           |               |
| 10     | Awnings, tents and sails .....                | 26                                  | 1,086,245                     | 612                                | 322,201                  | 1,342,436                         |               |
| 11     | Axes and tools .....                          | 30                                  | 4,278,571                     | 1,437                              | 820,870                  | 2,549,764                         |               |
| 12     | Babbit metal .....                            | 6                                   | 920,548                       | 147                                | 91,783                   | 1,016,699                         |               |
| 13     | Bags, cotton .....                            | 10                                  | 2,786,343                     | 620                                | 301,111                  | 5,722,478                         |               |
| 14     | Baking powder and flavoring<br>extracts ..... | 22                                  | 545,819                       | 269                                | 143,834                  | 963,000                           |               |
| 15     | Baskets .....                                 | 21                                  | 436,950                       | 522                                | 170,156                  | 443,720                           |               |
| 16     | Bicycles .....                                | 4                                   | 68,000                        | 53                                 | 30,075                   | 72,179                            |               |
| 17     | Bicycle repairs .....                         | 3                                   | 14,200                        | 17                                 | 8,835                    | 12,625                            |               |
| 18     | Blacking .....                                | 13                                  | 450,132                       | 169                                | 103,609                  | 691,029                           |               |
| 19     | Blacksmithing .....                           | 18                                  | 251,700                       | 118                                | 74,112                   | 213,242                           |               |
| 20     | Blankets and sweatpads .....                  | 4                                   | 369,966                       | 110                                | 45,783                   | 167,688                           |               |
| 21     | Boats and canoes .....                        | 126                                 | 1,285,117                     | 1,064                              | 551,216                  | 1,354,210                         |               |
| 22     | Boilers and engines .....                     | 71                                  | 14,063,990                    | 5,864                              | 3,647,719                | 11,873,903                        |               |
| 23     | Boots and shoes .....                         | 180                                 | 23,630,649                    | 17,227                             | 7,698,333                | 33,987,248                        |               |
| 24     | Boot and shoe supplies .....                  | 14                                  | 961,319                       | 551                                | 258,918                  | 1,025,878                         |               |
| 25     | Boxes and bags, paper .....                   | 54                                  | 3,910,865                     | 2,956                              | 1,076,557                | 3,361,023                         |               |
| 26     | Boxes, cigar .....                            | 4                                   | 284,500                       | 277                                | 92,879                   | 283,485                           |               |
| 27     | Boxes, wooden .....                           | 119                                 | 3,458,069                     | 2,415                              | 973,244                  | 3,386,327                         |               |
| 28     | Brass castings .....                          | 36                                  | 3,000,762                     | 1,306                              | 774,100                  | 3,093,006                         |               |
| 29     | Brass and iron beds .....                     | 8                                   | 1,044,264                     | 640                                | 299,198                  | 1,212,550                         |               |
| 30     | Bread, biscuits and confec-<br>tionery .....  | 323                                 | 16,756,289                    | 10,003                             | 4,660,221                | 25,566,691                        |               |
| 31     | Brick, tile and pottery .....                 | 399                                 | 14,782,226                    | 8,681                              | 3,372,000                | 8,291,561                         |               |
| 32     | Bridges, iron and steel .....                 | 11                                  | 5,781,898                     | 2,276                              | 1,488,839                | 6,502,410                         |               |
| 33     | Brooms and brushes .....                      | 35                                  | 1,404,568                     | 937                                | 426,325                  | 1,731,523                         |               |
| 34     | Butter and cheese .....                       | 3,625                               | 8,747,558                     | 6,147                              | 1,701,775                | 37,232,969                        |               |
| 35     | Buttons .....                                 | 7                                   | 425,600                       | 467                                | 177,180                  | 407,000                           |               |
| 36     | Carbide of calcium .....                      | 5                                   | 616,994                       | 200                                | 118,089                  | 515,457                           |               |
| 37     | Cardboard .....                               | 7                                   | 831,482                       | 233                                | 104,143                  | 506,077                           |               |
| 38     | Carpets .....                                 | 6                                   | 2,037,487                     | 1,070                              | 518,466                  | 1,971,500                         |               |
| 39     | Car repairs .....                             | 114                                 | 5,801,063                     | 22,009                             | 13,553,539               | 31,817,882                        |               |
| 40     | Carriages and wagons .....                    | 287                                 | 13,139,518                    | 5,623                              | 2,948,667                | 11,766,882                        |               |
| 41     | Carriage and wagon mater-<br>ials .....       | 37                                  | 3,323,136                     | 1,371                              | 737,974                  | 3,172,652                         |               |
| 42     | Cars and car works .....                      | 15                                  | 22,366,123                    | 6,909                              | 3,676,819                | 16,630,634                        |               |
| 43     | Cement blocks and tiles .....                 | 84                                  | 1,321,600                     | 1,024                              | 477,452                  | 1,921,687                         |               |
| 44     | Cement, Portland .....                        | 21                                  | 17,114,255                    | 2,150                              | 1,343,444                | 5,683,036                         |               |
| 45     | Charcoal .....                                | 3                                   | 824,886                       | 58                                 | 39,110                   | 168,952                           |               |
| 46     | Chewing gum .....                             | 8                                   | 899,474                       | 234                                | 100,565                  | 816,069                           |               |
| 47     | Church decorations .....                      | 4                                   | 116,000                       | 79                                 | 39,206                   | 107,085                           |               |

## Census of the Manufactures of Canada, 1911—continued.

| No.         | Name or kind of industry                     | Estab-<br>lish-<br>ments<br>No. | Capital<br>employed<br>\$ | Employees on<br>salaries and wages |                          | Value of<br>products<br>\$ |
|-------------|--|---------------------------------|---------------------------|------------------------------------|--------------------------|----------------------------|
|             |  |                                 |                           | No.                                | Salaries and<br>wages \$ |                            |
| Canada—con. |  |                                 |                           |                                    |                          |                            |
| 48          | Clothing, men's.....                         | 330                             | 4,857,673                 | 5,660                              | 2,650,457                | 8,724,063                  |
| 49          | Clothing, men's (factory pro-<br>duct).....  | 225                             | 11,492,654                | 14,098                             | 6,880,037                | 25,020,865                 |
| 50          | Clothing, women's.....                       | 238                             | 3,253,988                 | 4,691                              | 1,625,391                | 5,943,997                  |
| 51          | Clothing, women's (factory<br>product).....  | 93                              | 5,671,105                 | 11,394                             | 5,130,730                | 15,083,345                 |
| 52          | Cocoa and chocolate.....                     | 6                               | 1,291,000                 | 471                                | 164,366                  | 1,193,486                  |
| 53          | Coffees and spices.....                      | 25                              | 3,016,012                 | 568                                | 351,819                  | 3,274,711                  |
| 54          | Coffins and caskets.....                     | 22                              | 1,787,575                 | 700                                | 336,250                  | 1,447,358                  |
| 55          | Coke.....                                    | 5                               | 3,057,971                 | 419                                | 297,213                  | 1,460,028                  |
| 56          | Combs.....                                   | 7                               | 126,250                   | 175                                | 64,432                   | 186,966                    |
| 57          | Condensed milk.....                          | 11                              | 929,649                   | 366                                | 170,364                  | 1,814,871                  |
| 58          | Confectioners' supplies.....                 | 4                               | 269,882                   | 88                                 | 51,488                   | 282,017                    |
| 59          | Cooperage.....                               | 113                             | 2,065,871                 | 1,704                              | 643,399                  | 2,409,577                  |
| 60          | Cordage, rope and twine....                  | 9                               | 4,314,411                 | 1,055                              | 420,659                  | 3,624,113                  |
| 61          | Corks.....                                   | 9                               | 783,874                   | 214                                | 103,041                  | 541,058                    |
| 62          | Corsets and supplies.....                    | 11                              | 1,066,678                 | 1,138                              | 352,322                  | 1,572,105                  |
| 63          | Cottons.....                                 | 26                              | 33,091,344                | 13,041                             | 4,828,527                | 24,584,931                 |
| 64          | Cream separators.....                        | 4                               | 923,950                   | 252                                | 123,866                  | 639,656                    |
| 65          | Dies and moulds.....                         | 8                               | 137,300                   | 135                                | 71,149                   | 136,720                    |
| 66          | Drugs.....                                   | 40                              | 5,870,991                 | 1,336                              | 696,899                  | 3,632,794                  |
| 67          | Dyeing, cleaning and scour-<br>ing.....      | 78                              | 3,042,014                 | 3,054                              | 1,308,221                | 2,792,938                  |
| 68          | Electrical apparatus and<br>supplies.....    | 47                              | 17,293,354                | 6,345                              | 3,497,089                | 15,021,841                 |
| 69          | Electric light and power....                 | 206                             | 110,838,746               | 6,039                              | 2,366,848                | 12,917,232                 |
| 70          | Elevators.....                               | 10                              | 1,398,056                 | 556                                | 345,070                  | 1,506,756                  |
| 71          | Evaporated fruits and vege-<br>tables.....   | 65                              | 510,065                   | 1,240                              | 116,715                  | 448,929                    |
| 72          | Explosives.....                              | 7                               | 1,916,506                 | 482                                | 263,314                  | 2,168,500                  |
| 73          | Fancy goods.....                             | 5                               | 183,100                   | 63                                 | 39,460                   | 240,100                    |
| 74          | Feather goods.....                           | 4                               | 220,283                   | 208                                | 81,502                   | 339,617                    |
| 75          | Fertilisers.....                             | 10                              | 985,500                   | 127                                | 140,341                  | 613,733                    |
| 76          | Files.....                                   | 3                               | 360,700                   | 153                                | 81,504                   | 226,400                    |
| 77          | Firemen's supplies.....                      | 5                               | 82,297                    | 54                                 | 27,376                   | 98,619                     |
| 78          | Fish, preserved.....                         | 1,521                           | 13,239,279                | 18,320                             | 2,165,071                | 12,390,237                 |
| 79          | Flax, dressed.....                           | 30                              | 421,389                   | 1,121                              | 168,860                  | 548,559                    |
| 80          | Flour and gristmill products                 | 1,141                           | 42,905,689                | 6,791                              | 3,756,275                | 82,494,826                 |
| 81          | Foods, prepared.....                         | 11                              | 387,987                   | 91                                 | 53,437                   | 507,070                    |
| 82          | Foundry and machine shop<br>products.....    | 514                             | 53,068,046                | 26,835                             | 14,740,095               | 45,611,416                 |
| 83          | Fringes, cords and tassels..                 | 4                               | 88,000                    | 192                                | 69,271                   | 200,000                    |
| 84          | Fruit and vegetable canning                  | 82                              | 5,512,474                 | 5,842                              | 915,008                  | 5,971,082                  |
| 85          | Furs, dressed.....                           | 5                               | 198,500                   | 271                                | 134,532                  | 1,973,000                  |
| 86          | Furnishing goods, men's....                  | 53                              | 3,659,916                 | 4,599                              | 1,514,786                | 6,964,137                  |
| 87          | Furniture and upholstered<br>goods.....      | 172                             | 13,746,262                | 8,935                              | 4,044,236                | 12,369,366                 |
| 88          | Gas, lighting and heating..                  | 31                              | 14,183,026                | 1,519                              | 948,862                  | 4,005,836                  |
| 89          | Gas machines.....                            | 16                              | 425,740                   | 414                                | 212,918                  | 731,120                    |
| 90          | Glass.....                                   | 9                               | 3,521,000                 | 2,034                              | 999,469                  | 2,269,158                  |
| 91          | Glass, stained, cut and orna-<br>mental..... | 21                              | 526,069                   | 525                                | 272,078                  | 1,006,266                  |
| 92          | Gloves and mittens.....                      | 35                              | 1,908,675                 | 1,651                              | 620,923                  | 2,995,356                  |
| 93          | Glue.....                                    | 8                               | 818,241                   | 264                                | 134,679                  | 584,766                    |
| 94          | Graphite.....                                | 3                               | 221,300                   | 191                                | 62,787                   | 112,467                    |
| 95          | Grindstones and pulpstones.                  | 4                               | 174,000                   | 176                                | 45,650                   | 64,350                     |

## Census of the Manufactures of Canada, 1911—continued.

| No.         | Name or kind of industry                      | Estab-<br>lish-<br>ments<br>No. | Capital<br>employed<br>\$ | Employees on salaries<br>and wages |                          | Value of<br>products<br>\$ |
|-------------|---|---------------------------------|---------------------------|------------------------------------|--------------------------|----------------------------|
|             |   |                                 |                           | No.                                | Salaries and<br>wages \$ |                            |
| Canada—con. |   |                                 |                           |                                    |                          |                            |
| 96          | Hairwork.....                                 | 13                              | 525,543                   | 297                                | 125,362                  | 487,241                    |
| 97          | Hardware, carriage and sad-<br>dlery.....     | 4                               | 638,500                   | 848                                | 471,260                  | 952,060                    |
| 98          | Harness and saddlery.....                     | 57                              | 4,866,192                 | 1,904                              | 1,098,962                | 5,205,454                  |
| 99          | Hats, caps and furs.....                      | 139                             | 10,653,627                | 4,639                              | 2,244,170                | 11,155,103                 |
| 100         | Hosiery and knit goods.....                   | 68                              | 11,938,929                | 8,364                              | 2,814,667                | 13,393,854                 |
| 101         | Housebuilding.....                            | 267                             | 4,810,105                 | 4,701                              | 2,454,762                | 9,229,023                  |
| 102         | Incubators.....                               | 3                               | 202,200                   | 93                                 | 67,778                   | 154,550                    |
| 103         | Inks.....                                     | 12                              | 486,093                   | 149                                | 112,715                  | 568,255                    |
| 104         | Interior decorations.....                     | 40                              | 2,065,239                 | 1,312                              | 756,169                  | 2,106,274                  |
| 105         | Iron and steel products.....                  | 89                              | 34,201,946                | 11,286                             | 7,147,253                | 34,613,710                 |
| 106         | Jewelry cases.....                            | 4                               | 52,550                    | 78                                 | 33,934                   | 80,558                     |
| 107         | Jewelry and repairs.....                      | 58                              | 4,036,962                 | 1,647                              | 910,674                  | 3,124,272                  |
| 108         | Laces and braids.....                         | 4                               | 217,123                   | 154                                | 51,161                   | 168,725                    |
| 109         | Ladders.....                                  | 3                               | 65,400                    | 39                                 | 18,458                   | 53,500                     |
| 110         | Lasts and pegs.....                           | 8                               | 131,800                   | 154                                | 75,118                   | 149,150                    |
| 111         | Leather goods.....                            | 30                              | 2,046,781                 | 1,032                              | 482,822                  | 2,402,304                  |
| 112         | Leather, tanned, curried and<br>finished..... | 113                             | 17,068,768                | 3,799                              | 2,094,677                | 19,972,178                 |
| 113         | Lightning rods.....                           | 4                               | 34,541                    | 22                                 | 18,949                   | 108,541                    |
| 114         | Lime.....                                     | 52                              | 1,595,201                 | 559                                | 257,830                  | 763,421                    |
| 115         | Linen.....                                    | 3                               | 334,000                   | 128                                | 34,200                   | 299,000                    |
| 116         | Liquors, distilled.....                       | 11                              | 13,438,798                | 844                                | 588,923                  | 12,064,459                 |
| 117         | Liquors, malt.....                            | 100                             | 23,788,784                | 3,062                              | 2,369,441                | 12,468,500                 |
| 118         | Liquors, vinous.....                          | 13                              | 898,170                   | 86                                 | 54,784                   | 363,200                    |
| 119         | Lock and gunsmithing.....                     | 6                               | 575,873                   | 289                                | 136,360                  | 304,709                    |
| 120         | Log products.....                             | 3,499                           | 146,395,438               | 76,421                             | 25,822,383               | 105,506,196                |
| 121         | Lumber products.....                          | 859                             | 52,547,261                | 17,225                             | 9,615,046                | 39,805,615                 |
| 122         | Malt.....                                     | 8                               | 1,242,000                 | 125                                | 54,766                   | 1,232,393                  |
| 123         | Mantels and grates.....                       | 4                               | 103,014                   | 104                                | 72,400                   | 183,944                    |
| 124         | Maple syrup and sugar.....                    | 5                               | 29,200                    | 24                                 | 5,753                    | 46,240                     |
| 125         | Masts and spars.....                          | 3                               | 33,200                    | 22                                 | 10,340                   | 21,950                     |
| 126         | Matches.....                                  | 4                               | 480,475                   | 460                                | 93,551                   | 349,337                    |
| 127         | Mats and rugs.....                            | 7                               | 106,269                   | 88                                 | 37,459                   | 112,673                    |
| 128         | Mattresses and spring beds.....               | 52                              | 1,689,414                 | 1,304                              | 746,578                  | 2,332,651                  |
| 129         | Metallic roofing and flooring.....            | 7                               | 2,148,426                 | 465                                | 323,310                  | 1,874,238                  |
| 130         | Mica, cut.....                                | 13                              | 92,012                    | 855                                | 132,762                  | 383,934                    |
| 131         | Mirrors and plate glass.....                  | 15                              | 904,200                   | 552                                | 307,253                  | 897,972                    |
| 132         | Miscellaneous.....                            | 3                               | 167,500                   | 43                                 | 27,257                   | 100,400                    |
| 133         | Monuments and tombstones.....                 | 78                              | 1,111,651                 | 783                                | 480,282                  | 1,330,978                  |
| 134         | Musical instruments.....                      | 42                              | 6,524,510                 | 3,302                              | 1,858,750                | 6,120,912                  |
| 135         | Musical instrument mate-<br>rials.....        | 8                               | 971,443                   | 599                                | 333,114                  | 920,494                    |
| 136         | Oils.....                                     | 29                              | 5,998,903                 | 1,210                              | 732,280                  | 7,682,519                  |
| 137         | Optical goods.....                            | 12                              | 370,478                   | 262                                | 151,447                  | 420,966                    |
| 138         | Paints and varnishes.....                     | 26                              | 6,277,915                 | 1,198                              | 791,746                  | 8,041,154                  |
| 139         | Paper.....                                    | 35                              | 23,104,569                | 5,625                              | 2,895,717                | 14,199,014                 |
| 140         | Paper patterns.....                           | 6                               | 89,352                    | 151                                | 58,530                   | 272,335                    |
| 141         | Patent medicines.....                         | 37                              | 3,014,652                 | 1,059                              | 550,200                  | 3,214,939                  |
| 142         | Patterns.....                                 | 10                              | 37,500                    | 70                                 | 48,864                   | 77,478                     |
| 143         | Photographic materials.....                   | 4                               | 546,038                   | 330                                | 171,722                  | 400,969                    |
| 144         | Picture frames.....                           | 12                              | 854,424                   | 566                                | 324,079                  | 791,398                    |
| 145         | Pipe and boiler covering.....                 | 4                               | 58,000                    | 34                                 | 18,000                   | 46,158                     |

## Census of the Manufactures of Canada, 1911—continued.

| No.         | Name or kind of industry                          | Estab-<br>lish-<br>ments | Capital<br>employed<br>\$ | Employees on salaries<br>and wages |                          | Value<br>of<br>products<br>\$ |
|-------------|---|--------------------------|---------------------------|------------------------------------|--------------------------|-------------------------------|
|             |   |                          |                           | No.                                | Salaries and<br>wages \$ |                               |
| Canada—con. |   |                          |                           |                                    |                          |                               |
| 146         | Plaster .....                                     | 7                        | 1,245,000                 | 348                                | 189,774                  | 634,005                       |
| 147         | Plaster and stucco .....                          | 4                        | 68,470                    | 61                                 | 47,530                   | 86,968                        |
| 148         | Plumbers' supplies .....                          | 17                       | 2,563,136                 | 821                                | 678,355                  | 2,283,630                     |
| 149         | Plumbing and tinsmithing .....                    | 155                      | 9,823,314                 | 5,639                              | 2,894,568                | 9,889,514                     |
| 150         | Printing and bookbinding .....                    | 188                      | 11,811,730                | 7,260                              | 4,438,189                | 10,811,393                    |
| 151         | Printing and publishing .....                     | 434                      | 18,064,146                | 8,825                              | 5,551,037                | 13,323,294                    |
| 152         | Printers' supplies .....                          | 3                        | 34,200                    | 28                                 | 17,968                   | 23,500                        |
| 153         | Pulleys .....                                     | 4                        | 101,926                   | 74                                 | 42,659                   | 67,000                        |
| 154         | Pumps and windmills .....                         | 29                       | 1,405,505                 | 612                                | 352,933                  | 1,613,222                     |
| 155         | Railway supplies .....                            | 6                        | 362,334                   | 157                                | 98,182                   | 287,576                       |
| 156         | Refrigerators .....                               | 5                        | 715,652                   | 346                                | 168,360                  | 586,000                       |
| 157         | Rice, cleaning and polishing .....                | 3                        | 610,000                   | 50                                 | 37,740                   | 610,000                       |
| 158         | Roofing and roofing materials .....               | 23                       | 2,135,498                 | 815                                | 575,169                  | 2,778,182                     |
| 159         | Rubber clothing .....                             | 17                       | 676,685                   | 547                                | 237,459                  | 1,189,930                     |
| 160         | Rubber and elastic goods .....                    | 11                       | 4,457,162                 | 1,315                              | 697,021                  | 5,849,271                     |
| 161         | Safes and vaults .....                            | 3                        | 793,000                   | 449                                | 208,674                  | 460,070                       |
| 162         | Salt .....  | 5                        | 222,099                   | 76                                 | 31,710                   | 122,985                       |
| 163         | Saws .....  | 11                       | 1,913,302                 | 486                                | 311,972                  | 879,476                       |
| 164         | Scales .....                                      | 8                        | 564,526                   | 260                                | 169,097                  | 506,028                       |
| 165         | Sea grass .....                                   | 12                       | 50,650                    | 100                                | 17,940                   | 40,389                        |
| 166         | Seed cleaning and preparing .....                 | 15                       | 765,000                   | 455                                | 116,349                  | 1,484,485                     |
| 167         | Sewing machines .....                             | 4                        | 1,584,500                 | 769                                | 394,566                  | 974,490                       |
| 168         | Ships and ship repairs .....                      | 43                       | 9,033,448                 | 3,630                              | 2,101,450                | 5,136,257                     |
| 169         | Shoddy .....                                      | 8                        | 575,046                   | 185                                | 87,919                   | 785,048                       |
| 170         | Showcases, box .....                              | 11                       | 405,100                   | 380                                | 162,204                  | 2,350,675                     |
| 171         | Showcases .....                                   | 10                       | 344,076                   | 250                                | 189,708                  | 680,369                       |
| 172         | Signs .....                                       | 12                       | 149,125                   | 161                                | 101,847                  | 234,432                       |
| 173         | Silk and silk goods .....                         | 4                        | 1,387,678                 | 693                                | 304,483                  | 1,009,476                     |
| 174         | Silversmithing .....                              | 15                       | 1,433,160                 | 679                                | 422,846                  | 1,342,727                     |
| 175         | Slaughtering and meat pack-<br>ing .....          | 70                       | 13,746,271                | 3,781                              | 2,406,571                | 41,208,796                    |
| 176         | Slaughtering, not including<br>meat packing ..... | 10                       | 1,574,817                 | 433                                | 278,947                  | 7,318,280                     |
| 177         | Smelting .....                                    | 18                       | 37,351,942                | 6,219                              | 4,776,609                | 33,609,700                    |
| 178         | Soap .....  | 22                       | 5,587,221                 | 917                                | 478,427                  | 5,220,546                     |
| 179         | Sporting goods .....                              | 9                        | 133,875                   | 102                                | 38,197                   | 108,501                       |
| 180         | Spray-motors .....                                | 3                        | 110,000                   | 54                                 | 18,120                   | 60,333                        |
| 181         | Stamps and stencils .....                         | 10                       | 291,518                   | 145                                | 87,295                   | 308,332                       |
| 182         | Starch .....                                      | 11                       | 1,651,375                 | 567                                | 212,809                  | 1,744,381                     |
| 183         | Stationery goods .....                            | 22                       | 1,219,812                 | 923                                | 398,647                  | 1,423,972                     |
| 184         | Stereotyping and electro-<br>typing .....         | 8                        | 461,224                   | 123                                | 106,128                  | 244,176                       |
| 185         | Stone, artificial .....                           | 5                        | 59,724                    | 66                                 | 47,336                   | 94,585                        |
| 186         | Stone, cut .....                                  | 66                       | 5,298,999                 | 2,162                              | 1,276,966                | 2,980,653                     |
| 187         | Sugar, refined .....                              | 8                        | 19,720,333                | 2,164                              | 1,320,563                | 21,260,011                    |
| 188         | Textiles, dyeing and finishing .....              | 7                        | 108,000                   | 95                                 | 46,697                   | 315,810                       |
| 189         | Thread .....                                      | 3                        | 935,000                   | 456                                | 155,611                  | 1,096,900                     |
| 190         | Tobacco, chewing, smoking<br>and snuff .....      | 20                       | 6,783,605                 | 2,007                              | 744,071                  | 7,984,780                     |
| 191         | Tobacco, cigars and cigarettes .....              | 153                      | 14,876,330                | 7,461                              | 3,512,956                | 17,344,543                    |
| 192         | Typewriter supplies .....                         | 3                        | 240,244                   | 39                                 | 27,672                   | 88,082                        |
| 193         | Umbrellas .....                                   | 7                        | 269,000                   | 256                                | 107,178                  | 609,500                       |
| 194         | Vacuum cleaners .....                             | 4                        | 56,700                    | 35                                 | 18,792                   | 44,282                        |
| 195         | Vinegar and pickles .....                         | 30                       | 1,746,225                 | 461                                | 216,329                  | 1,408,934                     |



## Census of the Manufactures of Canada, 1911—concluded.

| No.         | Name or kind of industry                   | Estab-<br>lish-<br>ments<br><br>No. | Capital<br>employed<br><br>\$ | Employees on salaries<br>and wages |                          | Value<br>of<br>products<br><br>\$ |
|-------------|--|-------------------------------------|-------------------------------|------------------------------------|--------------------------|-----------------------------------|
|             |  |                                     |                               | No.                                | Salaries and<br>wages \$ |                                   |
| Canada—con. |  |                                     |                               |                                    |                          |                                   |
| 196         | Wallpaper.....                             | 4                                   | 1,054,548                     | 467                                | 290,511                  | 1,115,290                         |
| 197         | Washing compounds.....                     | 7                                   | 191,231                       | 95                                 | 61,586                   | 282,874                           |
| 198         | Washing machines and<br>wringers.....      | 4                                   | 418,725                       | 175                                | 92,682                   | 420,400                           |
| 199         | Wax candles.....                           | 5                                   | 65,650                        | 31                                 | 15,290                   | 102,900                           |
| 200         | Whips.....                                 | 3                                   | 94,000                        | 63                                 | 29,390                   | 124,350                           |
| 201         | Window blinds and shades..                 | 9                                   | 1,007,815                     | 322                                | 149,135                  | 945,986                           |
| 202         | Wire.....                                  | 13                                  | 2,815,888                     | 1,064                              | 586,940                  | 2,882,166                         |
| 203         | Wire fencing.....                          | 19                                  | 2,059,679                     | 496                                | 342,490                  | 2,608,907                         |
| 204         | Woodenware.....                            | 7                                   | 351,217                       | 383                                | 144,524                  | 360,114                           |
| 205         | Wood pulp, chemical and<br>mechanical..... | 37                                  | 30,782,373                    | 4,141                              | 2,162,290                | 9,117,465                         |
| 206         | Woodworking and turning..                  | 39                                  | 947,886                       | 749                                | 278,408                  | 929,037                           |
| 207         | Wool carding and fulling...                | 38                                  | 141,500                       | 167                                | 43,409                   | 262,377                           |
| 208         | Woolen goods.....                          | 87                                  | 7,657,761                     | 4,312                              | 1,622,695                | 5,738,773                         |
| 209         | Woolen yarns.....                          | 13                                  | 740,044                       | 329                                | 124,428                  | 791,750                           |
| 210         | Wool pulling.....                          | 4                                   | 153,400                       | 45                                 | 18,958                   | 279,460                           |
| 211         | All other industries.....                  | 121                                 | 12,420,303                    | 5,875                              | 2,806,076                | 23,739,495                        |

The cost of raw materials used in the manufactures of 1910 was \$601,140,765, which when deducted from the value of products in the foregoing table gives the value added by manufacture, viz.: \$563,634,767. The details of this information by kinds of industries, together with the separate costs of salaries and wages, will be given in another table.

## PRIZES FOR MILKING MACHINES IN 1913.

In connection with the annual show of the Royal Agricultural Society of England, to be held at Bristol next summer, the Council of the Society have decided to undertake the trial of milking machines in competition for prizes as follows: First prize £25 and Society's gold medal, second prize £10 and Society's silver medal. The following are the principal regulations governing the competition:

1. The trials will be held in the county of Durham in April or May, 1913.
2. Motive power and piping will be available, but competitors must provide any special attachments which they may require.
3. Every machine entered must be capable of milking at least two cows at a time, and the number of cows to be milked will be left to the discretion of the judges.
4. Division of milk receptacles must be so arranged that records of each cow milked can be taken.
5. The following are some of the points to which the special attention of the judges will be called:
  - (a) Time taken in milking.
  - (b) Weight of milk exclusive of strippings.
  - (c) Convenience in attachment to the cows, taking into account ease of replacing where machine has become detached from any cause.
  - (d) Security of attachment to teats.
  - (e) Gentleness in operation.
  - (f) Ease in regulating speed of machine.

- (g) Condition of milk.
- (h) Ease and thoroughness of cleansing.
- (i) Lightness of milk receptacles.
- (j) Minimum of supervision during milking, so that man in charge can leave cows to carry milk to the dairy, etc.

The Implement trials of the Royal Agricultural Society have long been noted for their thoroughness and practical value. They are open to general competition; and it may be recalled that at the trials of the wind pumping engines held by the Society at Park Royal, London, in 1903, the chief honours were carried off by a Canadian firm. The trials at Bristol, which is a convenient port for competitors from this side of the Atlantic, afford an excellent opportunity for Canadian inventors and agricultural implement makers; and the results of the trials will also have much practical interest for Canadian dairy farmers to whom a really reliable milking machine would be a great boon in the saving of labour and in increasing the number of cows possible to be kept.

Entry forms are obtainable from the Secretary of the Society at 16 Bedford Square, London W.C., England, and the last date for receipt of entries is Saturday, February 1, 1913. Each entry must be accompanied by a deposit of £5 returnable to those whose machines are duly submitted for competition and exhibition at the Bristol Show.

### POPULATION OF ENGLAND AND WALES, 1911.

In the Census and Statistics Monthly for July 1911 particulars were given of the population of the United Kingdom, as contained in the preliminary report of the English Census. We have now received Vol. 1 of the Census Report dealing with Administrative Areas [Cd. 6,258], and from it we learn that the finally corrected record of the population of England and Wales on April 2, 1911, is 36,070,492, or less by 4,777 than the unrevised total of the preliminary report. Attention may be drawn to one or two other points brought out in the new volume now published.

The aggregate land area of England and Wales is 37,138,430 acres, distributed as follows:

| Distribution                      | Acres      | Distribution   | Acres      |
|-----------------------------------|------------|--|------------|
| Grain crops.....                  | 5,822,694  | Rough grazings.....                                  | 3,806,236  |
| Permanent grass.....              | 15,949,603 | Woods, houses, streets, roads,<br>railways, etc..... | 6,083,371  |
| Clover and grasses in rotation... | 2,608,777  |  |            |
| Potatoes and roots.....           | 2,003,814  |  |            |
| Other crops and bare fallow.....  | 863,935    | Total .....  | 37,138,430 |

For 1911 the average density per square mile works out to 618, as compared with 558 in 1901, 497 in 1891 and 152 in 1801.

As previously recorded the population in England and Wales has increased to the extent of 10·9 p. c., as compared with 12·17 p. c. from 1881 to

1901, the figures for the United Kingdom being 9·1 compared with 9·9 p.c. The natural increase of the population, that is, the excess of births over deaths, is shown to be 12·43 p.c. from 1901-1911, as compared with 12·39 p.c. from 1891-1901. The stationary character of the rate in the two last decennia is due mainly to a remarkable decrease in the rate of mortality, for the per cent decrease in population caused by deaths is 16·13 from 1901 to 1911, against 19·18 p.c. from 1891 to 1901 and 20·27 p.c. from 1881 to 1891. The birth-rate shows a decline, the increase being 28·56 p.c. from 1901 to 1911, 31·57 p.c. from 1891 to 1901, 34·24 p.c. from 1881 to 1891 and 37·89 p.c. from 1871 to 1881. There is as yet, the report states, no indication of any check in the decline of the birth-rate, while it is obvious that the death-rate cannot continue to decline indefinitely. The decline therefore in the rate of growth must be due to loss by migration.

In this connection the report gives a table showing for three decennial periods the per cent growth of the populations of different countries. For the last decade the tables show that Canada stands at the head of all countries in respect of the rate of increase. Thus from 1901 to 1911 the Canadian population has increased at the rate of 34·1 p.c., the countries next in order being New Zealand, 30·5 p.c., and the United States, 21 p.c. Of European countries five, France (1·6), Italy (6·8), Norway (6·8), Sweden (7·5) and Hungary (8·5), have increased at a rate below that of the United Kingdom (9·1), whilst six countries exceed this rate, viz., Austria (9·3), Belgium (10·9), Switzerland (13·2), Denmark (12·6), the Netherlands (14·8) and the German Empire (15·2).

Of the total population of 1911 in England and Wales 78·1 p. c. were in urban and 21·9 p. c. were in rural districts, the corresponding figures of 1901 being 77 p. c. and 23 p.c. In 1851 the population was nearly evenly distributed between urban (50·2 p. c.) and rural (49·8 p. c.); but the subsequent censuses have shown progressively an increase in the urban and a decrease in the rural proportions.

Finally we may mention the relative proportion of the sexes. At birth males usually predominate, the average proportion in England and Wales during the last 50 years having been 1,041 boys to 1,000 girls; but this initial male predominance is soon lost, and for the last two censuses the number of females to 1,000 males in England and Wales has been 1,068. In most other European countries the census shows that females predominate in number, the excess per 1,000 males ranging in a table given from 4 in the case of Ireland to 69 in Norway. On the other hand in India, Ceylon, Australasia, South Africa and the North American continent the female deficiency ranges from 47 per 1,000 males in the case of India to 114 in the case of Canada, which thus, in addition to showing the largest rate of increase in population, leads the world numerically in the matrimonial possibilities for women.

## COST OF LIVING IN AUSTRALIA.

The present high cost of living is a phenomenon not only observable and experienced in Canada, but also throughout the civilised world, though its intensity may vary with local conditions. It has given rise to special inquiries into the price of commodities and the cost of living.

From July 1, 1910, to June 30, 1911, the Bureau of Census and Statistics of Australia carried out such an inquiry into the cost of living in Australia, and the results have been published in pamphlet form by Mr. G. H. Knibbs, C.M.G., F.S.S., the Commonwealth Statistician. The inquiry was conducted by means of budget books distributed amongst approximately 1,500 families; but of this number only 222, or 14 p.c., were returned at the end of the 12 months and only 212 were available for compilation. In reporting the results the budgets were classified into those representing incomes of over £200 (\$973) and incomes of under this amount, and each of these classes was subdivided into families of over 4 members and families of 4 members and under.

The following is a statement of the average weekly income and expenditure of the families whose budgets were compiled :

| Items            | Incomes over £200 per annum (\$973) |                     | Incomes of £200 per annum (\$973) |                     | General average for all families |
|------------------|-------------------------------------|---------------------|-----------------------------------|---------------------|----------------------------------|
|                  | over 4 members                      | 4 members and under | over 4 members                    | 4 members and under |                                  |
|                  | \$ c                                | \$ c                | \$ c                              | \$ c                | \$ c                             |
| Income .....     | 31.10                               | 33.15               | 15.00                             | 14.15               | 22.66                            |
| Expenditure..... | 27.30                               | 24.91               | 13.47                             | 12.86               | 19.32                            |
| Difference.....  | 3.80                                | 8.24                | 1.53                              | 1.29                | 3.34                             |

The difference represents the average saving per week which in the year amounts to \$197.60, \$128.48, \$79.56, \$173.68, respectively. In the report the results of the inquiry are analysed in a variety of ways and some interesting points are brought out in comparisons with other countries that have made similar inquiries. Thus the following table shows the relative distribution of expenditure in percentage of the total in Australia as compared with the United States (inquiry of 1902) and Germany (inquiry of 1907) :

| Country            | Housing | Food  | Fuel and light | Clothing | Other Expenditures |
|--------------------|---------|-------|----------------|----------|--------------------|
|                    | p.c.    | p.c.  | p.c.           | p.c.     | p.c.               |
| Australia.....     | 13.70   | 29.30 | 3.46           | 12.72    | 40.82              |
| United States..... | 17.40   | 36.45 | 5.03           | 15.72    | 25.40              |
| Germany.....       | 14.90   | 30.31 | 3.12           | 14.91    | 36.76              |

It will be seen that the cost of food is the most important consideration, amounting in Australia to over 29 p.c. of the total expenditure; next comes housing 13.70 p.c., followed closely by clothing 12.72 p.c., while expenditure on fuel and light amounts to 3.46 p.c. It is stated that the budgets included a considerable proportion of returns from householders whose habits are thrifty and economical and who habitually exercise a careful supervision over expenditure, and that therefore the average amount specified on various items, especially those which are of the nature of luxuries, are probably somewhat too low to be representative of the general community.



## THE WEATHER DURING JULY.

The Dominion Meteorological Office reports that the mean temperature for July was below the average over the larger part of the Dominion, but in southwestern British Columbia, central Ontario, the St. Lawrence valley as far east as Quebec, and very locally in the Maritime provinces, the normal was just reached or slightly exceeded. Cool conditions were especially marked in the western provinces, where some light frosts occurred, this being also the case in northern Ontario. In Alberta and Saskatchewan the departure from average was generally between  $-2^{\circ}$  and  $-4^{\circ}$ . Some periods of extreme heat were experienced in all districts, and at Halifax the highest temperature on record for that station was registered on the 10th. The distribution of precipitation during July varied considerably with the district; but, speaking generally, the amount recorded from British Columbia to and including Manitoba, also eastern Quebec, and the Maritime provinces, was considerably above the average, while in other districts the fall was deficient. Locally in the lower mainland of British Columbia, southeastern Alberta, southwestern Saskatchewan and southwestern Nova Scotia, the registered value was subnormal, while in parts of the peninsula and central districts of Ontario, the fall exceeded the normal. In many parts of the western provinces the precipitation was nearly double the normal, and heavy thunderstorms were of frequent occurrence.

## COLONIAL AND FOREIGN PRODUCE IN BRITISH MARKETS.

**Wheat, etc.** On July 29 the prices for imported wheats at Mark Lane per quarter of 496 lb. were as follows: Manitoba No. 2 42s 6d-42s 9d, No. 3 40s 6d-41s, No. 4 37s-37s 3d, No. 5 32s 6d-33s, No. 6 27s-28s, feed 24s 25s, Australian 41s 9d-42s, New Zealand 40s-40s 6d, Russian finest 41s 6d-42s 6d, good 40s-6d-41s 6d, com. 39s 6d-40s 6d, Californian 41s-41s 6d, Blue Stem 40s 9d-41s 3d, white Walla 40s-40s 3d, red Walla 39s 6d-39s 9d, white Bombay 40s 9d-41s 3d, white Calcutta 40s 3d-40s 9d, white Karachi 40s-40s 3d, red Karachi 39s 9d-40s, Bahia Blanca 39s-40s, Rosa Fé-38s-39s, Baruso 37s-38s. Canadian oats per 320 lb. 24s 6d-24s 9d. Split peas per 504 lb., Canadian 45s-46s, Indian 50s 52s.

**Flour.** On July 29 the Mark Lane prices for imported flour per sack of 280 lb. were: Hungarian 37s 6d-38s, Iron Duke 28s-28s 3d, American finest 30s 6d-31s 6d, 1st. pat. 29s 6d-30s 6d, 2nd. pat. 28s 6d-29s 6d, 1st. bak. 27s 3d-27s 6d, 2nd. bak. 26s 6d-26s 9d, low grade 21s 6d-22s, Manitoba pat. 29s 6d-29s 9d, straights 28s 9d-29s, Kansas best 29s-29s 3d, firsts 28s 6d-28s 9d, seconds 27s 3d-27s 6d, Californian 31s-32s, Australian 27s 6d-28s 6d, French fine 33s-34s, Belgian 31s-32s, Galatz 33s-35s.

**Fresh Meats.** The average official monthly prices in June were per 112 lb.: Canadian and U. S. A. port-killed, London 67s 6d and 65s; Liverpool 66s and 62s; Argentine frozen hind quarters, London Edinburgh and Glas-

gow 41s 6d ; Birmingham 42s 6d ; Liverpool and Manchester 42s ; fore quarters, London 35s 6d ; Birmingham 35s ; Liverpool and Manchester 33s ; Edinburgh 34s 6d ; Argentine chilled hind quarters, London and Birmingham 46s ; Liverpool and Manchester 45s ; Edinburgh 48s ; Glasgow 50s ; fore quarters, London and Glasgow 36s 6d ; Birmingham, Liverpool and Manchester 36s ; Edinburgh 37s 6d ; Australian frozen hind quarters, London and Birmingham 34s 6d ; Liverpool and Manchester 32s 6d ; Glasgow 33s. For the week ended July 31 the prices were: Canadian and U.S.A. port-killed, London 63s and 60s 8d ; Liverpool 65s 4d and 60s 8d ; Argentine frozen hind quarters, London, Leeds and Glasgow 37s 4d ; Birmingham 38s 6d ; Liverpool and Manchester 39s 8d ; Dundee 42s ; Edinburgh 40s 10d ; Australian frozen hind quarters, London, Liverpool and Manchester 37s 4d ; Birmingham and Leeds 38s 6d ; Glasgow 35s.

**Bacon and Hams.** The average official prices in June for Canadian bacon per 112 lb. were : London 68s 6d and 66s ; Bristol 68s and 66s ; Liverpool 66s and 63s 6d ; Glasgow 67s 6d and 65s 6d. For American long cut hams the prices were : London 74s and 71s ; Bristol 66s and 62s ; Liverpool 65s 6d and 61s ; Glasgow 64s. For the week ended July 31 the prices for bacon were : Canadian sides, London and Bristol 71s and 68s ; Liverpool 70s and 66s ; Glasgow 71s and 69s ; Canadian Cumberland cuts, Liverpool 70s and 67s ; Glasgow 71s and 68s ; Danish sides, London 79s and 75s ; Bristol 78s and 73s ; Liverpool 77s and 74s ; American long cut green hams, London 75s and 70s ; Bristol 64s and 62s ; Liverpool 64s and 61s ; Glasgow 65s ; American short cut green hams, London 63s and 62s ; Bristol 63s and 61s ; Liverpool 66s and 61s ; Glasgow 63s.

**Cheese.** The average prices in June for Canadian cheese per 112 lb. were : London 71s and 69s 6d ; Bristol 69s and 67s ; Liverpool 67s 6d and 66s 6d ; Glasgow 66s (first quality). For the week ended July 31 the prices were : London 66s and 65s ; Bristol 65s and 63s ; Liverpool 65s 6d and 62s 6d ; Glasgow 68s ; New Zealand, London 66s and 65s ; Bristol 70s and 68s.

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PUBLISHED BY AUTHORITY OF HONOURABLE GEORGE E. FOSTER, MINISTER OF TRADE AND COMMERCE. CORRESPONDENCE RELATING TO THE CENSUS AND STATISTICS MONTHLY SHOULD BE ADDRESSED TO ARCHIBALD BLEE, CHIEF OFFICER OF THE CENSUS AND STATISTICS OFFICE, DEPARTMENT OF TRADE AND COMMERCE, OTTAWA, CANADA.

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## FIELD CROPS AND LIVE STOCK IN CANADA.

Report for the month ended August 31 1912.

The cold, wet weather which prevailed throughout Canada during August delayed ripening and the harvest is everywhere later than usual ; but no serious frosts have as yet been reported. All crops show an improvement since the end of July, excepting peas, beans and corn. The average condition of spring wheat is 84·57 p.c. of the standard or full crop, which is represented by 100 ; rye is 84·14, barley 87·29, oats 88·15, mixed grains 86·57 and flax 87·84. These figures are higher than those of a month ago by about 1 p.c. for wheat, rye and flax, 4 or 5 p.c. for barley, mixed grains and buckwheat and 7 p.c. for oats. On the whole they compare not unfavourably with the figures at the corresponding date of last year,—oats, barley, rye, buckwheat and mixed grains being in fact higher, while spring wheat is about two points lower. Peas are 74 against 76 last month and 72 last year ; beans are 76·71 against 79·27 last month and 80·92 last year. Corn for husking is 69·66 and for fodder 76, compared with 70·37 and 73·19 last month and with 81·46 and 86·55 last year. Root crops and pasture show an excellent condition, the figures ranging from 86·64 for sugar beets to 92·10 for potatoes and 91·79 for pasture.

From the reports furnished by correspondents it is calculated that of the areas sown in Canada 3 p.c. of spring wheat, 2·3 p.c. of oats, 2·1 p.c. of barley and 3·8 p.c. of flax will from various causes, such as hail, flood, pests, etc., be entirely unproductive, and the following preliminary estimates of yield are therefore based upon the areas to be harvested.

Of spring wheat the average yield per acre for Canada is provisionally placed at 21·08 bushels, which upon a harvested area of 8,977,400 acres makes the total yield of spring wheat to be 189,256,000 bushels. This quantity, added to the estimate of 16,773,300 bushels of fall wheat as published last month, gives the wheat total as 206,029,300 bushels, compared with the final estimate for 1911 of 215,851,300 bushels. The yield per acre in 1911 was 22·19 bushels for fall and 20·63 bushels for spring wheat.

The rye estimate is 3,136,000 bushels from 148,700 acres, a yield per acre of 21.09 bushels compared with 2,694,400 bushels from 142,571 acres last year, a yield per acre of 18.89 bushels.

Barley, with a yield per acre of 32.86 bushels, gives a total yield of 46,497,000 bushels from the harvested acreage of 1,415,200, the relative yield last year being 28.94 bushels per acre.

Oats yield 40.90 bushels per acre, as compared with 37.76 bushels last year. The total yield is 376,943,000 bushels upon a harvested area of 9,216,900 acres, the final figures of 1911 being 348,187,600 bushels from 9,219,920 acres.

Flaxseed upon a greatly increased acreage of 1,677,800 (allowing for deduction of non-productive areas) is expected to yield 23,145,000 bushels, or at the rate of 13.74 bushels per acre, figures which compare with a total of 7,867,000 bushels from a productive area of only 682,622 acres last year when, it will be recalled, so large a proportion of the area sown in the Northwest provinces was not harvested in consequence of the late and stormy season.

For the three Northwest provinces the total yield of spring and fall wheat is estimated at 189,984,000 bushels as compared with 194,083,000 bushels in 1911; of oats the estimated yield is 230,387,000 bushels compared with 212,819,000 bushels and of barley 29,189,000 bushels compared with 24,043,000 bushels.

The general condition of live stock is very satisfactory, being expressed in percentages of a standard of 100, representing a healthy and thrifty state, as 94.66 p.c. for horses, 94.90 p.c. for milch cows, 96 p.c. for other cattle, 93.72 p.c. for sheep and 94.81 p.c. for swine.

Census and Statistics Office  
Ottawa, September 14.

ARCHIBALD BLUE  
Chief Officer.

### I. Comparative condition of Field Crops, 1910-12.

| Field crops             | Per cent of<br>standard condition<br>August 31 |       |       | Field crops             | Percent of<br>standard condition<br>August 31 |       |        |
|-------------------------|--|-------|-------|-------------------------|---|-------|--------|
|                         | 1912   | 1911  | 1910  |                         | 1912  | 1911  | 1910   |
| Canada—                 | p.c.   | p.c.  | p.c.  | P. E. Island—           | p.c.  | p.c.  | p.c.   |
| Spring wheat.....       | 84.57  | 86.80 | 79.05 | Spring wheat.....       | 83.41   | 94.73 | 99.16  |
| Oats.....               | 88.15  | 84.44 | 80.03 | Oats.....               | 98.97   | 75.22 | 101.67 |
| Barley.....             | 87.29  | 84.73 | 80.51 | Barley.....             | 96.51   | 80.08 | 97.00  |
| Rye.....                | 84.14  | 70.51 | 84.15 | Peas.....               | 89.52   | 71.41 | 94.73  |
| Peas.....               | 74.03  | 72.17 | 72.84 | Beans.....              | 83.63   | 78.19 | 87.09  |
| Beans.....              | 76.71  | 80.92 | 83.69 | Buckwheat.....          | 88.71   | 81.21 | 94.97  |
| Buckwheat.....          | 82.67  | 79.96 | 87.06 | Mixed grains.....       | 100.29  | 81.48 | 102.44 |
| Mixed grains.....       | 86.57  | 82.24 | 90.90 | Flax.....               | 91.25   | 81.07 | 87.10  |
| Flax.....               | 87.84  | 85.28 | 67.85 | Potatoes.....           | 95.74   | 89.56 | 84.38  |
| Corn for husking.....   | 69.66  | 81.46 | 84.82 | Turnips.....            | 85.66   | 86.01 | 94.33  |
| Potatoes.....           | 92.10  | 78.74 | 80.13 | Mangolds, carrots, etc. | 88.85   | 84.80 | 93.05  |
| Turnips.....            | 87.54  | 80.48 | 83.37 | Alfalfa.....            | 100.00  | 72.50 | 112.50 |
| Mangolds, carrots, etc. | 87.39  | 80.16 | 86.68 | Corn for fodder.....    | 81.58   | 94.06 | 89.80  |
| Alfalfa.....            | 87.50  | 81.68 | 87.96 | Sugar beets.....        | 80.00   | 77.00 | 95.00  |
| Corn for fodder.....    | 76.04  | 86.55 | 89.59 | Pasture.....            | 90.95   | 57.50 | 93.96  |
| Sugar beets.....        | 86.64  | 79.77 | 85.24 |                         |   |       |        |
| Pasture.....            | 91.79  | 77.07 | 83.24 |                         |   |       |        |



| Field crops             | Per cent of<br>standard condition,<br>August 31 |       |        | Field crops              | Per cent of<br>standard condition,<br>August 31 |        |       |
|-------------------------|---|-------|--------|--------------------------|---|--------|-------|
|                         | 1912  | 1911  | 1910   |                          | 1912  | 1911   | 1910  |
| <b>Nova Scotia—</b>     | p. c.   | p. c. | p. c.  | <b>Ontario—con.</b>      | p. c.   | p. c.  | p. c. |
| Spring wheat.....       | 88.71   | 82.76 | 99.25  | Corn for fodder.....     | 75.62   | 86.51  | 92.11 |
| Oats.....               | 92.54   | 79.09 | 101.92 | Sugar beets.....         | 87.09   | 74.46  | 87.66 |
| Barley.....             | 92.27   | 80.09 | 95.42  | Pasture.....             | 93.57   | 62.28  | 86.61 |
| Rye.....                | 88.75   | 71.00 | 99.44  | <b>Manitoba—</b>         |   |        |       |
| Peas.....               | 86.30   | 78.52 | 93.38  | Spring wheat.....        | 84.53   | 82.60  | 63.27 |
| Beans.....              | 88.40   | 83.89 | 91.28  | Oats.....                | 93.86   | 91.16  | 58.15 |
| Buckwheat.....          | 89.72   | 78.66 | 93.74  | Barley.....              | 92.45   | 89.71  | 56.50 |
| Mixed grains.....       | 94.73   | 79.52 | 100.16 | Rye.....                 | 91.66   | 96.78  | 64.16 |
| Flax.....               | 96.67   | 89.00 | 69.50  | Peas.....                | 97.50   | 95.59  | 69.62 |
| Potatoes.....           | 91.42   | 83.82 | 88.14  | Beans.....               | 97.00   | 93.00  | 57.22 |
| Turnips.....            | 87.45   | 82.01 | 95.65  | Mixed grains.....        | 94.70   | 96.09  | 73.08 |
| Mangolds, carrots, etc. | 84.81   | 79.21 | 93.81  | Flax.....                | 87.87   | 89.50  | 54.64 |
| Corn for fodder.....    | 85.23   | 84.00 | 89.23  | Potatoes.....            | 96.62   | 91.64  | 65.76 |
| Sugar beets.....        | 89.30   | 83.10 | 95.67  | Turnips.....             | 93.08   | 95.25  | 67.05 |
| Pasture.....            | 90.98   | 65.19 | 89.23  | Mangolds, carrots, etc.  | 95.02   | 82.55  | 70.00 |
| <b>New Brunswick—</b>   |   |       |        | Alfalfa.....             | 89.05   | 96.71  | 71.25 |
| Spring wheat.....       | 81.67   | 91.88 | 94.16  | Corn for fodder.....     | 90.19   | 83.75  | 66.34 |
| Oats.....               | 90.16   | 89.46 | 98.57  | Sugar beets.....         | 97.00   | 99.23  | 72.61 |
| Barley.....             | 85.63   | 89.93 | 89.91  | Pasture.....             | 95.10   | 94.81  | 56.57 |
| Rye.....                | 75.00   | 90.00 | 87.00  | <b>Saskatchewan—</b>     |   |        |       |
| Peas.....               | 82.25   | 88.35 | 89.35  | Spring wheat.....        | 89.21   | 87.51  | 70.16 |
| Beans.....              | 70.13   | 93.04 | 78.79  | Oats.....                | 91.32   | 90.10  | 63.72 |
| Buckwheat.....          | 89.29   | 88.06 | 85.90  | Barley.....              | 95.58   | 90.99  | 68.36 |
| Mixed grains.....       | 87.88   | 92.79 | 97.12  | Rye.....                 | 95.50   | 104.15 | 81.66 |
| Potatoes.....           | 82.95   | 92.64 | 79.06  | Peas.....                | 94.00   | 88.46  | 77.74 |
| Turnips.....            | 84.73   | 90.67 | 93.36  | Beans.....               | 91.66   | 80.31  | 75.76 |
| Mangolds, carrots, etc. | 85.00   | 88.37 | 92.79  | Mixed grains.....        | 91.94   | 93.93  | 70.45 |
| Alfalfa.....            | 73.75   | 59.66 | 92.00  | Flax.....                | 91.63   | 90.04  | 62.50 |
| Corn for fodder.....    | 65.79   | 97.16 | 86.19  | Potatoes.....            | 96.40   | 91.13  | 78.84 |
| Sugar beets.....        | 65.56   | 82.50 | 91.25  | Turnips.....             | 95.32   | 93.66  | 76.52 |
| Pasture.....            | 95.46   | 82.58 | 99.01  | Mangolds, carrots, etc.  | 95.16   | 88.99  | 79.18 |
| <b>Quebec—</b>          |   |       |        | Alfalfa.....             | 91.25   | 93.19  | 61.91 |
| Spring wheat.....       | 77.90   | 92.88 | 91.87  | Corn for fodder.....     | 93.63   | 76.11  | 78.48 |
| Oats.....               | 81.40   | 84.63 | 94.78  | Sugar beets.....         | 94.33   | 92.55  | 75.18 |
| Barley.....             | 82.72   | 85.14 | 95.68  | Pasture.....             | 97.63   | 93.54  | 69.20 |
| Rye.....                | 83.18   | 76.31 | 89.09  | <b>Alberta—</b>          |   |        |       |
| Peas.....               | 73.73   | 75.18 | 76.95  | Spring wheat.....        | 84.82   | 91.12  | 59.22 |
| Beans.....              | 73.57   | 79.93 | 84.64  | Oats.....                | 87.34   | 93.46  | 54.98 |
| Buckwheat.....          | 78.79   | 80.03 | 86.87  | Barley.....              | 91.10   | 91.40  | 63.26 |
| Mixed grains.....       | 81.30   | 84.43 | 92.54  | Rye.....                 | 90.53   | 91.87  | 79.13 |
| Flax.....               | 80.19   | 74.21 | 91.36  | Peas.....                | 84.61   | 92.92  | 64.50 |
| Corn for husking.....   | 57.60   | 81.26 | 84.22  | Beans.....               | 76.28   | 77.35  | 60.00 |
| Potatoes.....           | 85.98   | 67.61 | 83.41  | Mixed grains.....        | 94.35   | 94.82  | 72.30 |
| Turnips.....            | 82.81   | 76.31 | 87.42  | Flax.....                | 91.50   | 85.06  | 63.33 |
| Mangolds, carrots, etc. | 82.20   | 77.06 | 88.24  | Potatoes.....            | 90.99   | 92.94  | 72.96 |
| Alfalfa.....            | 81.56   | 81.51 | 96.62  | Turnips.....             | 91.14   | 92.01  | 78.92 |
| Corn for fodder.....    | 71.37   | 88.44 | 90.45  | Mangolds, carrots, etc.  | 90.20   | 92.15  | 79.76 |
| Sugar beets.....        | 81.03   | 75.51 | 84.25  | Alfalfa.....             | 84.68   | 70.71  | 62.73 |
| Pasture.....            | 80.76   | 68.07 | 93.97  | Corn for fodder.....     | 94.16   | 86.66  | 59.29 |
| <b>Ontario—</b>         |   |       |        | Sugar beets.....         | 84.00   | 96.95  | 69.40 |
| Spring wheat.....       | 80.76   | 77.00 | 84.58  | Pasture.....             | 94.39   | 99.47  | 68.28 |
| Oats.....               | 85.45   | 73.27 | 85.13  | <b>British Columbia—</b> |   |        |       |
| Barley.....             | 80.84   | 75.37 | 84.22  | Spring wheat.....        | 97.50   | 83.05  | 83.64 |
| Rye.....                | 80.62   | 77.40 | 83.26  | Oats.....                | 95.29   | 89.09  | 82.57 |
| Peas.....               | 66.65   | 63.51 | 63.16  | Barley.....              | 92.50   | 83.77  | 80.87 |
| Beans.....              | 75.02   | 78.72 | 83.24  | Rye.....                 | —   | 100.00 | 92.00 |
| Buckwheat.....          | 81.71   | 76.65 | 83.81  | Peas.....                | 98.33   | 94.37  | 73.00 |
| Mixed grains.....       | 85.29   | 76.99 | 87.88  | Mixed grains.....        | 100.00  | 93.75  | 80.83 |
| Flax.....               | 81.14   | 83.47 | 83.80  | Potatoes.....            | 95.42   | 83.83  | 74.10 |
| Corn for husking.....   | 69.46   | 80.99 | 86.13  | Turnips.....             | 91.66   | 87.50  | 78.66 |
| Potatoes.....           | 90.36   | 60.82 | 83.63  | Mangolds, carrots, etc.  | 91.87   | 86.94  | 77.63 |
| Turnips.....            | 85.88   | 67.20 | 78.33  | Alfalfa.....             | 106.00  | 90.71  | 86.66 |
| Mangolds, carrots etc.  | 87.77   | 74.70 | 87.50  | Sugar beets.....         | 100.00  | 87.50  | 55.00 |
| Alfalfa.....            | 88.06   | 75.95 | 92.08  | Pasture.....             | 105.66  | 84.56  | 55.87 |

**II. Preliminary estimate of the yield of Spring Wheat, Oats, Barley, Rye and Flaxseed, August 31 1912, compared with final estimate of 1911.**

| Field crops           | Area      |           | Yield per acre |       | Total yield |             |
|-----------------------|-----------|-----------|----------------|-------|-------------|-------------|
|                       | 1912      | 1911      | 1912           | 1911  | 1912        | 1911        |
|                       | acres     | acres     | bush.          | bush. | bush.       | bush.       |
| Canada—               |           |           |                |       |             |             |
| Spring wheat.....     | 8,977,400 | 9,205,040 | 21·08          | 20·63 | 189,256,000 | 189,904,500 |
| Oats.....             | 9,216,900 | 9,233,550 | 40·90          | 37·75 | 376,943,000 | 348,585,000 |
| Barley.....           | 1,415,200 | 1,403,909 | 32·86          | 28·94 | 46,497,000  | 40,631,000  |
| Rye.....              | 148,700   | 153,272   | 21·09          | 17·41 | 3,136,000   | 2,668,800   |
| Flax.....             | 1,677,800 | 682,622   | 13·74          | 11·52 | 23,145,000  | 7,867,000   |
| Prince Edward Island— |           |           |                |       |             |             |
| Spring wheat.....     | 30,700    | 30,090    | 18·33          | 19·26 | 563,000     | 579,500     |
| Oats.....             | 177,000   | 175,823   | 35·03          | 29·80 | 6,200,000   | 5,239,600   |
| Barley.....           | 4,400     | 4,561     | 29·78          | 25·67 | 131,000     | 117,000     |
| Nova Scotia—          |           |           |                |       |             |             |
| Spring wheat.....     | 12,800    | 13,118    | 19·62          | 21·05 | 251,000     | 276,000     |
| Oats.....             | 97,600    | 98,129    | 31·89          | 29·24 | 3,112,000   | 2,869,000   |
| Barley.....           | 5,600     | 5,978     | 25·68          | 25·77 | 144,000     | 154,000     |
| Rye.....              | 910       | 919       | 23·29          | 16·00 | 21,000      | 15,000      |
| New Brunswick—        |           |           |                |       |             |             |
| Spring wheat.....     | 12,400    | 13,245    | 17·78          | 20·39 | 220,000     | 270,000     |
| Oats.....             | 186,000   | 198,457   | 31·05          | 28·86 | 5,775,000   | 5,727,000   |
| Barley.....           | 2,500     | 2,613     | 28·96          | 28·16 | 72,000      | 74,000      |
| Rye.....              | 160       | 162       | 19·00          | 17·33 | 3,000       | 2,800       |
| Quebec—               |           |           |                |       |             |             |
| Spring wheat.....     | 63,100    | 71,086    | 18·30          | 17·73 | 1,155,000   | 1,260,000   |
| Oats.....             | 1,170,400 | 1,430,677 | 38·06          | 26·22 | 32,841,000  | 37,512,000  |
| Barley.....           | 91,300    | 106,010   | 25·23          | 22·76 | 2,303,000   | 2,413,000   |
| Rye.....              | 19,200    | 20,440    | 18·16          | 15·72 | 349,000     | 321,000     |
| Flax.....             | 1,300     | 1,719     | 11·41          | 11·31 | 15,000      | 19,000      |
| Ontario—              |           |           |                |       |             |             |
| Spring wheat.....     | 110,000   | 126,526   | 20·29          | 17·25 | 2,232,000   | 2,183,000   |
| Oats.....             | 2,637,000 | 2,734,110 | 36·57          | 30·24 | 96,435,000  | 82,679,000  |
| Barley.....           | 500,000   | 521,391   | 29·17          | 26·39 | 14,585,000  | 13,760,000  |
| Rye.....              | 95,000    | 98,887    | 19·13          | 17·86 | 1,817,000   | 1,766,000   |
| Flax.....             | 8,100     | 8,367     | 14·72          | 14·06 | 119,000     | 118,000     |
| Manitoba—             |           |           |                |       |             |             |
| Spring wheat.....     | 2,650,000 | 2,976,773 | 19·54          | 20·22 | 51,781,000  | 60,190,000  |
| Oats.....             | 1,269,000 | 1,260,736 | 47·63          | 45·92 | 60,442,000  | 57,893,000  |
| Barley.....           | 454,000   | 433,067   | 36·23          | 33·36 | 16,470,000  | 14,447,000  |
| Rye.....              | 9,300     | 9,393     | 30·80          | —     | 286,000     | —           |
| Flax.....             | 94,000    | 62,231    | 17·18          | 14·44 | 1,615,000   | 899,000     |
| Saskatchewan—         |           |           |                |       |             |             |
| Spring wheat.....     | 4,838,500 | 4,670,203 | 21·49          | 20·75 | 103,679,000 | 96,907,000  |
| Oats.....             | 2,285,600 | 2,124,057 | 44·44          | 46·12 | 101,572,000 | 97,962,000  |
| Barley.....           | 180,300   | 172,253   | 36·30          | 31·61 | 6,545,000   | 5,445,000   |
| Rye.....              | 2,600     | 2,167     | 31·10          | —     | 81,000      | —           |
| Flax.....             | 1,463,000 | 570,050   | 13·58          | 11·25 | 19,868,000  | 16,413,000  |
| Alberta—              |           |           |                |       |             |             |
| Spring wheat.....     | 1,256,200 | 1,299,989 | 23·05          | 21·64 | 28,955,000  | 28,132,000  |
| Oats.....             | 1,359,300 | 1,178,410 | 50·30          | 48·34 | 68,373,000  | 56,964,000  |
| Barley.....           | 174,900   | 156,418   | 35·30          | 26·54 | 6,174,000   | 4,151,000   |
| Rye.....              | 21,000    | 26,659    | 27·03          | 27·30 | 568,000     | 564,000     |
| Flax.....             | 114,400   | 40,275    | 13·72          | 10·39 | 1,528,000   | 418,000     |
| British Columbia—     |           |           |                |       |             |             |
| Spring wheat.....     | 3,700     | 4,010     | 32·41          | 26·73 | 120,000     | 107,000     |
| Oats.....             | 35,000    | 33,148    | 62·91          | 52·50 | 2,193,000   | 1,740,000   |
| Barley.....           | 1,600     | 1,678     | 45·50          | 41·66 | 73,000      | 70,000      |
| Rye.....              | 530       | 645       | 21·00          | —     | 11,000      | —           |

## III. Condition of Live Stock on August 31 1912 and 1911.

| Live stock        | Per cent of standard condition |              | Live stock        | Per cent of standard condition |              |
|-------------------|--------------------------------|--------------|-------------------|--------------------------------|--------------|
|                   | Aug. 31 1912                   | Aug. 31 1911 |                   | Aug. 31 1912                   | Aug. 31 1911 |
| Canada—           | p. c.                          | p. c.        | Ontario—          | p. c.                          | p. c.        |
| Horses.....       | 94.66                          | 94.02        | Horses.....       | 93.57                          | 92.50        |
| Milch cows.....   | 91.90                          | 92.39        | Milch cows.....   | 93.69                          | 87.36        |
| Other cattle..... | 96.00                          | 93.33        | Other cattle..... | 95.24                          | 88.38        |
| Sheep.....        | 93.72                          | 91.83        | Sheep.....        | 91.89                          | 91.17        |
| Swine.....        | 94.81                          | 96.10        | Swine.....        | 92.58                          | 93.34        |
| P. E. Island—     |                                |              | Manitoba—         |                                |              |
| Horses.....       | 96.32                          | 95.00        | Horses.....       | 95.06                          | 94.87        |
| Milch cows.....   | 94.29                          | 86.20        | Milch cows.....   | 96.33                          | 96.06        |
| Other cattle..... | 96.29                          | 87.76        | Other cattle..... | 96.84                          | 97.63        |
| Sheep.....        | 94.18                          | 91.48        | Sheep.....        | 96.24                          | 96.91        |
| Swine.....        | 92.14                          | 94.60        | Swine.....        | 96.62                          | 95.15        |
| Nova Scotia—      |                                |              | Saskatchewan—     |                                |              |
| Horses.....       | 95.85                          | 94.08        | Horses.....       | 94.11                          | 93.61        |
| Milch cows.....   | 94.12                          | 85.04        | Milch cows.....   | 96.55                          | 95.96        |
| Other cattle..... | 95.57                          | 87.62        | Other cattle..... | 97.78                          | 97.38        |
| Sheep.....        | 95.15                          | 93.32        | Sheep.....        | 97.41                          | 96.33        |
| Swine.....        | 94.75                          | 95.97        | Swine.....        | 96.44                          | 101.97       |
| New Brunswick—    |                                |              | Alberta—          |                                |              |
| Horses.....       | 95.98                          | 96.36        | Horses.....       | 96.11                          | 96.80        |
| Milch cows.....   | 94.67                          | 93.46        | Milch cows.....   | 96.68                          | 99.09        |
| Other cattle..... | 95.51                          | 94.19        | Other cattle..... | 97.95                          | 99.68        |
| Sheep.....        | 91.42                          | 91.05        | Sheep.....        | 98.65                          | 98.79        |
| Swine.....        | 93.02                          | 96.29        | Swine.....        | 96.95                          | 96.48        |
| Quebec—           |                                |              | British Columbia— |                                |              |
| Horses.....       | 94.54                          | 93.07        | Horses.....       | 97.17                          | 98.33        |
| Milch cows.....   | 93.08                          | 91.50        | Milch cows.....   | 96.44                          | 91.37        |
| Other cattle..... | 93.52                          | 91.23        | Other cattle..... | 95.83                          | 95.00        |
| Sheep.....        | 93.29                          | 91.42        | Sheep.....        | 98.18                          | 93.33        |
| Swine.....        | 94.38                          | 94.43        | Swine.....        | 99.00                          | 98.47        |

## NOTES OF REPORTS FROM THE PROVINCES.

**Prince Edward Island.** Rainy weather has spoiled a good deal of hay. The grain crops continue to promise a good yield, but the cold wet weather will make the harvest late. A bumper crop of potatoes is expected, although in a few instances they have suffered from too much rain. Pastures are excellent and live stock are in good condition.

**Nova Scotia.** The weather during August has been very wet and cold, and much hay is still uncut or damaged. Wheat and oats in several districts are badly lodged. Late sown crops promise a full yield if the frosts do not arrive too early. Pastures are good. Potatoes, it is feared, will be scarce, as in many cases they have rotted in the ground.

**New Brunswick.** Heavy rains, which have damaged the hay crops, are generally complained of. Some state that no such rainy period has occurred at this season for many years. Much hay has been ruined and the grain harvest will be very late.

**Quebec.** Rains during August have effected considerable improvement in the condition of all crops, which were languishing from drouth in early summer; but too much cold and rain have prevented the ripening of the grain crops, and the harvest is very late. Pastures and root crops are excellent, but hay making has been difficult and much hay has been damaged. Live stock are in good condition.

**Ontario.** Continuous rains and cold weather have made the grain harvest very late. Much of the grain was reported as sprouting in the stock. A correspondent in the southwestern part of the province states that this has been the wettest harvest in fifty years. Late sown crops promise better if frosts are not too early and severe. A great deal of hay has been spoilt. Root and pasture crops are in excellent condition.

**Manitoba.** The grain crops are reported as having filled out well though they are late owing to the wet weather. If frosts keep off they will be the best for years. Harvesting all over the province has been delayed, and a little grain has sprouted. There is also some amount of second growth and of unequal ripening. Potatoes promise an excellent yield. Pastures are good and live stock are thriving. One correspondent, Mr. C. A. Lewis, of Swan River, reports that the wet season has been a trying one for farming operations and that "were it not for the large acreage of fine, fall wheat now in stock many farmers would be facing a poor proposition." A correspondent in Souris reports rust on flax.

**Saskatchewan.** Wet weather has caused the loss of hay, but the grain crops are well filled, warm weather being however required. An extra large crop of potatoes is expected. One correspondent speaks of his oats standing  $6\frac{1}{2}$  feet high and as promising a yield of over 100 bushels to the acre. The harvest will be later than usual. Some correspondents report a second growth of grain that will not ripen in time to cut with the main crop. A correspondent from one district in southern Saskatchewan states that three farmers lost their entire crop of flax: they all bought the same seed, which was threshed from the stack this spring.

**Alberta.** Crops are not maturing as fast as they should, owing to the lack of sunshine. It is feared that frosts may catch some of the crops, unless warm, dry weather prevails. Pastures are in excellent condition, and live stock are in good shape. Dairy products are plentiful. Much of the ripened grain cannot at present be cut on account of the soft, wet ground. As in Saskatchewan, cases are reported of second growth, which will not be ripe for the main cutting. This is attributed to the stunting of the grain by drouth in early summer, followed by late rains, which brought on the second growth.

**British Columbia.** Heavy rains during August have caused luxuriant growth. Pastures and ranges never looked better, and all live stock are in excellent condition. Root crops will be enormous. Apples, pear and peach trees show a growth of from three to six feet, and the wet weather has kept off the aphid pest. Harvesting is rather late.



## DEPARTMENTAL NOTES.

**Experimental Farms and Stations.** At the Central Farm, Ottawa, the weather during August has been very cold and wet when compared with the corresponding month last year. The highest temperature during the month was 81.5 degrees and the lowest 40.4, as against a highest of 97.6 and a lowest of 42.6 degrees in August 1911. The mean temperature for the month is 62.54, as compared with a mean of 70.31 degrees for the corresponding period the previous year. The total precipitation during August was 4.94 inches, as compared with 1.47 inch for the same period last year. The amount of bright sunshine during the month is also much below the average, the total being 178.8 hours, giving a daily average of 5.76 hours, whereas in August 1911 the total amount was 278.7 hours, giving a daily average of 8.99 hours.

During the month all the grain on the Central Farm was cut, and from appearances will give above the average yield in grain, although the straw will perhaps be under the average weight.

The month being very wet has made it impossible to get any grain hauled in; in fact it has been so wet that some of the wheat sprouted in stook. Indian corn has made excellent growth during the month and, should warm weather prevail during September and up to cutting time, we should have a very good crop. Roots have also profited by the rain and promise to yield very heavily.

J. A. Clark, Superintendent of the Station at Charlottetown, P.E.I., reports: "The month of August was very dull and cool. Light showers fell on nineteen different days, and heavy showers of hail were reported from several localities on the 6th. There was an unusual amount of lightning, and considerable damage therefrom has been reported throughout the province. The hay crop was much increased by the wet weather of July and the early part of August. Large quantities of it however were almost ruined by the continued rainy weather, and hay-making was prolonged until the third week of the month. The cutting of the grain harvest became general the last week of the month, when probably one-fifth of the grain was cut. The oats filled very well, but smut has been very prevalent in them. The joint worm has again done considerable damage to the wheat crop, and the wheat rust has also injured many sections. These causes will reduce the yield below the average. The earliest grain cut at this Station was Daubeney oats, on the 14th. The later oats will all be heavier in yield than those in the uniform test plots, which were sown early and were checked by the dry spell which followed. A sheep shed has been built at the Station to accommodate 100 sheep."

R. Robertson, Superintendent of the Farm at Nappan, N.S., reports: "The month of August has been unusually wet, rain falling on twenty-two different days, 4.82 inches being the total precipitation. This, following about 7 inches in the last ten days in July, has made farming operations almost impossible. As a consequence much of the hay crop on the higher land is uncut, while hundreds of acres of it on lower or dyke land are either under water, or the land is so soft as to make it impossible to harvest the

crop. Root crops in many places will be a complete failure, as no hoeing or cultivating has been possible since July 20th. At this date most of the work was just started, seeding having been retarded owing to continued wet and cold weather through May and June. Grain, where heavy, is badly lodged, with the ground so soft as to make it almost impossible to put horses and machinery on it. On the whole the weather conditions of August have been very disastrous to the agriculturist, practically all crops suffering."

G. A. Langelier, Superintendent of the Station at Cap Rouge, Que., reports: "August was cold and wet. Last year the mean temperature was 65.86 degrees, or about  $6\frac{1}{2}$  degrees higher than this year. In 1911 the precipitation during the month of August was only 2.76 inches, while this year during twenty-four hours on the 9th and 10th inst. it was 4.74 inches. Plants requiring heat, such as Indian corn, made very little growth, but the abundance of moisture considerably helped the late-sown grain, which has improved wonderfully. With warmer weather during September, which is certainly possible, the crop of oats will be about 75 per cent of an average one. If we have early frosts, however, the grain will be very light. At the Experimental Station a work shop has been erected, 42 by 25 feet, and, when the iron and wood working machines are installed therein practically all repairs can be done here. It is intended during the winter to look over every piece of machinery and all carts, etc., so that there will be no delay during the rush of spring work."

W. C. McKillican, Superintendent of the Farm at Brandon, Man., reports: "August has been rather an unsatisfactory month for grain crops. There has been continuous cloudy and cool weather, and rain fell on eighteen days during the month; the total amount of rainfall was not large; but a moist, rainy condition of atmosphere prevailed almost continually. As a result the ripening of crops has been greatly delayed and harvesting is from two to three weeks later than usual. At the end of the month a large area of crop, particularly oats and barley, is still not ripe. The wet weather following the drouth of June has induced a great deal of second heading, which will increase the labour and cost of harvesting without increasing the yield. The crop is above average in indications of a heavy yield, and with dry, hot weather and freedom from early frost will make a good return to the farmers of the province. The wet weather has suited field roots very well and they will be a very heavy crop. Corn is doing well, but is uneven and late, owing to unfavourable conditions in spring. The work on the Experimental Farm during the month has consisted chiefly of harvesting the second crop of alfalfa and clover, ploughing sod fields, cultivating summer fallows and corn, and cutting wheat."

Angus Mackay, Superintendent of the Farm at Indian Head, Sask., reports: "August on the whole has been favourable for grain of all sorts, especially for filling, but rather too much rain has fallen during the last ten days for rapid ripening. No frost however has visited the country and the sample and yield promise to be extra good. Rains have delayed the harvest work considerably; but so far the crop has been taken care of as it has ripened. A few farmers who have most or all of their crop in Marquis wheat are about through cutting, while those with Red Fife are only well started. On the Experimental Farm all wheat and barley is in stook, also

all oats, with the exception of a badly-lodged field of Banner, which has to be cut one way. Peas and flax are not yet ripe."

W. A. Munro, Superintendent of the Station at Rosthern, Sask., reports: "The irregularity of the weather for the past two months has continued, the temperature varying from 79.2 degrees on the 23rd to 37.2 degrees on the 30th. The ripening of the crops has been delayed owing to the cloudy, cool weather; but as no frost has appeared harvesting is proceeding under fairly favourable conditions. In nearly all cereal crops throughout the district there is a noticeable second growth. The first growth is shorter in the straw and ripens about two weeks earlier than the second. The latter seems to be due to arrested development in the dry weather in June, followed by abundance of moisture in July. The yields of hay on the Experimental Station were on the average good, the highest being within 16 lb. of 3 tons to the acre. Two acres of western rye grass were allowed to ripen and threshed 515 lb. of clean seed per acre."

R. E. Everest, Superintendent of the Station at Scott, Sask., reports: "The month of August has been somewhat cloudy, with frequent rains. Owing to the heavy rainfall of July a second growth in grain crops came on, which gives fields a backward appearance while the main part of the crop is quite fit for cutting. Harvesting commenced in this district about the 20th inst., became general the following week and, at the close of the month is being pushed as rapidly as possible. No frost has been recorded during the month, hence the grain is hardening up plump and a nice crop of grain of good quality is expected. At the Station here field cutting started on the 23rd. During the month the grain plots, seedling trees, lawns and flower borders have looked particularly pleasing and attractive".

G. H. Hutton, Superintendent of the Station at Lacombe, Alta., reports: "The month of August has been unusually wet. In many districts the rainfall has been so far above the average that though the early varieties of grain are ready for harvest the soil is so soft as to make binding impossible, as the binder sinks in some places as much as eight to ten inches in the soft earth. On the Station most of the barley is cut and practically all the grain is ready for cutting. The yield of barley will be high, and the yields of oats and wheat, while not the highest we have harvested, will be well above the average. Given good weather for the first ten days of September the harvest in this section will be more than half cut".

W. H. Fairfield, Superintendent of the Station at Lethbridge, Alta., reports: "In the extreme southern portion of the province harvesting operations began earlier than usual; this was particularly true in the Cardston and Spring Coulee districts. In the immediate vicinity of Lethbridge and along the Lethbridge-Coutts Branch of the C.P.R. threshing of winter wheat began soon after the middle of the month. Weather conditions have been only moderately favourable for both harvesting and threshing. In the southern portion of the province slight frosts occurred in some localities on August 30th, but no material damage was done to grain. At the Experimental Station the thermometer registered 34.1 degrees on the above date. Threshing at the Station is well advanced."

P. H. Moore, Superintendent of the Farm at Agassiz, B. C., reports: "The month commenced with some good warm weather, and a lot of haying

was done; but as soon as the grain was cut the rain came and since then there was not a sufficiently long period of good weather to get the grain in until the latter half of the month. The weather throughout August has been very unusual on the whole. There were several very heavy rain storms, and the last week there were showers every day. This has hindered farm operations but has not damaged the grain to any great extent, although it was very badly discoloured and had sprouted slightly. The new poultry house is almost completed, a few finishing touches being all that is yet required, and it will be ready for occupation in good time. For the past eight months a close record has been kept of a pen of barred Plymouth Rocks, and we find that they have averaged 128 eggs each during that period, and are still laying well, though on a light ration. Horses and cattle are doing well, the pasture being excellent. Sheep are in first-class condition, and a few lambs are expected during the coming month. Hogs are also doing well and are at present hurdled out, while the improvements are being made to the old piggery."

The records of temperature, precipitation and sunshine at the several Experimental Farms and Stations for the month of August are given in the following table :

**Meteorological Record for August 1912.**

| Experimental Farm<br>or Station at— | Degrees of temperature, F. |        |        | Precipitation<br>in<br>inches | Hours of sunshine |        |
|-------------------------------------|----------------------------|--------|--------|-------------------------------|-------------------|--------|
|                                     | highest                    | lowest | mean   |                               | possible          | actual |
| Ottawa, Ont.....                    | 81.5                       | 40.4   | 62.54  | 4.94                          | 473               | 178.8  |
| Charlottetown, P.E.I. ....          | 81.0                       | 45.0   | 61.675 | 2.68                          | 476               | 181.9  |
| Nappan, N.S. ....                   | 81.0                       | 38.0   | 60.75  | 4.82                          | 474               | 175.8  |
| Cap Ronge, Que.....                 | 77.0                       | 39.2   | 59.2   | 10.21                         | 479               | 138.0  |
| Brandon, Man. ....                  | 82.1                       | 38.4   | 59.9   | 1.17                          | 491               | 118.1  |
| Indian Head, Sask.....              | 80.0                       | 39.0   | 59.71  | 2.17                          | 494               | 130.3  |
| Rosthern, Sask.....                 | 79.2                       | 37.2   | 58.6   | 2.15                          | 507               | 192.2  |
| Scott, Sask.....                    | 81.0                       | 32.9   | 59.74  | 2.93                          | 505               | 192.5  |
| Lacombe, Alta.....                  | 84.5                       | 30.0   | 57.75  | 4.44                          | 505               | 177.7  |
| Lethbridge, Alta.....               | 88.7                       | 34.1   | 60.61  | 1.41                          | 491               | 240.1  |
| Agassiz, B.C.....                   | 86.0                       | 40.0   | 60.99  | 7.84                          | 489               | 150.9  |

W. T. MACOUX,

Ottawa, September 11.

Acting Director Experimental Farms.

**Dairy and Cold Storage Branch.** The fruit inspection service carried on by this Branch has been very much extended and completely reorganised for the present season. A new feature is the appointment of chief inspectors for the several districts as outlined below. These chief inspectors will have supervision of all the inspectors in their respective districts. In addition to the five chief inspectors fifteen temporary inspectors have been added to the staff this year. The reorganisation is as follows :

*District No. 1, Maritime Provinces.*

G. H. Vroom, Chief Inspector.

Halifax..... A. S. Alcorn  
W. C. Healy  
Stuart Dincock  
Geo. Akins



|                           |                |
|---------------------------|----------------|
| Annapolis Valley.....     | Wm. Bishop     |
| Prince Edward Island..... | F. B. Westcott |
| New Brunswick.....        | C. M. Williams |
|                           | S. L. Peters   |

*District No. 2, Quebec and Eastern Ontario.*

W. W. Brown, Chief Inspector.

|                            |                 |
|----------------------------|-----------------|
| Quebec city.....           | E. Bedard       |
| Montreal.....              | F. L. Dery      |
|                            | E. H. Wartman   |
|                            | J. A. Jones     |
|                            | F. T. Carley    |
| Lake Ontario counties..... | Wm. McCullough  |
|                            | Wallace McQuoid |
|                            | Wm. Armour      |
| Ottawa Valley.....         | C. H. Snow      |

*District No. 3, Western Ontario.*

P. J. Carey, Chief Inspector.

|                                 |                |
|---------------------------------|----------------|
| Toronto.....                    | W. G. Smith    |
| Hamilton to St. Catharines..... | F. L. Gabel    |
| St. Catharines to Niagara.....  | B. Honsberger  |
| Lake Erie counties.....         | R. R. Waddle   |
| Inland counties.....            | S. R. Wallace  |
| Lake Huron counties.....        | A. E. Durnin   |
| Georgian Bay.....               | G. B. Carnahan |
| Lake Superior.....              | Wm. Stewart    |

*District No. 4, Prairie Provinces.*

C. W. Baxter, Chief Inspector.

|                   |                  |
|-------------------|------------------|
| Winnipeg.....     | Jos. Carman      |
|                   | Corbin Weld      |
| Brandon.....      | F. H. Steele     |
| Regina.....       | Geo. Graff       |
| Saskatoon.....    | J. H. Aulsebrook |
| Medicine Hat..... | Frank Metcalf    |
| Calgary.....      | M. P. McNeill    |
| Lethbridge.....   | J. W. Clement    |
| Edmonton.....     | A. H. Flack      |

*District No. 5, British Columbia.*

R. G. Clarke, Chief Inspector.

|                       |                 |
|-----------------------|-----------------|
| Vancouver Island..... | Henry Callow    |
| Vancouver city.....   | D. M. Robertson |
| Interior.....         | A. M. Fletcher  |

*Customs Officers acting as Dominion Fruit Inspectors.*

|                    |              |
|--------------------|--------------|
| Nelson.....        | J. G. Bunyan |
| Grand Forks.....   | W. J. Cook   |
| Prince Rupert..... | J. H. McLeod |

At the close of navigation the Montreal staff is moved to Lake Ontario points.

The new dairy station at Finch was opened for the reception of milk on August 23 last and is now in full running order as a commercial cheese factory. The season is too far advanced to allow of any extended experimental work being conducted this year. This station will be operated during the winter, and the building and equipment are designed with that end in view.

The contract has been let for the erection of the dairy station at Brome, Quebec, which will be finished before the end of the year.

The luxuriant pastures following the phenomenal rainfall during the last two months have resulted in a large production of milk for the month of September, many factories recording an increase in the supply during the latter part of August, which is very unusual.

The new cold storage warehouse at Prince Rupert, erected by the Canadian Fish and Cold Storage Co., and which is to receive a subsidy under the Cold Storage Act, has been completed and is now in operation. This is one of the most modern and best equipped cold storage plants on the continent.

J. A. RUDDICK, Dairy and Cold Storage Commissioner.

Ottawa, September 18.

**Seed Branch.** Legal action against the following seed dealers has been concluded for violation of the Seed Control Act.

The Ellison Milling Co., Lethbridge, Alta., was convicted and fined for selling alfalfa seed containing more noxious weed seeds than are allowed for grade No. 3. This seed contained 101 noxious weed seeds and a total of 293 weed seeds per ounce.

Darch and Hunter, London, Ont., were convicted and fined for selling swede and turnip seed of low vitality. Several samples tested were very low in germination and some were quite dead.

Thomas Symington, Napanee, Ont., was convicted and fined for repeatedly selling timothy and clover seed without being graded or containing more than the maximum number of weed seeds allowed. Three official samples of timothy seed taken by the inspector contained 1,936, 4,723 and 6,432 weed seeds per ounce respectively.

W. J. McCracken, Brussels, Ont., was convicted and fined for selling red clover and timothy seed wrongly graded. Seed that analysis showed to be a poor No. 3 was being represented as No. 1.

W. H. Eves, Newmarket, Ont., was convicted and fined for repeatedly neglecting to mark his seed with the grade as required by the Act.

C. A. Wray, Rodney, Ont., was convicted for offering a timothy and alsike mixture containing 704 noxious and a total of 3,232 weed seeds per ounce, but escaped fine on the ground that the seed was bought in good faith from a wholesale firm.

The Denault Grain and Provision Co., Sherbrooke, Que., was convicted and fined for five offences through not having seed graded and offering stock that contained more than the maximum number of weed seeds allowed. Three samples of timothy seed contained 828, 992 and 4,032 weed seeds per ounce respectively.

Joseph Landry, Sherbrooke, Que., was convicted and fined for selling oats for seed that contained 16 noxious weed seeds per pound without being labelled to indicate their presence.

Joseph Marcoux, Weedon, Que., was convicted and fined for selling timothy seed that contained 616 weed seeds per ounce and seed oats that contained six noxious weed seeds per pound without being labelled to indicate their presence. This seed was purchased from the Denault Grain and Provision Co., Sherbrooke, Que.

Gosselin and Lussier, Weedon, Que., were convicted and fined for selling

timothy seed without being graded. The seed was purchased from the Denault Grain and Provision Co., Sherbrooke, Que.

A. Bastien, Racine, Que., was convicted and fined for selling timothy seed marked No. 1 which contained 64 noxious and a total of 1,216 weed seeds per ounce, and seed oats which contained 86 noxious weed seeds per pound. This seed was purchased from Joseph Ward & Co., Montreal, Que.

J. H. Lussier, Racine, Que., was convicted for selling two lots of timothy seed marked No. 3, which contained 56 noxious—total 2,912—and 256 noxious—total 2,160—weed seeds per ounce respectively, but escaped fine by proving to the satisfaction of the court that the seed was purchased in good faith from Joseph Ward & Co., Montreal, Que.

A case was recently tried in Ontario where a seed dealer recovered damages from a farmer who sold him timothy seed represented to be best quality or No. 1 and which proved by analysis to be prohibited from sale.

There has been a large increase in seed testing work at the Ottawa seed laboratory. During the year ended August 31 1912 11,147 samples were tested, compared with 6,395 the previous year, an increase of 74 per cent. The most pronounced increase was in cereals for germination test and timothy for purity. The number of samples of timothy tested was 2,803, compared with 896 the previous year, an increase of 213 per cent. Owing to the scarcity and high price of timothy seed last spring much more locally grown seed was threshed and tested than usual. The increase in the red clover samples tested was from 2,189 during the year ended August 31 1911 to 2,428 during the year just concluded. Alsike rose from 1,012 to 1,542, and alfalfa from 270 to 466. Of the total number of samples tested about one-third were sent in by farmers, while in the previous year the proportion was less than one quarter. The increase from farmers was most marked in timothy for purity tests and cereals and roots and vegetables for germination.

E. D. EDDY, for Seed Commissioner.

Ottawa, September 17.

## CROP REPORTS FROM OTHER COUNTRIES.

**United Kingdom.** The Board of Agriculture (England and Wales) reports (September 1) that the cold and wet have materially reduced the prospects of all the crops with the exception of hops. The adverse effect of the stormy and unseasonable weather is shown by the grain crops being now expected to yield some 5 p.c. less in quantity, and potatoes ten or twelve p.c. less, than seemed probable at the beginning of August, apart from the loss in quality. Harvesting operations generally began about the beginning of August in the southern half of the country; but while a small portion was secured early, most of what had been cut remained in stook to the end of the month, and a great deal, more particularly in the north, had not been cut at all. Much of the grain, both standing and in the stook, had begun to sprout, the quality was badly damaged, and crops were laid. In many districts, especially in the fen country, there had been floods, and some hay had been washed away. In quantity barley is the best of the crops, but is probably 4 p.c. below average; wheat is 6 p.c. below, and oats

are quite the worst crop. The young "seeds" have grown vigorously, and these will add to the difficulty of harvesting the spring grain. Peas have suffered more than beans, and are now the worst of the pulse crops. Potato disease has spread during the month, and the crops are everywhere seriously affected by it, so that a crop which a month ago promised to be average, is now bad. Perhaps Lincolnshire has experienced the most severe attack; but reports of field rotting have been received from various parts of the country. Summarising the results and representing an average crop by 100 the appearance of the crops on September 1 indicated yields for England and Wales which may be represented by the following percentages: Wheat 94, barley 96, oats 87, beans 94, peas 92, potatoes 89, turnips and swedes 99, mangolds 100, hops 99.

The Board of Agriculture (Scotland) reports (September 1) that the weather of August has been disappointing, crop reporters in Aberdeen and Banff counties describing it as the "worst in a generation" and as the "worst for 50 years". Almost every report tells of abundant crops broken down and twisted, of slow ripening and of expectations of a laborious and protracted harvest. In many districts, however, with good harvest weather in September, it would still be possible to save 1912 from being added to the list of "black" years in Scottish farming.

The Department of Agriculture (Ireland) reports (September 1) that unseasonable weather has continued during August without a break. Severe hailstorms swept over county Armagh on August 12, and a night frost of 7 degrees was registered in one district of county Cavan. From early districts where cutting has been in progress there are reports of grain sprouting in the stook or becoming mildewed; where the crop is ripe but still uncut sprouting on the stook or second growth is stated to be showing. The early appearance of potato disease has made the prospects of an average yield very poor. Reports on the flax crop are as a rule very satisfactory.

**France.**—The *Journal d'Agriculture Pratique* of September 5 states that the month of August has been at least in some provinces especially unfortunate in a season which has hardly known the like. The wheat harvest good or bad is finished; but oats and barley are still being got in under great difficulties and the continued wet weather prevents one from saying, especially in the east and west, when the end will be. The losses caused by excess of moisture assume proportions difficult to estimate, but they are large enough to cause anxiety. Potatoes in many parts have lost their leaves before sufficient development of the tubers; and it appears no longer possible to realise the hopes held out by the vines. A warm and dry September might allay fears all too well founded; but the first days of this month are not propitious.

The *July Bulletin Mensuel* of the French Department of Agriculture publishes the areas under field crops as at July 1, with average condition compared with May 1 for cereals and with June 1 for other crops. We have added for comparison the figures of area for 1911 as in the following table:



| Crops                        | 1912         | 1911         | Average condition<br>1912 |           |
|------------------------------|--------------|--------------|---------------------------|-----------|
|                              | 000<br>acres | 000<br>acres | May 1                     | July 1    |
| Winter wheat.....            | 15,760       | 14,248       | 75                        | 71        |
| Spring wheat.....            | 419          | 1,292        | 78                        | 74        |
| All wheat.....               | 16,179       | 15,540       | 75                        | 71        |
| Winter barley.....           | 368          | -            | 77                        | 74        |
| Spring barley.....           | 1,501        | -            | 76                        | 77        |
| All barley.....              | 1,869        | 1,914        | 76                        | 76        |
| Winter oats.....             | 2,005        | -            | 74                        | 74        |
| Spring oats.....             | 7,892        | -            | 76                        | 75        |
| All oats.....                | 9,897        | 9,983        | 75                        | 75        |
| Muslin (or mixed grain)..... | 321          | 308          | 77                        | 74        |
| Rye.....                     | 2,998        | 2,875        | 75                        | 76        |
|                              |              |              |                           |           |
| Potatoes.....                | 3,830        | 3,711        | June 1 68                 | July 1 65 |
| Sugar beet.....              | 610          | 593          | 72                        | 76        |
| Distillery beet.....         | 142          | 133          | 70                        | 75        |
| Mangolds.....                | 1,623        | 1,624        | 66                        | 70        |
| Artificial meadows.....      | 7,115        | 7,406        | 63                        | 68        |
| Temporary meadows.....       | 774          | 672          | 68                        | 72        |
| Annual fodder crops.....     | 1,798        | 1,647        | 66                        | 69        |
| Natural meadows.....         | 12,002       | 11,336       | 68                        | 74        |
| Vines.....                   | 4,149        | 3,386        | 74                        | 74        |

Scale for condition: 100=very good, 80=good, 60=fairly good.

**Germany.** The Imperial Statistical Bureau reported (August 7) that at the beginning of July cool weather gave place to warmer, and soon mid-summer heat, with fresh winds and great drouth, prevailed. Then in different parts of the country the weather assumed a diversified character. In south and west Germany heavy rains fell, with storms and hail, whilst in the districts east of the Elbe, except for a few showers, the country remained dry. Here too the high temperature continued, whilst in the interior, especially in southern Germany, raw, north winds cooled the atmosphere. The heat and drouth quickly ripened cereals and also caused premature ripening; in the drouth-affected districts it hindered the development of fodder plants and potatoes. Winter cereals were considerably lodged. To what extent the grain yield was lessened by quick ripening it was not possible then to state, but if expectations should not quite be realised there should yet be a satisfactory result. The numerical condition of the crops is expressed as follows for the present season and for the 1st July and 1st August 1911:

| Crops            | Aug.<br>1<br>1912 | Jul.<br>1<br>1912 | June<br>1<br>1912 | Aug.<br>1<br>1911 | Jul.<br>1<br>1911 | Crops                        | Aug.<br>1<br>1912 | Jul.<br>1<br>1912 | June<br>1<br>1912 | Aug.<br>1<br>1911 | Jul.<br>1<br>1911 |
|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
|                  | 1912              | 1912              | 1912              | 1911              | 1911              |                              | 1912              | 1912              | 1912              | 1911              | 1911              |
| Winter wheat...  | 2.4               | 2.3               | 2.3               | 2.6               | 2.6               | Potatoes.....                | 2.8               | 2.6               | 2.7               | 3.0               | 2.5               |
| Spring wheat...  | 2.4               | 2.2               | 2.3               | 3.0               | 3.0               | Grasses and clo-<br>ver..... | 3.2               | 3.2               | 3.4               | 3.9               | 3.1               |
| Winter spelt.... | 2.0               | 2.0               | 2.0               | 2.4               | 2.4               | Alfalfa.....                 | 2.6               | 2.5               | 2.8               | 3.7               | 2.8               |
| Winter rye.....  | 2.4               | 2.4               | 2.6               | 2.6               | 2.7               | Water meadows                | 2.0               | 2.0               | 2.2               | 3.2               | 2.2               |
| Spring rye.....  | 2.4               | 2.3               | 2.4               | 2.7               | 2.7               | Other meadows                | 2.6               | 2.3               | 2.7               | 3.8               | 2.8               |
| Spring barley... | 2.2               | 2.1               | 2.2               | 2.5               | 2.5               |                              |                   |                   |                   |                   |                   |
| Oats.....        | 2.7               | 2.5               | 2.4               | 2.9               | 2.9               |                              |                   |                   |                   |                   |                   |

Scale: 1=very good, 2=good, 3=average, 4=poor.

On July 26 the Imperial Statistical Bureau published the following preliminary estimate of the areas under the principal field crops in Germany in 1912. The figures of the three previous years are added for comparison.

| Crops                        | 1912         | 1911         | 1910         | 1909         | Difference<br>between<br>1912<br>and 1911 |
|------------------------------|--------------|--------------|--------------|--------------|---|
|                              | 000<br>acres | 000<br>acres | 000<br>acres | 000<br>acres | 000<br>acres                              |
| Winter wheat.....            | 4,275        | 4,327        | 4,330        | 3,944        | - 52                                      |
| Spring wheat.....            | 483          | 568          | 514          | 581          | - 85                                      |
| All wheat.....               | 4,758        | 4,895        | 4,844        | 4,525        | - 137                                     |
| Winter spelt.....            | 699          | 696          | 728          | 740          | + 3                                       |
| Winter rye.....              | 15,224       | 14,865       | 14,996       | 14,849       | +359                                      |
| Spring rye.....              | 265          | 296          | 290          | 302          | - 31                                      |
| All rye.....                 | 15,489       | 15,161       | 15,286       | 15,151       | +328                                      |
| Spring barley.....           | 3,928        | 3,917        | 3,881        | 4,068        | + 11                                      |
| Oats.....                    | 10,839       | 10,694       | 10,599       | 10,678       | +145                                      |
| Potatoes.....                | 8,257        | 8,208        | 8,145        | 8,213        | + 49                                      |
| Clover and grasses.....      | 4,271        | 4,969        | 5,145        | 5,045        | - 698                                     |
| Alfalfa.....                 | 608          | 599          | 600          | 600          | + 9                                       |
| Water meadows.....           | 1,135        | 1,205        | 1,269        | 1,290        | - 71                                      |
| Other meadows.....           | 13,495       | 13,450       | 13,462       | 13,439       | + 45                                      |
| Winter rape and turnips..... | 83           | 118          | 127          | 103          | - 35                                      |
| Hops.....                    | 67           | 66           | 68           | 72           | + 1                                       |
| Grape vines in bearing.....  | 269          | 272          | 278          | 282          | - 3                                       |

**Austria.** The Austrian Department of Agriculture reported at the beginning of August that normal weather prevailed during July. The rainfall, which was not considerable, was almost entirely in the form of storms. In the middle of the month occurred a short spell of heat with relatively high maximum temperatures. The wheat harvest, which is housed first in parts of the hilly districts of the Sudetic and Carpathian countries, is in the mountainous districts in full progress. Cutting is very difficult owing to lodging, which has also caused an unequal filling of the grain. The quality is in general fairly good, but is not so good as last year, and the preliminary threshings do not quite fulfil expectations. The following statement shows the condition of the principal crops at the beginning of August and of other months for comparison, expressed numerically:

| Crops       | Aug.<br>1<br>1912 | Jul.<br>1<br>1912 | June<br>1<br>1912 | Aug.<br>1<br>1911 | Jul.<br>1<br>1911 | June<br>1<br>1911 | Crops         | Aug.<br>1<br>1912 | Jul.<br>1<br>1912 | June<br>1<br>1912 | Aug.<br>1<br>1911 | Jul.<br>1<br>1911 | June<br>1<br>1911 |
|-------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|---------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Wheat.....  | 2 3               | 2 1               | 2 1               | 2 8               | 2 7               | 2 5               | Potatoes...   | 2 3               | 2 3               | 2 5               | 3 0               | 2 4               | 2 3               |
| Rye.....    | 2 2               | 2 1               | 2 3               | 2 8               | 2 7               | 2 7               | Sugar beet... | 1 7               | 2 1               | 2 8               | 4 0               | 3 3               | 2 9               |
| Barley..... | 2 5               | 2 3               | 2 3               | 2 4               | 2 4               | 2 4               | Clover.....   | 2 7               | 2 9               | 3 1               | 3 9               | 3 3               | 2 8               |
| Oats.....   | 2 2               | 2 3               | 2 4               | 2 7               | 2 6               | 2 5               | Meadows...    | 2 1               | 2 2               | 2 4               | 3 7               | 2 4               | 2 0               |
| Corn.....   | 1 9               | 2 1               | 2 3               | 3 1               | 2 5               | 2 6               | Pasture....   | 2 5               | 2 4               | 2 8               | 4 1               | 3 0               | 2 4               |

Scale: 1=very good, 2=over average, 3=average, 4=under average.

**Hungary.** The Hungarian Agricultural Department reports (August 19) that the abundant rains of the last few weeks have had almost everywhere a good effect upon the development of corn. Potatoes have also benefited. The tubers are everywhere of sufficient quantity, but in the countries affected by drouth they have in several places remained small. The yield anticipated from these two crops, compared with the final estimates of the previous year, are as follows :

| Crops        | 1912         | 1911         | 1912         | 1911         | 1912              | 1911              |
|--------------|--------------|--------------|--------------|--------------|-------------------|-------------------|
|              | 000<br>acres | 000<br>acres | 000<br>bush. | 000<br>bush. | bush.<br>per acre | bush.<br>per acre |
| Corn . .     | 6,121        | 6,090        | 201,002      | 137,422      | 32.82             | 22.56             |
| Potatoes . . | 1,534        | 1,534        | 197,607      | 163,039      | 128.81            | 106.28            |

Sugar beets and mangolds have greatly benefited from the rains and are in good condition, promising large yields.

**Sweden.** H. M. Consul at Stockholm reports (August 14) that owing to continuous drouth throughout July and very heavy rains and thunderstorms during the past week the crop prospects in Sweden are reported not to be quite so good as previously.

**Russia.** H. M. Consul at Batoum reports (August 31) that in the northern Caucasus, in the governments of Stravropol and Astrakhan the weather conditions during the development of cereals were favourable for winter and spring wheats which have yielded slightly above average crops ; although in many isolated instances irreparable damage was done to these crops when in the ground by periodical heavy rain showers occurring throughout the summer months and by hailstorms of considerable severity which laid the crops flat. The yield of oats, barley and rye in the above mentioned districts, although generally speaking good, is somewhat deficient in quality. The crop of maize grown in these districts is also good. In the lowlands of the southern Caucasus all cereals except maize have been harvested, and, much to the astonishment of farmers, who were greatly discouraged by unfavourable weather conditions in the early part of the season and again during the later progress made by cereals through wet and chilly weather, the crops are of good average yield. In the western districts of the southern Caucasus, where maize alone is grown as the staple article of food for man and beast, and where it is still in the ground, the outlook is anything but encouraging. In many localities the conditions are so serious that famine will shortly be staring the population in the face and the peasantry will have to receive relief from the State, both in kind and money, in order to enable them to sow grain next spring and to tide over the winter.

H. M. Acting Consul General at Olessa reports (August 30) that the harvest in south Russia is very late. Though the bulk was got in before the present bad weather there is still a considerable quantity lying in the fields. Owing to rain threshing is proceeding very slowly and until that operation has been completed nothing absolutely definite can be said about this year's harvest. Grain is however coming through so slowly to Odessa,

that it is feared that former estimates have been too high and that the returns for the zone which feeds Odessa may turn out to be below the average. In other parts of Russia and especially in the north the harvest is far better than in this district; so much so that the Bourse Committees are said to have written to St. Petersburg suggesting that, in expectation of a better price, corn from the north should be shipped through Odessa.

Mr. Henry Cooke, H. M. Commercial Attaché at St. Petersburg, reports that according to the Commercial Gazette of July 20-August 2 the Russian hemp crop be may described as fully satisfactory. There has been practically no change in the area sown to this crop this year.

**United States.** The Crop Reporter for September of the U. S. Department of Agriculture gives the following estimates of the acreage, condition and yield of the principal field crops:

| Crops               | Area<br>1912        | Condition         |                   |                     | Yield per acre    |                 | Total yield       |                  |
|---------------------|---------------------|-------------------|-------------------|---------------------|-------------------|-----------------|-------------------|------------------|
|                     |                     | Sept. 1<br>1912   | Sept. 1<br>1911   | ten-year<br>average | 1912 <sup>1</sup> | 1911<br>(final) | 1912 <sup>2</sup> | 1911<br>(final)  |
|                     | 000<br>acres        | p.c.              | p.c.              | p.c.                | bush.             | bush.           | million<br>bush.  | million<br>bush. |
| Corn.....           | 108,110             | 82·1              | 70·3              | 81·1                | 27·7              | 23·9            | 2,995             | 2,531            |
| Winter wheat. . .   | 25,744              | -                 | -                 | -                   | 15·1 <sup>3</sup> | 14·8            | 390 <sup>3</sup>  | 430              |
| Spring wheat. . .   | 19,201              | 90·8 <sup>1</sup> | 56·7 <sup>1</sup> | 76·5 <sup>1</sup>   | 15·6              | 9·4             | 300               | 191              |
| All wheat.....      | 44,945              | 84·3 <sup>1</sup> | 69·0 <sup>1</sup> | 78·8 <sup>1</sup>   | 15·4              | 12·5            | 690               | 621              |
| Oats.....           | 37,844 <sup>1</sup> | 92·3 <sup>1</sup> | 64·5 <sup>1</sup> | 78·8 <sup>1</sup>   | 34·1              | 24·4            | 1,290             | 922              |
| Barley.....         | 7,574 <sup>1</sup>  | 88·9 <sup>1</sup> | 65·5 <sup>1</sup> | 81·2 <sup>1</sup>   | 27·6              | 21·0            | 209               | 160              |
| Rye.....            | 2,097               | -                 | -                 | -                   | 16·9 <sup>3</sup> | 15·6            | 35 <sup>3</sup>   | 33               |
| Buckwheat.....      | 835                 | 91·6              | 83·8              | 86·4                | 21·3              | 21·1            | 18                | 18               |
| White potatoes... . | 3,689               | 87·2              | 59·8              | 79·6                | 108·0             | 80·9            | 398               | 293              |
| Flax.....           | 2,992               | 86·3              | 68·4              | 80·3 <sup>4</sup>   | 9·7               | 7·0             | 29                | 19               |
|                     |                     |                   |                   |                     | lb.               | lb.             | lb.               | lb.              |
| Tobacco.....        | 1,194               | 81·1              | 71·1              | 81·6                | 817·1             | 893·7           | 976               | 905              |
|                     |                     |                   |                   |                     | ton               | ton             | tons              | tons             |
| Hay (all tame)....  | 49,209              | -                 | -                 | -                   | 1·47 <sup>3</sup> | 1·14            | 72 <sup>3</sup>   | 55               |

<sup>1</sup> Condition at time of harvest. <sup>2</sup> Interpreted from condition reports. <sup>3</sup> Preliminary estimate.

<sup>4</sup> Nine-year average.

The quality of the hay crop is 92·1 against 90·3 last year and a ten-year average of 91·0.

## INTERNATIONAL INSTITUTE OF AGRICULTURE.

The Bulletin of agricultural statistics for August publishes revised tables of the areas and yields of the principal cereal crops in the northern hemisphere. Except with regard to the United States no changes have been made in the figures given in the Census Monthly for August; but figures have been added for Prussia, Bulgaria, Denmark, Canada and Egypt. A supplement to the Bulletin, dated August 24, gives preliminary estimates for the Russian Empire (73 governments). In the following tables are published the estimates of these six countries and complete totals for all the countries from which returns have been received up to August 15. For Canada however the latest estimates appear on pp. 195-198.



**I. Area and production of Wheat, Rye, Barley and Oats in 1912, compared with 1911.**

| Countries                            | Harvested<br>1911 | Harvest of 1912  |                       | Harvested<br>1911 | Estimate of 1912 |                       |
|--------------------------------------|-------------------|------------------|-----------------------|-------------------|------------------|-----------------------|
|                                      |                   | total<br>figures | compared<br>with 1911 |                   | total<br>figures | compared<br>with 1911 |
|                                      |                   |                  |                       |                   |                  |                       |
|                                      | 000<br>acres      | 000<br>acres     | p.c.                  | 000<br>bush.      | 000<br>bush.     | p.c.                  |
| <b>Wheat—</b>                        |                   |                  |                       |                   |                  |                       |
| Prussia .....                        | 2,904             | 2,796            | 96·3                  | 95,741            | 90,471           | 94·5                  |
| Bulgaria .....                       | 2,764             | 2,769            | 100·2                 | 72,005            | 63,750           | 88·5                  |
| Denmark .....                        | 100               | 100              | 100·0                 | 4,469             | 3,885            | 86·9                  |
| Russia (European) <sup>1</sup> ..... | 63,718            | 60,571           | 95·1                  | 447,038           | 627,157          | 140·3                 |
| (Asiatic) <sup>2</sup> .....         | 10,112            | 10,729           | 106·1                 | 62,464            | 122,783          | 196·6                 |
| Canada .....                         | 10,374            | 10,047           | 96·9                  | 215,851           | 187,925          | 87·1                  |
| United States .....                  | 49,544            | 44,946           | 90·7                  | 621,338           | 680,011          | 109·4                 |
| Egypt .....                          | 1,285             | 1,332            | 103·6                 | 38,046            | 28,949           | 76·1                  |
| <b>Rye—</b>                          |                   |                  |                       |                   |                  |                       |
| Prussia .....                        | 11,616            | 11,832           | 101·9                 | 331,765           | 346,440          | 104·4                 |
| Bulgaria .....                       | 545               | 531              | 97·4                  | 14,768            | 12,401           | 84·0                  |
| Denmark .....                        | 682               | 682              | 100·0                 | 19,713            | 18,038           | 91·5                  |
| Russia (European) <sup>1</sup> ..... | 70,835            | 70,347           | 99·3                  | 742,362           | 953,762          | 128·5                 |
| (Asiatic) <sup>2</sup> .....         | 2,408             | 2,584            | 107·3                 | 19,685            | 30,954           | 157·2                 |
| Canada .....                         | 142               | 149              | 104·3                 | 2,694             | 2,724            | 101·1                 |
| United States .....                  | 2,128             | 2,097            | 98·6                  | 33,119            | 35,000           | 105·7                 |
| <b>Barley—</b>                       |                   |                  |                       |                   |                  |                       |
| Prussia .....                        | 2,051             | 2,090            | 101·9                 | 78,836            | 81,124           | 102·9                 |
| Bulgaria .....                       | 621               | 642              | 103·5                 | 20,327            | 18,372           | 90·4                  |
| Denmark .....                        | 578               | 578              | 100·0                 | 23,025            | 25,655           | 111·4                 |
| Russia (European) <sup>1</sup> ..... | 28,089            | 28,048           | 99·9                  | 404,189           | 443,885          | 109·8                 |
| (Asiatic) <sup>2</sup> .....         | 873               | 824              | 94·4                  | 10,612            | 14,295           | 142·8                 |
| Canada .....                         | 1,405             | 1,449            | 103·2                 | 40,640            | 32,519           | 80·0                  |
| United States .....                  | 7,627             | 7,571            | 99·3                  | 169,240           | 201,996          | 126·1                 |
| Egypt .....                          | 384               | 378              | 98·4                  | 11,710            | 10,846           | 92·6                  |
| <b>Oats—</b>                         |                   |                  |                       |                   |                  |                       |
| Prussia .....                        | 6,964             | 7,089            | 101·8                 | 337,858           | 364,645          | 107·9                 |
| Bulgaria .....                       | 447               | 395              | 88·5                  | 19,243            | 11,347           | 59·0                  |
| Denmark .....                        | 996               | 996              | 100·0                 | 47,354            | 49,381           | 104·3                 |
| Russia (European) <sup>1</sup> ..... | 42,602            | 40,974           | 96·2                  | 746,235           | 859,270          | 115·1                 |
| (Asiatic) <sup>2</sup> .....         | 4,979             | 4,810            | 96·6                  | 61,655            | 112,587          | 182·6                 |
| Canada .....                         | 9,234             | 9,494            | 103·0                 | 348,184           | 320,018          | 91·9                  |
| United States .....                  | 37,764            | 37,845           | 100·2                 | 1,136,903         | 868,045          | 130·9                 |

**II. Average yields per acre of Wheat, Rye, Barley and Oats in 1912 compared with 1911.**

| Countries                            | Wheat |       | Rye   |       | Barley |       | Oats  |       |
|--------------------------------------|-------|-------|-------|-------|--------|-------|-------|-------|
|                                      | 1912  | 1911  | 1912  | 1911  | 1912   | 1911  | 1912  | 1911  |
|                                      | bush. | bush. | bush. | bush. | bush.  | bush. | bush. | bush. |
| Prussia.....                         | 32·41 | 33·01 | 29·31 | 28·51 | 38·84  | 38·49 | 51·43 | 48·54 |
| Bulgaria.....                        | 23·04 | 26·02 | 23·41 | 27·08 | 28·62  | 32·71 | 28·60 | 43·03 |
| Denmark.....                         | 38·80 | 44·60 | 26·44 | 28·83 | 44·42  | 39·77 | 49·50 | 47·49 |
| Russia (European) <sup>1</sup> ..... | 10·40 | 6·98  | 13·54 | 10·51 | 15·79  | 14·31 | 20·99 | 17·58 |
| (Asiatic) <sup>2</sup> .....         | 11·41 | 6·24  | 11·94 | 8·12  | 17·28  | 11·52 | 23·35 | 12·33 |
| Canada.....                          | 18·73 | 20·81 | 18·32 | 18·05 | 22·49  | 28·99 | 33·68 | 37·78 |
| United States.....                   | 15·16 | 12·49 | 16·72 | 15·61 | 26·57  | 21·00 | 29·91 | 25·09 |
| Egypt.....                           | 21·70 | 29·59 | —     | —     | 28·62  | 30·48 | —     | —     |

<sup>1</sup> 63 governments.<sup>2</sup> 10 governments.

For certain other countries only the areas and condition are as yet available as shown in the following table :

### III. Area and condition of cereals on August 1 1912.

| Countries        | Wheat                     |                          |             |             |             | Rye                       |                          |             |             |             |
|------------------|---------------------------|--------------------------|-------------|-------------|-------------|---------------------------|--------------------------|-------------|-------------|-------------|
|                  | area to be harvested 1912 | per cent of area of 1911 | condition   |             |             | area to be harvested 1912 | per cent of area of 1911 | condition   |             |             |
|                  |                           |                          | Aug. 1 1912 | July 1 1912 | Aug. 1 1911 |                           |                          | Aug. 1 1912 | July 1 1912 | Aug. 1 1911 |
|                  | 000 acres                 | p.c.                     | p.c.        | p.c.        | p.c.        | 000 acres                 | p.c.                     | p.c.        | p.c.        | p.c.        |
| Germany.....     | 4,758                     | 97.5                     | -           | -           | -           | 15,489                    | 102.2                    | -           | -           | -           |
| France.....      | 16,179                    | 104.1                    | -           | -           | -           | 2,998                     | 109.9                    | -           | -           | -           |
| Scotland.....    | -                         | -                        | 104         | 104         | -           | -                         | -                        | 105         | 105         | -           |
| Ireland.....     | 45                        | 99.5                     | -           | -           | -           | 8                         | 86.0                     | -           | -           | -           |
| Norway.....      | 12                        | 100.0                    | -           | -           | -           | 37                        | 100.0                    | -           | -           | -           |
| Netherlands..... | 143                       | 100.2                    | -           | 109         | -           | 559                       | 100.3                    | -           | 111         | -           |
| Rumania.....     | 5,113                     | 107.2                    | 100         | -           | -           | 264                       | 81.2                     | -           | -           | -           |
| Sweden.....      | -                         | -                        | 120         | 115         | 115         | -                         | -                        | 108         | 106         | 106         |
|                  | Barley                    |                          |             |             |             | Oats                      |                          |             |             |             |
|                  | area to be harvested 1912 | per cent of area of 1911 | condition   |             |             | area to be harvested 1912 | per cent of area of 1911 | condition   |             |             |
|                  |                           |                          | Aug. 1 1912 | July 1 1912 | Aug. 1 1911 |                           |                          | Aug. 1 1912 | July 1 1912 | Aug. 1 1911 |
|                  | 000 acres                 | p.c.                     | p.c.        | p.c.        | p.c.        | 000 acres                 | p.c.                     | p.c.        | p.c.        | p.c.        |
| Germany.....     | 3,928                     | 100.3                    | -           | -           | -           | 10,839                    | 101.4                    | -           | -           | -           |
| France.....      | 1,869                     | 97.4                     | -           | -           | -           | 9,896                     | 99.4                     | -           | -           | -           |
| Scotland.....    | -                         | -                        | 105         | 105         | -           | -                         | -                        | -           | 105         | 105         |
| Ireland.....     | 165                       | 104.5                    | -           | -           | -           | 1,046                     | 100.6                    | -           | -           | -           |
| Norway.....      | 89                        | 100.0                    | -           | -           | -           | 263                       | 100.0                    | -           | -           | -           |
| Netherlands..... | 67                        | 96.1                     | -           | 103         | -           | 339                       | 99.1                     | -           | 99          | -           |
| Rumania.....     | 1,238                     | 98.8                     | -           | -           | -           | 944                       | 95.2                     | -           | -           | -           |
| Sweden.....      | -                         | -                        | 118         | 123         | 115         | -                         | -                        | 123         | 125         | 103         |
| Egypt.....       | -                         | -                        | -           | -           | -           | -                         | -                        | -           | -           | -           |

### IV. Totals of areas, yields and average yields per acre of Wheat, Rye, Barley and Oats in countries of Northern Hemisphere in 1912 compared with 1911.

| Area and yield                             | Wheat<br>(17 countries) | Rye<br>(13 countries) | Barley<br>(16 countries) | Oats<br>(16 countries) |
|--|-------------------------|-----------------------|--------------------------|------------------------|
| Area 1912.....acres                        | 199,392,000             | 94,263,000            | 53,992,000               | 110,032,000            |
| " 1911.....acres                           | 206,721,000             | 94,214,000            | 54,447,000               | 111,903,000            |
| Area 1912 compared with 1911.....per cent  | 96.4                    | 100.0                 | 99.0                     | 98.3                   |
| Yield 1912.....bush.                       | 2,747,565,000           | 1,513,426,000         | 1,122,128,000            | 3,131,334,000          |
| " 1911.....bush.                           | 2,575,017,000           | 1,278,027,000         | 1,079,021,000            | 2,744,764,000          |
| Yield 1912 compared with 1911.....per cent | 106.7                   | 118.4                 | 104.0                    | 114.1                  |
| Yield per acre 1912.....bush.              | 13.78                   | 12.46                 | 20.78                    | 28.45                  |
| Yield per acre 1911.....bush.              | 12.46                   | 13.55                 | 19.82                    | 24.53                  |

The net result to August 24 of the data supplied by countries in the northern hemisphere is that the total production is more than it was last year by 6.7 p.c. for wheat in 17 countries, by 18.4 p.c. for rye in 13 countries, by 4 p.c. for barley in 16 countries and by 14.1 p.c. for oats in 16 countries; but in 1911 the total production of each of these crops was below that of the previous year. The countries showing a total production in excess of that of last year are for wheat Belgium, Luxemburg, the United States, and the Russian Empire; for rye Prussia, Hungary, Italy, Luxemburg, the Russian Empire, Canada and the United States; for barley Prussia, Belgium, Denmark, England and Wales, Luxemburg, Switzerland, the Russian Empire, the United States and Japan, and for oats Prussia, Denmark, the Russian Empire, the United States and Japan. Most of these countries are relatively small producers, and the totals are chiefly affected by the returns from the Russian Empire which are considerably in excess of last year, when however the harvest results were greatly below those of 1910. The data from the Russian Empire are only preliminary figures, and it is notorious that the Russian estimates of production are frequently subjected to very material revisions.

**SOUTHERN HEMISPHERE.** The sowing of cereals is reported as still in progress in Argentina. In Chile winter cereals were sown under favourable conditions; the young shoots are coming up evenly and weather conditions are favourable. The areas sown in 1912 to winter wheat and winter barley are 1,043,000 and 91,000 acres respectively. Fairly good conditions prevail in New Zealand for the sowing of winter barley; but wheat and oats, which have now all been got in, were drilled under bad conditions. These three cereals are all germinating fairly regularly; some damage has however been caused by floods. The areas sown to winter cereals in 1912 in New Zealand are as follows: Winter wheat 348,000 acres, winter barley 54,000 acres, winter oats 988,000 acres. These are respectively 67, 90 and 100 p.c. of last year's areas.

### THE POTATO CANKER.

On page 78 of the April issue of the Census and Statistics Monthly it was announced that the potato canker (*Chrysophyctis endobiotica*) had been discovered in Canada amongst potatoes shipped from England, and an Order in Council was passed on May 6 1912 rendering illegal the planting of potatoes imported from Europe. A new Order in Council, dated September 17, has now been passed under which for the present the importation into Canada of potatoes from Europe as well as from Newfoundland and the islands of St. Pierre and Miquelon is entirely prohibited. At the same time the Division of Botany of the Central Experimental Farm has issued a "Warning to Potato Growers" in the form of an illustrated card, which shows six tubers of natural size with the disease starting from the eyes, and a diseased plant of which the whole root is worthless, only one affected tuber retaining any resemblance to a potato. Potato growers, who should make a point of obtaining copies of this card, are earnestly warned to examine their potatoes carefully at harvest time and in the event of the discovery of any disease to communicate immediately with the Dominion Botanist at Ottawa. It is of the greatest importance that the destructive disease of

potato canker should not become established in Canada, and the co-operation of farmers is in their own interests essential to prevent its spread.

Under the Destructive Insects and Pests Act, and regulations made thereunder, any occupier of land upon which this disease is found is required immediately to notify the Minister of Agriculture and to send him specimens of the diseased tubers. Concealment of the disease is an offence against the Act, and contravention of its provisions or of the regulations made thereunder is punishable upon summary conviction by a fine not exceeding \$100, or by imprisonment for a term not exceeding six months, or by both fine and imprisonment.

### THE CARE OF FOALS.

From time to time our crop-reporting correspondents report considerable losses amongst foals from joint or navel ill, and one correspondent in Saskatchewan, Mr. George E. Collins, of Lashburn, in reporting losses of this kind, suggests that a note on the subject should be inserted in the Census and Statistics Monthly. He himself recommends that the colt's navel should always be washed with a solution of carbolic acid, particularly if born inside a stable. He states that he always does this, and that he has never lost a foal out of five or six per annum.

Farmers interested in horse breeding would do well to write to the Publications Branch of the Department of Agriculture for Bulletin No. 14 on "Horse Breeding and Rearing of Colts" by Dr. J. G. Rutherford, C.M.G., late Veterinary Director General. In this bulletin Dr. Rutherford lays particular stress upon the necessity of observing sanitary precautions with a view to prevent diseases of septic origin. "The most scrupulous cleanliness should be observed," he writes, "in the housing of young foals and their dams"; the all too common customs of letting them lie on a couple of feet of heating manure thinly covered with straw, or on a cold, wet, earthen floor, cannot be too strongly condemned. The floor and bedding should always be dry and clean, while an occasional sprinkling of lime will not cost much and will add greatly to the healthfulness of the inmates". He further writes that "if the umbilical cord or navel string is not ruptured at birth it may be tied with a stout cord a couple of inches from the navel and cut off below the ligature, and to prevent blood poisoning or the absorption of septic germs it may be dressed with a strong solution of carbolic acid, care being taken not to injure the surrounding tissues, or it may be temporarily smeared with carbolic oil".

### AGRICULTURAL PRODUCTION OF THE RUSSIAN EMPIRE.<sup>1</sup>

The Russian Empire, consisting of 93 governments and territories in Europe and Asia, besides Finland, occupies a total area of 5,373,479,000 acres, with a population in 1909 of 163,807,700, the distribution between the different parts of the Empire being as follows :

<sup>1</sup> Abstracted from the *Recueil de données statistiques et économiques sur l'industrie agricole en Russie et dans les pays étrangers*, 5th year, St. Petersburg, 1912.



| Countries             | Area          | Population  | Density per sq. mile |
|-----------------------|---------------|-------------|----------------------|
|                       | acres         | No.         | No.                  |
| European Russia ..... | 1,192,070,000 | 118,690,600 | 63·7                 |
| Poland .....          | 31,373,000    | 12,129,200  | 274·4                |
| Caucasus .....        | 115,954,000   | 11,735,100  | 64·8                 |
| Siberia .....         | 3,676,836,000 | 8,220,100   | 1·8                  |
| Central Asia .....    | 874,800,000   | 9,973,400   | 7·3                  |
| Finland .....         | 82,446,000    | 3,059,300   | 23·6                 |
| Total .....           | 5,373,479,000 | 163,807,700 | 19·5                 |

Of this vast area some 272,969,000 acres are under the cultivation of the principal agricultural crops, 1,074,745,000 acres are in forests and 96,406,000 acres are in meadows or pasture. The distribution is as follows :

| Countries             | Area under cultivation   | In forests               | Meadows or pasture      |
|-----------------------|--------------------------|--------------------------|-------------------------|
|                       | acres                    | acres                    | acres                   |
| European Russia ..... | 207,603,000 <sup>1</sup> | 376,729,000              | 63,577,000 <sup>3</sup> |
| Poland .....          | 14,056,000 <sup>1</sup>  | 5,878,000                | 2,343,000 <sup>3</sup>  |
| Caucasus .....        | 22,648,000 <sup>1</sup>  | 13,401,000 <sup>2</sup>  | 5,273,000 <sup>3</sup>  |
| Siberia .....         | 14,293,000 <sup>1</sup>  | 637,240,000 <sup>2</sup> | 15,033,000 <sup>3</sup> |
| Central Asia .....    | 10,494,000 <sup>1</sup>  | 41,497,000 <sup>2</sup>  | 7,014,000 <sup>3</sup>  |
| Finland .....         | 3,875,000                |                          | 3,166,000               |
| Total .....           | 272,969,000              | 1,074,745,000            | 96,406,000              |

<sup>1</sup> Area of principal agricultural crops. <sup>2</sup> Including only the forests under control of the Forestry Administration. <sup>3</sup> Natural meadows only.

There are also in European Russia areas of uncultivated land estimated in 1887 at 190,498,000 acres, besides an area for the Empire of 577,000 acres, the distribution of which is not determined.

The area and yield in 1910 of the principal field crops of the Russian Empire, including European Russia (50 governments), Poland (10 governments), the Caucasus, the Steppes, Siberia and Turkestan, but not including Finland, was in thousands of acres and thousands of bushels as follows :

| Crop              | Area      |           | Crop            | Area      | Yield     |
|-------------------|-----------|-----------|-----------------|-----------|-----------|
|                   | 000 acres | 000 bush. |                 | 000 acres | 000 bush. |
| Winter wheat..... | 19,096    | 279,716   | Buckwheat.....  | 5,486     | 57,857    |
| Spring wheat..... | 58,463    | 556,526   | Millet.....     | 9,187     | 125,532   |
| All wheat.....    | 77,559    | 836,242   | Corn.....       | 5,165     | 102,000   |
| Winter rye.....   | 69,734    | 854,815   | Peas.....       | 2,583     | 28,862    |
| Spring rye.....   | 1,982     | 20,320    | Beans.....      | 1,289     | 13,365    |
| All rye.....      | 71,716    | 875,135   | Potatoes.....   | 11,250    | 1,343,269 |
| Barley.....       | 30,474    | 487,920   | Flaxseed.....   | 3,565     | 20,179    |
| Oats.....         | 48,107    | 1,001,897 | Hempseed.....   | 1,806     | 22,032    |
| Spelt.....        | 905       | 11,380    |                 |           | 000 tons  |
|                   |           |           | Sugar beet..... | 1,631     | 14,527    |

For Finland the total production in 1908 of the principal crops was in bushels : Wheat 112,500, rye 10,906,000, barley 5,185,000, oats 19,598,000, mixed grains 524,000, buckwheat 7,300, peas and beans 285,200, potatoes 16,364,000.

In addition to the principal field crops above mentioned various other crops are extensively grown, including flax and hemp for fibre, sunflowers for oil and feed, tobacco, hops, rice, cotton, and vines. Silkworms are reared for silk manufacture in the Caucasus, Turkestan and Bessarabia, and apiculture is also largely practised.

In 1909, according to information published by the Veterinary Direction, the numbers of live stock in the Empire (not including Finland) were : Horses 33,720,114, cattle 50,241,009, sheep 81,315,397, goats 5,208,513 and swine 14,459,270. In Finland in 1907, the numbers of live stock were : Horses 327,817, cattle 1,491,264, sheep 904,447, reindeer 133,749, goats 6,279, swine 221,072.

## INTERNATIONAL CONGRESSES AT GHENT, 1913.

In connection with the Ghent International Exhibition of 1913 will be held the tenth International Agricultural Congress in continuation of the one held at Madrid in 1911, the resolutions passed at which were published in the Census Monthly of August 1912 (p. 181). These Agricultural Congresses, held every two years, are organised by the International Commission of Agriculture, under the presidency of M. Jules Méline, Paris. The Congress at Ghent will be held from June 8 to 13 1913 and will be divided into five sections consisting of (1) rural economy ; (2) the science of agriculture, special crops and agricultural education ; (3) animal industry ; (4) rural engineering and (5) forestry. The following is an outline of the syllabus :

### SECTION I. (Rural Economy.)

1. The relative importance of agriculture, trade and industry in the various countries : and the measures adopted by public authorities in regard to these three subjects.
2. Rural depopulation.
3. The organisation of small rural properties.
4. Agricultural credit.
5. Agricultural co-operation.
6. Mutual agricultural insurance.
7. The organisation of the trade in agricultural produce.

### SECTION II. (Science of Agriculture, special crops, agricultural education.)

1. Statistics. Objects and importance of agricultural experiment stations. Documentary results and their interpretation. The best methods of recording and disseminating the information.
2. Agricultural meteorology.
3. Communications relating to the principal discoveries in agriculture during the past five years.
4. What has hitherto been the influence of new methods of selection on the fixation of varieties of cultivated plants ?
5. The cultivation of and the trade in hops.
6. Viticulture. The establishment of vineyards in northern latitudes and the cultivation of grapes under glass by means of American stocks for grafting purposes.
7. The extension of instruction in natural science in connection with (a) higher and (b) secondary agricultural education.
8. The main principles of a well organised system of primary professional agricultural education.

## SECTION III (Animal Industry.)

1. The basis of classification of the breeds of domestic animals.
2. Does the productive value attributed by Kellner to the principal feeding stuffs agree with practical observations?
3. The zootechnic value of selection. The discussion of this question may include the two preceding subjects (2 and 3).
4. The value of pedigree from the zootechnic point of view.
5. Colour heredity in domestic animals.
6. What is the zootechnic value of acquired characters?

## SECTION IV (Rural Engineering.)

1. The application of mechanical energy in agriculture.
2. The clearing of land.
3. Dry farming.
4. Mechanical and other means for the re-placement of manual agricultural labour. Comparative investigations.
5. Agricultural roads.
6. Territorial agricultural meetings.

## SECTION V. (Forestry.)

1. What legislative and financial measures should be taken in order to prevent abuse in the management of forests, or the destruction of forests which are of public utility?
2. The best means of preventing forest fires and of decreasing the damage herefrom. Does the necessity exist for the formation of mutual insurance societies among the owners of forests? Methods of organisation.
3. The treatment of ordinary coppice, in view of the reduction in the price of firewood and of bark for tanning purposes.
4. The production of good seed being of the utmost importance, what measures should be taken to provide sufficient guarantees as regards the collection of, and the trade in the seed of trees?

The members of the Congress consist of persons who have notified their adhesion to the General Secretary of the Executive Committee of the Congress, and who have remitted the subscription, which has been fixed at 20 francs (\$3.86). Public bodies and agricultural societies may join and send delegates to the Congress. The subscription is payable by each delegate. Information relating to the programme of each section will be sent on application by the General Secretary, Mr. P. de Vuyst, 22 Avenue des Germaines, Brussels, and applications for membership should be addressed to the Assistant General Secretary, Mr. Vandervaeren, 228 Chaussée d'Alsemberg, Brussels.

There will also be held in connection with the Ghent Exhibition the third International Congress of Agricultural Women. This should have special interest for Canadian visitors to the Exhibition, as Women's Institutes were first established on this side of the Atlantic and are now being copied in Europe. The first Agricultural Women's Congress was held at Colorado Springs in 1911; the second takes place in Canada this year at Lethbridge, Alta., during the Dry Farming Congress to be held there from October 22-25 (Secretary, Mrs. John T. Burns, Lethbridge, Alta.), and the third at Ghent will take place during June 1913. The Congress will meet in three sections, viz., (1) agricultural women's associations; (2) professional rôle of agricultural women; and (3) agricultural women in the rôle of mother and manager. The Foreign Secretary for North America is Mrs. Burns, of Lethbridge, Alberta. Membership of the Congress can be obtained upon application to the Treasurer, Miss Van Aarschot, 38 Rue du Pépin, Brussels, the subscription being 10 francs (\$1.93).

Towards the end of June will be held at Ghent the second International Congress for the Teaching of Household Economy. The subscription for this Congress, also 10 francs (\$1.93), is payable to the Treasurer, *Mme. le Jeune d'Allegeerschecque*, 16 Rue des Palais, Brussels. The General Secretaries are the *Misses Bouillot and Deleu*, Rue Willems 19, Brussels, and the Secretary for the United States is Miss Lord, Pratt Institute, Brooklyn, New York.

## THE WEATHER DURING AUGUST.

The Dominion Meteorological Office reports that cool weather prevailed throughout Canada during the greater part of the month, with a resultant mean temperature below the normal in most districts. The average was slightly exceeded in southwestern parts of British Columbia, and also locally in Alberta and Saskatchewan, but elsewhere in Canada the mean value was in defect by about three degrees. Precipitation was excessive throughout Canada except in Nova Scotia, Prince Edward Island, and very locally in Ontario, where the average amount was not recorded. Exceptionally heavy rainfalls occurred in Quebec and New Brunswick, and also more locally in Ontario. The pronounced feature of the precipitation of August was the large number of days on which it occurred, being in most localities more than fifteen.

In British Columbia the weather of August was marked by wet, cool conditions, the rainfall being abnormal, and especially so in the Irrigation Belt, where the precipitation was almost sufficient to supply the moisture for the crops. The average temperature was slightly exceeded in southwestern districts, but elsewhere there was a defect of about three degrees. During August the weather throughout the western provinces was generally cool, with frequent rainfalls and much clouded skies. In eastern Saskatchewan and Manitoba the mean temperature was about three degrees below the average, while in other parts of the West the normal was closely approached or slightly exceeded. Precipitation was generally heavy. Overcast skies with frequent rainfalls were the features of the weather in Ontario. The precipitation was generally much in excess of the average, but locally in the Thunder Bay district, and also near the Georgian Bay, the normal was not reached. The mean temperature was about three degrees below the normal. As in Ontario, the weather of August in Quebec was characterised by cool, wet conditions, with an absence of the usual amount of bright sunshine. Exceptionally heavy rainfalls occurred in some districts. In New Brunswick August has been a month of most persistent unsettled, wet, and unseasonably cool weather. Thunderstorms were very heavy and destructive throughout the province. The continuous heavy rains hindered farming operations, and considerable damage resulted from the flooded rivers and streams. For cool, gloomy and wet weather the past summer leaves a record seldom surpassed. In Nova Scotia August was a cool, cloudy unseasonable month. Rain occurred on eighteen days. In Prince Edward Island unusually damp, cloudy, cool, autumn-like weather, with diminished sunshine in August delayed crops at least a fortnight.



**Insurance against Hailstorms.** Our correspondent at Elkhorn in southern Manitoba reported that hailstorms which occurred in his district on the 14th and 15th of July ruined over 1,500 acres of wheat and over 700 acres of oats, this being a conservative estimate. This estimate applies to the district which does business at Elkhorn, but damage was reported as from Oak Lake north and east to the Assinaboine river. Only one of the farmers whose crops were thus destroyed had insured against hail, and he received his policy on July 13, a day before the storm occurred. Other farmers had allowed their policies to lapse, as previously hail had not struck the district nearer than about 15 miles north or south of the town of Elkhorn.

## COLONIAL AND FOREIGN PRODUCE IN BRITISH MARKETS.

**Wheat, etc.** On August 26 the prices for imported wheats at Mark Lane per quarter of 496 lb. were as follows: Manitoba No. 1 43s 9d-44s, No. 2 43s-43s 3d, No. 3 41s-41s 6d, No. 4 37s-37s 6d, No. 5 31s 6d-32s, No. 6 27s 6d-28s, feed 26s-26s 6d, Australian 42s-42s 6d, New Zealand 40s-41s, Russian finest 41s-42s, good 40s-41s, com. 39s-40s, Californian 41s-41s 6d, Blue Stem 40s 9d-41s 3d, white Walla 40s-40s 3d, red Walla 39s 6d-39s 9d, white Bombay 39s 6d-40s, white Calcutta 39s-39s 6d, white Karachi 39s 39s 6d, red Karachi 38s 9d-39s, Bahia Blanca 39s-39s 6d, Rosa Fé 38s-38s 6d, Baruso 36s-37s 6d. Oats, Canadian per 320 lb. 23s 6d-24s 6d, Prussian 25s 6d-25s 9d, Buenos Aires per 304 lb. 18s 9d-19s 3d.

**Flour.** On August 26 the Mark Lane prices for imported flour per sack of 280 lb. were: Hungarian 37s-39s, Iron Duke 28s 6d-28s 9d, American finest 30s 6d-31s 6d, 1st pat. 30s-30s 6d, 2nd pat. 29s-29s 6d, 1st bak. 28s-28s 6d, 2nd bak. 26s 6d-26s 9d, low grade 21s 6d-22s, Manitoba pat. 29s 6d-29s 9d, straights 28s 9d-29s, Kansas best 29s-29s 3d, firsts 28s 6d-28s 9d, seconds 27s-27s 6d, Californian 31s-32s, Australian 27s-28s, French fine 32s 6d-33s 6d, Belgian fine 30s 6d-31s 6d, Galatz fine 32s 6d-34s 6d.

**Fresh Meats.** The average official monthly prices in July were per 112 lb.: Canadian and U. S. A. port-killed, London 66s and 64s; Liverpool 67s 6d and 63s 6d; Argentine frozen hind quarters, London 38s 6d; Birmingham and Glasgow 40s; Liverpool, Manchester and Edinburgh 41s 6d; fore quarters, London, Birmingham, Liverpool and Manchester 33s 6d; Edinburgh 35s; Glasgow 34s; Argentine chilled hind quarters, London and Edinburgh 45s 6d, Birmingham 43s 6d; Liverpool 47s; Manchester 48s; Glasgow 46s 6d; fore quarters, London 33s 6d; Birmingham 34s 6d; Liverpool and Manchester 35s 6d; Edinburgh 36s; Glasgow 36s 6d; Australian frozen hind quarters, London, Liverpool, Manchester and Glasgow 38s 6d; Birmingham 39s 5d; fore quarters, London and Glasgow 33s 6d; Birmingham 34s; Liverpool and Manchester 33s. For the week ended August 28 the prices were: Canadian and U. S. A. port-

killed, London 56s and 51s 4d; Liverpool 51s 4d and 46s 8d; Argentine frozen hind quarters, London 35s; Birmingham, Liverpool and Manchester 37s 4d; Leeds and Edinburgh 38s 6d; Dundee and Glasgow 39s 8d; Argentine chilled hind quarters, London and Leeds 42s; Birmingham and Dundee 44s 4d; Liverpool and Manchester 39s 8d; Dundee 44s 4d; Edinburgh 50s 2d; Glasgow 53s 8d; Australian frozen hind quarters, London and Manchester 35s; Birmingham and Glasgow 37s 4d; Liverpool 30s 4d.

**Bacon and Hams.** The average official prices in July for Canadian bacon per 112 lb. were: London 69s and 66s; Bristol 68s and 65s 6d; Liverpool 66s 6d and 63s 6d; Glasgow 68s and 66s. For American long cut hams the prices were: London 74s and 69s; Bristol 64s and 61s; Liverpool 63s 6d and 60s; Glasgow 63s. For the week ended August 28 the prices for bacon were: Canadian sides, London 74s and 73s; Bristol 73s and 70s; Liverpool 71s and 68s; Glasgow 74s and 72s; Canadian Cumberland cuts, Liverpool 71s and 68s; Glasgow 70s and 67s; Danish sides, London 79s and 76s; Bristol 82s and 78s; Liverpool 77s and 73s. Canadian long cut green hams, London 74s and 72s; Bristol 76s and 70s; Liverpool 75s and 69s; Glasgow 70s and 68s. American long cut green hams, London 66s and 60s; Bristol 64s and 62s; Liverpool 64s and 59s; Glasgow 64s (first quality); American short cut green hams, London and Bristol 63s and 60s; Liverpool 66s and 60s; Glasgow 62s and 60s.

**Cheese.** The average prices in July for Canadian cheese per 112 lb. were: London 66s and 65s; Bristol 65s and 63s 6d; Liverpool 64s 6d and 62s; Glasgow 67s (first quality). For the week ended August 28 the prices were: London 67s and 66s; Bristol 66s and 63s; Liverpool 66s 6d and 64s 6d; Glasgow 68s (first quality); New Zealand, London 66s and 65s; Bristol 67s and 66s.

# CENSUS AND STATISTICS MONTHLY

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PUBLISHED BY AUTHORITY OF HONOURABLE GEORGE E. FOSTER, MINISTER OF TRADE AND COMMERCE. CORRESPONDENCE RELATING TO THE CENSUS AND STATISTICS MONTHLY SHOULD BE ADDRESSED TO ARCHIBALD BLUE, CHIEF OFFICER OF THE CENSUS AND STATISTICS OFFICE, DEPARTMENT OF TRADE AND COMMERCE, OTTAWA, CANADA.

## FIELD CROPS OF CANADA.

Report for the month ended September 30 1912.

During the month ended September 30 disastrously wet weather continued to prevail over most parts of Canada, especially over the provinces of Quebec, Ontario and Manitoba. At September 30 large areas of grain, both in the east and west, were still either uncut or were in the stook and exposed to the wet. Much damage has been caused by sprouting, and in the Northwest provinces second growth has in numerous instances caused uneven ripening and consequent lowering of grade. Frosts during September in those provinces did some damage; but as a rule only late sown crops, including flax, were seriously affected. In parts of southern Ontario the ground is so wet that many farmers have abandoned the sowing of fall wheat for next year.

The estimates of yield published a month ago could only be regarded as of preliminary value; because, in consequence of the bad weather and late season, harvesting operations had made such little progress.

The new estimates of yield, obtained from correspondents at the end of September, confirm generally the previous estimates for most of the crops; but, inasmuch as very little threshing had been possible and large areas of grain were still unharvested, it is feared that the final estimates, after completion of the threshing, may turn out to be lower than the figures now given.

For spring wheat the estimated production is 188,816,600 bushels, as compared with 189,904,500 bushels last year. For fall wheat the estimate is 16,868,700 bushels compared with 26,014,000 bushels last year, the total estimated wheat production being therefore 205,685,300 bushels, as compared with 215,918,500 bushels in 1911, a decrease of about 5 p. c. The yield per acre is 21·08 bushels for all wheat as against 20·77 bushels last year. Oats show a total production of 381,502,000 bushels, compared with 348,585,600 bushels last year, the yield per acre being 41·39 bushels, compared with 37·75. Barley is estimated to yield a total of 43,895,100 bushels, compared with 40,631,000 bushels last year, the yield per acre being 31·00 bushels against 28·94. The total production of rye is 3,086,000 bushels

against 2,668,800 bushels in 1911, the yields per acre being respectively 20·75 and 17·41 bushels. Of oats, barley and rye, the increases in total production as compared with last year represent percentages of 9, 8 and 15. The estimated production of peas is 4,202,400 bushels, of beans 1,106,800 bushels, of buckwheat 10,924,100 bushels, of flaxseed 21,143,400 bushels, of mixed grains 17,941,700 bushels and of corn for husking 14,218,400 bushels.

The average quality of these crops at harvest time, measured upon a per cent basis of 100 as representing grain well headed, well filled, well saved and unaffected to any appreciable extent by frost, rust, smut, etc., is as follows: Spring wheat 83·70, oats 86, barley 84·48, rye 80·82, peas 66·41, beans 68·81, buckwheat 80·87, mixed grains 90·59, flaxseed 83·86 and corn for husking 71·92 p. c. Of these crops wheat, oats, barley and flaxseed are above, while peas, beans and corn for husking are below the average quality for either of the two previous years. Rye is slightly below the average. Flax is well above the quality of both 1911 (75 p. c.) and 1910 (73 p. c.).

Root crops continue to show excellent figures as representing average condition during growth. The highest are potatoes 90·12 p. c. and the lowest corn for fodder 80·63 p. c.; the last named crop has improved by over 4 points during the month.

Census and Statistics Office,  
Ottawa, October 16 1912.

ARCHIBALD BLUE  
Chief Officer.

**I. Provisional statement of the yield of Cereal Crops, September 30 1912, compared with final estimate of 1911.**

| Field crops            | Area      |            | Yield per acre |       | Total yield |             |
|------------------------|-----------|------------|----------------|-------|-------------|-------------|
|                        | 1912      | 1911       | 1912           | 1911  | 1912        | 1911        |
|                        | acres     | acres      | bush.          | bush. | bush.       | bush.       |
| Canada—                |           |            |                |       |             |             |
| Fall wheat .....       | 781,000   | 1,172,119  | 21·60          | 22·19 | 16,868,700  | 26,014,400  |
| Spring wheat .....     | 8,977,400 | 9,205,040  | 21·03          | 20·63 | 188,816,600 | 189,904,500 |
| All wheat .....        | 9,758,400 | 10,377,159 | 21·08          | 20·81 | 205,685,300 | 215,918,900 |
| Oats .....             | 9,216,900 | 9,233,550  | 41·39          | 37·75 | 381,302,000 | 348,585,600 |
| Barley .....           | 1,415,200 | 1,403,909  | 31·02          | 28·94 | 43,895,100  | 40,631,000  |
| Rye .....              | 148,700   | 153,272    | 20·75          | 17·41 | 3,086,000   | 2,668,800   |
| Peas .....             | 251,900   | 288,316    | 16·68          | 15·73 | 4,202,400   | 4,536,300   |
| Beans .....            | 59,800    | 60,630     | 18·51          | 19·06 | 1,106,800   | 1,155,600   |
| Buckwheat .....        | 387,000   | 359,367    | 28·23          | 22·69 | 10,924,100  | 8,155,500   |
| Flax .....             | 1,677,800 | 682,622    | 12·60          | 11·52 | 21,143,400  | 7,867,000   |
| Mixed grains .....     | 533,200   | 563,816    | 33·65          | 29·20 | 17,941,700  | 16,463,600  |
| Corn for husking ..... | 292,850   | 316,104    | 48·55          | 59·39 | 14,218,400  | 18,772,700  |
| P. E. Island—          |           |            |                |       |             |             |
| Spring wheat .....     | 30,700    | 30,090     | 18·20          | 19·26 | 558,700     | 579,500     |
| Oats .....             | 177,000   | 175,826    | 40·22          | 29·80 | 7,119,000   | 5,239,600   |
| Barley .....           | 4,400     | 4,561      | 32·07          | 25·67 | 141,000     | 117,000     |
| Peas .....             | 70        | 74         | 15·67          | 20·00 | 1,000       | 1,500       |
| Buckwheat .....        | 2,700     | 2,770      | 34·58          | 26·75 | 93,300      | 74,100      |
| Mixed grains .....     | 7,500     | 7,418      | 46·24          | 35·29 | 346,800     | 261,800     |



**I Provisional statement of the yield of Cereal Crops, September 30  
1912, compared with final estimate of 1911.—con.**

| Field crop             | Area      |           | Yield<br>per acre |       | Total yield |            |
|------------------------|-----------|-----------|-------------------|-------|-------------|------------|
|                        | 1912      | 1911      | 1912              | 1911  | 1912        | 1911       |
|                        | acres     | acres     | bush.             | bush. | bush.       | bush.      |
| <b>Nova Scotia—</b>    |           |           |                   |       |             |            |
| Spring wheat .....     | 12,800    | 13,118    | 22.69             | 21.05 | 290,400     | 276,000    |
| Oats .....             | 97,600    | 98,129    | 33.67             | 29.24 | 3,286,000   | 2,869,000  |
| Barley .....           | 5,000     | 5,978     | 30.28             | 25.77 | 169,500     | 154,000    |
| Rye .....              | 910       | 919       | 24.00             | 16.00 | 21,800      | 15,000     |
| Peas .....             | 190       | 209       | 23.40             | 23.40 | 4,400       | 4,800      |
| Beans .....            | 900       | 966       | 22.46             | 21.90 | 20,200      | 21,100     |
| Buckwheat .....        | 7,500     | 7,904     | 27.71             | 21.81 | 207,800     | 172,400    |
| Mixed grains .....     | 4,300     | 4,350     | 32.00             | 29.34 | 137,600     | 127,800    |
| Corn for husking ..... | 150       | 164       | 25.50             | 35.00 | 3,800       | 5,700      |
| <b>New Brunswick—</b>  |           |           |                   |       |             |            |
| Spring wheat .....     | 12,400    | 13,245    | 18.16             | 20.39 | 225,000     | 270,000    |
| Oats .....             | 186,000   | 198,457   | 32.18             | 28.86 | 5,986,000   | 5,727,000  |
| Barley .....           | 2,500     | 2,613     | 26.14             | 28.16 | 65,400      | 74,000     |
| Rye .....              | 160       | 162       | 19.00             | 17.33 | 3,000       | 2,800      |
| Peas .....             | 560       | 643       | 21.92             | 24.00 | 12,200      | 15,000     |
| Beans .....            | 300       | 343       | 24.36             | 21.75 | 7,300       | 7,500      |
| Buckwheat .....        | 60,500    | 61,756    | 28.75             | 26.44 | 1,739,000   | 1,633,000  |
| Mixed grains .....     | 1,300     | 1,453     | 30.63             | 30.66 | 39,800      | 45,000     |
| <b>Quebec—</b>         |           |           |                   |       |             |            |
| Spring wheat .....     | 63,100    | 71,086    | 18.37             | 17.73 | 1,159,000   | 1,260,000  |
| Oats .....             | 1,170,400 | 1,430,677 | 28.75             | 26.22 | 33,649,000  | 37,512,000 |
| Barley .....           | 91,300    | 106,010   | 25.39             | 22.76 | 2,318,000   | 2,413,000  |
| Rye .....              | 19,200    | 20,440    | 18.39             | 15.72 | 353,000     | 321,000    |
| Peas .....             | 29,000    | 33,048    | 17.16             | 15.91 | 497,600     | 526,000    |
| Beans .....            | 9,400     | 10,612    | 17.53             | 17.14 | 164,700     | 182,000    |
| Buckwheat .....        | 114,600   | 110,609   | 27.94             | 22.57 | 3,202,000   | 2,496,000  |
| Flax .....             | 1,300     | 1,719     | 14.32             | 11.31 | 18,600      | 19,000     |
| Mixed grains .....     | 120,000   | 130,950   | 27.97             | 25.58 | 3,356,000   | 3,350,000  |
| Corn for husking ..... | 21,000    | 25,273    | 27.27             | 30.32 | 572,600     | 766,000    |
| <b>Ontario—</b>        |           |           |                   |       |             |            |
| Fall wheat .....       | 561,000   | 814,746   | 20.34             | 20.95 | 11,411,000  | 17,060,000 |
| Spring wheat .....     | 110,000   | 126,526   | 20.37             | 17.25 | 2,240,700   | 2,183,000  |
| All wheat .....        | 671,000   | 941,272   | 20.35             | 20.45 | 13,651,700  | 19,252,000 |
| Oats .....             | 2,637,000 | 2,734,110 | 36.28             | 30.24 | 95,670,000  | 82,679,000 |
| Barley .....           | 500,000   | 521,391   | 29.36             | 26.39 | 13,195,000  | 13,730,000 |
| Rye .....              | 95,000    | 98,887    | 19.75             | 17.86 | 1,876,000   | 1,766,000  |
| Peas .....             | 220,000   | 252,032   | 16.46             | 15.69 | 3,621,000   | 3,954,000  |
| Beans .....            | 49,200    | 48,709    | 18.59             | 19.40 | 911,600     | 945,000    |
| Buckwheat .....        | 201,700   | 176,328   | 28.17             | 21.44 | 5,682,000   | 3,780,000  |
| Flax .....             | 8,100     | 8,367     | 13.56             | 14.06 | 109,800     | 118,000    |
| Mixed grains .....     | 389,000   | 408,471   | 35.04             | 31.04 | 13,631,000  | 12,679,000 |
| Corn for husking ..... | 271,700   | 290,667   | 50.21             | 61.93 | 13,642,000  | 18,001,000 |
| <b>Manitoba—</b>       |           |           |                   |       |             |            |
| Fall wheat .....       | 3,100     | 2,961     | 36.66             | 28.56 | 95,000      | 85,000     |
| Spring wheat .....     | 2,650,000 | 2,976,773 | 19.44             | 20.22 | 51,516,000  | 60,190,000 |
| All wheat .....        | 2,653,100 | 2,979,734 | -                 | -     | 51,611,000  | 60,275,000 |
| Oats .....             | 1,209,000 | 1,209,736 | 45.51             | 45.92 | 57,752,000  | 57,893,000 |
| Barley .....           | 454,600   | 433,067   | 34.21             | 33.36 | 15,552,000  | 14,447,000 |
| Rye .....              | 9,300     | 9,393     | 26.00             | -     | 241,800     | -          |
| Peas .....             | 380       | 398       | 43.33             | -     | 16,400      | -          |
| Flax .....             | 94,000    | 62,231    | 13.39             | 14.44 | 1,250,000   | 899,000    |
| Mixed grains .....     | 1,800     | 1,820     | 40.00             | -     | 72,000      | -          |

**I. Provisional statement of the yield of Cereal Crops, September 30 1912, compared with final estimates of 1911.—con.**

| Field crops              | Area      |           | Yield per acre |       | Total yield |            |
|--------------------------|-----------|-----------|----------------|-------|-------------|------------|
|                          | 1912      | 1911      | 1912           | 1911  | 1912        | 1911       |
|                          | acres     | acres     | bush.          | bush. | bush.       | bush.      |
| <b>Saskatchewan—</b>     |           |           |                |       |             |            |
| Fall wheat.....          | 53,000    | 34,457    | 26.25          | 22.00 | 1,391,000   | 758,000    |
| Spring wheat.....        | 4,838,500 | 4,670,203 | 21.44          | 20.75 | 103,737,000 | 96,907,000 |
| All wheat.....           | 4,891,500 | 4,704,660 | 21.49          | 20.76 | 105,128,000 | 97,665,000 |
| Oats.....                | 2,285,600 | 2,124,057 | 47.96          | 46.12 | 109,617,000 | 97,962,000 |
| Barley.....              | 180,300   | 172,253   | 35.24          | 31.61 | 6,354,000   | 5,445,000  |
| Rye.....                 | 2,600     | 2,167     | 28.83          | —     | 74,900      | —          |
| Peas.....                | 300       | 304       | 32.50          | —     | 9,700       | —          |
| Flax.....                | 1,463,000 | 570,030   | 12.56          | 11.25 | 18,375,000  | 6,413,000  |
| Mixed grains.....        | 3,000     | 2,847     | 44.22          | —     | 132,600     | —          |
| <b>Alberta—</b>          |           |           |                |       |             |            |
| Fall wheat.....          | 161,000   | 316,910   | 24.09          | 25.28 | 3,878,400   | 8,011,000  |
| Spring wheat.....        | 1,256,200 | 1,299,989 | 23.06          | 21.64 | 28,968,000  | 28,132,000 |
| All wheat.....           | 1,417,200 | 1,616,899 | 23.18          | 22.35 | 32,846,400  | 36,143,000 |
| Oats.....                | 1,359,300 | 1,178,410 | 49.00          | 48.34 | 66,605,000  | 56,964,000 |
| Barley.....              | 174,900   | 156,418   | 34.55          | 26.54 | 6,043,000   | 4,151,000  |
| Rye.....                 | 21,000    | 20,659    | 23.67          | 27.30 | 497,000     | 561,000    |
| Peas.....                | 400       | 459       | 21.25          | —     | 8,500       | —          |
| Flax.....                | 111,400   | 40,275    | 12.40          | 10.39 | 1,381,000   | 418,000    |
| Mixed grains.....        | 4,700     | 4,904     | 31.57          | —     | 148,300     | —          |
| <b>British Columbia—</b> |           |           |                |       |             |            |
| Fall wheat.....          | 2,900     | 5,045     | 32.20          | 29.81 | 93,300      | 91,000     |
| Spring wheat.....        | 3,700     | 4,010     | 32.92          | 26.73 | 121,800     | 107,000    |
| All wheat.....           | 6,600     | 7,055     | 32.59          | 28.06 | 215,100     | 198,000    |
| Oats.....                | 35,000    | 33,148    | 51.92          | 52.50 | 1,817,000   | 1,740,000  |
| Barley.....              | 1,600     | 1,678     | 35.75          | 41.66 | 57,200      | 70,000     |
| Rye.....                 | 530       | 645       | 35.00          | —     | 18,500      | —          |
| Peas.....                | 1,000     | 1,143     | 31.60          | 30.25 | 31,600      | 35,000     |
| Mixed grains.....        | 1,600     | 1,627     | 48.50          | —     | 77,600      | —          |

**II. Comparative Quality of Cereal Crops, 1912, 1911 and 1910.**

| Field crops           | Average quality of field crops |               |               | Field crops          | Average quality of field crops |               |               |
|-----------------------|--------------------------------|---------------|---------------|----------------------|--------------------------------|---------------|---------------|
|                       | Sept. 30 1912                  | Sept. 30 1911 | Sept. 30 1910 |                      | Sept. 30 1912                  | Sept. 30 1911 | Sept. 30 1910 |
|                       | p.c.                           | p.c.          | p.c.          |                      | p.c.                           | p.c.          | p.c.          |
| <b>Canada—</b>        |                                |               |               | <b>P. E. Island—</b> |                                |               |               |
| Spring wheat.....     | 83.70                          | 79.31         | 81.59         | Spring wheat.....    | 85.00                          | 94.39         | 94.14         |
| Oats.....             | 86.01                          | 83.30         | 83.84         | Oats.....            | 101.14                         | 83.09         | 102.30        |
| Barley.....           | 84.48                          | 83.07         | 80.09         | Barley.....          | 97.06                          | 83.63         | 96.64         |
| Rye.....              | 80.82                          | 82.25         | 83.59         | Peas.....            | 84.64                          | 73.00         | 92.22         |
| Peas.....             | 66.41                          | 71.35         | 73.85         | Beans.....           | 76.67                          | 81.33         | 88.92         |
| Beans.....            | 68.81                          | 81.54         | 84.55         | Buckwheat.....       | 90.26                          | 77.58         | 90.52         |
| Buckwheat.....        | 80.87                          | 73.60         | 86.58         | Mixed grains.....    | 100.00                         | 86.67         | 102.50        |
| Mixed grains.....     | 90.59                          | 82.82         | 94.47         | Flax.....            | 86.43                          | 89.00         | 94.16         |
| Flax.....             | 83.86                          | 75.33         | 72.98         |                      |                                |               |               |
| Corn for husking..... | 71.92                          | 83.97         | 85.12         |                      |                                |               |               |

## 11. Comparative quality of Cereal Crops, 1912, 1911 and 1910.—con.

| Field crops           | Average quality of field crops |                     |                     | Field crops              | Average quality of field crops |                     |                     |
|-----------------------|--------------------------------|---------------------|---------------------|--------------------------|--------------------------------|---------------------|---------------------|
|                       | Sept.<br>30<br>1912            | Sept.<br>30<br>1911 | Sept.<br>30<br>1910 |                          | Sept.<br>30<br>1912            | Sept.<br>30<br>1911 | Sept.<br>30<br>1910 |
|                       | p. c.                          | p. c.               | p. c.               |                          | p. c.                          | p. c.               | p. c.               |
| <b>New Scotia—</b>    |                                |                     |                     |                          |                                |                     |                     |
| Spring wheat.....     | 83.73                          | 83.89               | 98.97               | <b>Manitoba—</b>         |                                |                     |                     |
| Oats.....             | 89.35                          | 80.08               | 101.61              | Spring wheat.....        | 82.72                          | 83.77               | 68.52               |
| Barley.....           | 88.72                          | 81.92               | 93.61               | Oats.....                | 88.17                          | 90.40               | 59.95               |
| Rye.....              | 85.00                          | 79.27               | 96.66               | Barley.....              | 84.33                          | 87.75               | 60.34               |
| Peas.....             | 84.81                          | 82.22               | 77.97               | Rye.....                 | 95.00                          | 100.00              | 44.00               |
| Beans.....            | 77.61                          | 80.47               | 88.88               | Mixed grains.....        | 90.09                          | 96.25               | 73.63               |
| Buckwheat.....        | 88.65                          | 69.94               | 87.67               | Flax.....                | 83.23                          | 84.65               | 57.49               |
| Mixed grains.....     | 91.27                          | 80.27               | 97.97               |                          |                                |                     |                     |
| Flax.....             | 93.75                          | 87.60               | 78.85               |                          |                                |                     |                     |
| <b>New Brunswick—</b> |                                |                     |                     |                          |                                |                     |                     |
| Spring wheat.....     | 71.49                          | 87.26               | 91.81               | <b>Saskatchewan—</b>     |                                |                     |                     |
| Oats.....             | 87.77                          | 92.30               | 98.51               | Spring wheat.....        | 83.19                          | 75.42               | 72.10               |
| Barley.....           | 79.69                          | 85.86               | 96.15               | Oats.....                | 89.19                          | 84.27               | 65.99               |
| Rye.....              | 100.00                         | 82.50               | 84.60               | Barley.....              | 89.99                          | 84.55               | 61.12               |
| Peas.....             | 78.13                          | 78.89               | 84.78               | Rye.....                 | 100.83                         | 106.00              | 84.28               |
| Beans.....            | 57.76                          | 85.63               | 75.11               | Peas.....                | 85.00                          | 79.23               | 73.13               |
| Buckwheat.....        | 84.50                          | 74.37               | 85.11               | Beans.....               | —                              | —                   | 66.00               |
| Mixed grains.....     | 81.40                          | 86.73               | 91.51               | Flax.....                | 85.44                          | 72.05               | 65.30               |
| <b>Quebec—</b>        |                                |                     |                     |                          |                                |                     |                     |
| Spring wheat.....     | 84.16                          | 84.91               | 92.69               | <b>Alberta—</b>          |                                |                     |                     |
| Oats.....             | 77.97                          | 86.99               | 97.13               | Spring wheat.....        | 84.34                          | 68.19               | 66.26               |
| Barley.....           | 80.32                          | 85.29               | 92.32               | Oats.....                | 89.99                          | 84.01               | 65.85               |
| Rye.....              | 75.41                          | 81.32               | 88.11               | Barley.....              | 90.81                          | 84.00               | 71.25               |
| Peas.....             | 64.64                          | 78.46               | 82.70               | Rye.....                 | 92.97                          | 88.33               | 76.66               |
| Beans.....            | 61.71                          | 84.06               | 85.94               | Peas.....                | 78.75                          | 76.55               | 58.00               |
| Buckwheat.....        | 79.97                          | 74.90               | 88.30               | Mixed grains.....        | 89.71                          | 86.86               | 80.00               |
| Mixed grains.....     | 78.55                          | 85.21               | 94.32               | Flax.....                | 83.79                          | 56.20               | 63.16               |
| Flax.....             | 76.86                          | 80.05               | 84.09               |                          |                                |                     |                     |
| <b>Ontario—</b>       |                                |                     |                     |                          |                                |                     |                     |
| Spring wheat.....     | 78.76                          | 77.29               | 84.06               | <b>British Columbia—</b> |                                |                     |                     |
| Oats.....             | 83.92                          | 75.35               | 87.92               | Spring wheat.....        | 88.66                          | 83.21               | 87.22               |
| Barley.....           | 79.44                          | 77.43               | 84.72               | Oats.....                | 97.39                          | 88.25               | 86.22               |
| Rye.....              | 76.90                          | 79.11               | 81.70               | Barley.....              | 96.00                          | 87.85               | 82.85               |
| Peas.....             | 59.89                          | 62.27               | 64.41               | Rye.....                 | 100.00                         | 100.00              | 87.60               |
| Beans.....            | 72.25                          | 77.80               | 84.33               | Peas.....                | 97.00                          | 71.00               | 87.43               |
| Buckwheat.....        | 76.03                          | 72.68               | 83.84               | Mixed grains.....        | 99.00                          | 91.65               | 93.33               |
| Mixed grains.....     | 102.39                         | 79.23               | 91.38               |                          |                                |                     |                     |
| Flax.....             | 86.32                          | 80.61               | 87.40               |                          |                                |                     |                     |
| Corn for husking..... | 75.16                          | 82.69               | 88.55               |                          |                                |                     |                     |

### III. Comparative Condition of Fodder and Root Crops for the months of September, August and July, 1911.

| Field crops             | Per cent condition of the crops |                    |                    | Field crops             | Per cent condition of the crops |                    |                    |
|-------------------------|---------------------------------|--------------------|--------------------|-------------------------|---------------------------------|--------------------|--------------------|
|                         | Sept.<br>30<br>1912             | Aug.<br>31<br>1912 | July<br>31<br>1912 |                         | Sept.<br>30<br>1912             | Aug.<br>31<br>1912 | July<br>31<br>1912 |
| Canada—                 | p. c.                           | p. c.              | p. c.              | Ontario—                | p. c.                           | p. c.              | p. c.              |
| Potatoes .....          | 90 12                           | 92 10              | 87 32              | Potatoes .....          | 85 05                           | 90 36              | 85 58              |
| Turnips .....           | 88 27                           | 87 54              | 82 25              | Turnips .....           | 89 50                           | 85 88              | 78 73              |
| Mangolds, carrots, etc. | 88 30                           | 87 39              | 81 36              | Mangolds, carrots, etc. | 89 16                           | 87 77              | 80 74              |
| Sugar beets .....       | 87 76                           | 86 64              | 80 60              | Sugar beets .....       | 87 54                           | 87 09              | 79 63              |
| Corn for fodder .....   | 80 63                           | 76 04              | 73 19              | Corn for fodder .....   | 82 61                           | 75 62              | 72 69              |
| Alfalfa .....           | 88 79                           | 87 50              | 83 99              | Alfalfa .....           | 83 59                           | 88 06              | 84 39              |
| P. E. Island.           |                                 |                    |                    | Manitoba—               |                                 |                    |                    |
| Potatoes .....          | 92 62                           | 95 74              | 94 18              | Potatoes .....          | 94 25                           | 96 62              | 93 11              |
| Turnips .....           | 81 47                           | 85 66              | 80 00              | Turnips .....           | 92 62                           | 93 08              | 88 58              |
| Mangolds, carrots, etc. | 80 81                           | 88 85              | 79 27              | Mangolds, carrots, etc. | 97 23                           | 95 02              | 91 31              |
| Sugar beets .....       | 76 11                           | 80 00              | 74 87              | Sugar beets .....       | 97 06                           | 97 00              | 88 75              |
| Corn for fodder .....   | 77 69                           | 81 58              | 83 61              | Corn for fodder .....   | 91 53                           | 90 19              | 80 90              |
| Alfalfa .....           | 100 00                          | 100 00             | -                  | Alfalfa .....           | 95 43                           | 89 05              | 84 05              |
| Nova Scotia—            |                                 |                    |                    | Saskatchewan—           |                                 |                    |                    |
| Potatoes .....          | 92 21                           | 91 42              | 90 59              | Potatoes .....          | 96 29                           | 96 40              | 94 29              |
| Turnips .....           | 85 27                           | 87 45              | 81 94              | Turnips .....           | 94 93                           | 95 32              | 90 59              |
| Mangolds, carrots, etc. | 86 83                           | 84 81              | 80 16              | Mangolds, carrots, etc. | 95 41                           | 95 16              | 91 72              |
| Sugar beets .....       | 87 09                           | 89 30              | 80 53              | Sugar beets .....       | 94 40                           | 94 33              | 91 05              |
| Corn for fodder .....   | 87 30                           | 83 21              | 84 33              | Corn for fodder .....   | 98 50                           | 93 63              | 83 00              |
| Alfalfa .....           | 77 50                           | 85 33              | 80 00              | Alfalfa .....           | 93 39                           | 91 25              | 85 38              |
| New Brunswick—          |                                 |                    |                    | Alberta—                |                                 |                    |                    |
| Potatoes .....          | 76 09                           | 82 95              | 82 23              | Potatoes .....          | 91 92                           | 90 99              | 93 71              |
| Turnips .....           | 75 28                           | 84 73              | 81 72              | Turnips .....           | 93 26                           | 91 14              | 90 70              |
| Mangolds, carrots, etc. | 79 40                           | 85 00              | 81 79              | Mangolds, carrots, etc. | 92 03                           | 90 20              | 87 33              |
| Sugar beets .....       | 71 36                           | 65 56              | 81 10              | Sugar beets .....       | 88 70                           | 84 00              | 86 50              |
| Corn for fodder .....   | 65 95                           | 65 79              | 80 00              | Corn for fodder .....   | 79 29                           | 94 16              | 91 60              |
| Alfalfa .....           | 65 00                           | 73 75              | -                  | Alfalfa .....           | 81 30                           | 84 68              | 81 31              |
| Quebec—                 |                                 |                    |                    | British Columbia—       |                                 |                    |                    |
| Potatoes .....          | 89 92                           | 85 98              | 73 90              | Potatoes .....          | 95 71                           | 95 42              | 97 14              |
| Turnips .....           | 84 93                           | 82 81              | 74 56              | Turnips .....           | 93 13                           | 91 66              | 88 13              |
| Mangolds, carrots, etc. | 83 53                           | 82 20              | 72 99              | Mangolds, carrots, etc. | 92 86                           | 91 87              | 92 50              |
| Sugar beets .....       | 86 46                           | 81 03              | 73 11              | Sugar beets .....       | 89 38                           | 100 00             | 100 00             |
| Corn for fodder .....   | 74 75                           | 71 37              | 67 58              | Corn for fodder .....   | 100 38                          | -                  | -                  |
| Alfalfa .....           | 84 18                           | 81 56              | 77 40              | Alfalfa .....           | 106 67                          | 106 00             | 105 00             |

## NOTES OF REPORTS FROM THE PROVINCES.

**Prince Edward Island.** Though the harvesting season has been cold and wet, fine weather towards the end of September enabled the bulk of the grain crop to be gathered in. Oats appear to be a particularly fine crop.

**Nova Scotia.** No threshing has yet been done. Oats, where sown early on dry ground, have given a good yield; but a great deal was sown late owing to the wet spring and is consequently late in ripening. Indeed, in consequence of the bad ripening weather, many farmers have lost hope of the crop ripening at all, and a large proportion has been cut and fed green.



**New Brunswick.** The harvest is very late and no threshing has been done. Of the oat crop from 20 to 50 p. c. is still out, either not ripe, not cut or not harvested. The wet weather has damaged the potato crop; but there will be some good crops from the drier soils. On September 30 frosts and snow appeared in some parts of the province.

**Quebec.** All through Quebec correspondents report damage to the grain crops from excessive and continuous rains. At the end of September, instead of all crops having been housed and in process of threshing as is usual at this date, no threshing had been done, and a large proportion of the grain crops was still out in the fields, either uncut or in the stook. Much of it will be spoilt by sprouting. In the eastern counties, and in the counties along both sides of the St. Lawrence, frosts and snow appeared towards the close of the month and caused considerable damage in some sections. In view of the backward harvest correspondents have generally a difficulty in estimating yields. Mr. Gus. Langelier, Superintendent of the Cap Rouge Experimental Farm, writes: "Nearly half of the oats will not ripen. Hardly 10 p. c. has been cut and it is very difficult to give any idea as to the yield per acre. I believe however that it will be better than anticipated, because of the long period of growth. Fodder corn has almost entirely failed through the cold and wet weather." Potatoes, otherwise excellent, were reported as showing signs of rotting on the heavier soils, this being especially the case in the counties around Montreal. M. J. Levêques, our correspondent at St. Cyrill, reports a journey he made through the province during which he examined carefully the state of the crops. He reports the appearance of grain, potatoes and tobacco as being very poor.

**Ontario.** Disastrous conditions prevailed throughout Ontario at the end of September, owing to the persistent wet weather. From 25 to 50 p. c. of the grain crops were still out in the field, sprouting and rotting in the stooks. Much of the grain that had been harvested was saved in poor condition, with the consequence that a great deal of it is heating in the mows. In southern Ontario, where the harvest though catchy was earlier than in other parts, the land has become so wet in places that many have abandoned the sowing of fall wheat for next year. Potatoes are reported as rotting, especially on heavier soils in the southern counties. In northern Ontario, no less than in other parts, bad weather was prevalent, spoiling what would otherwise have been good crops. In some parts large fields in stook are flooded with water.

**Manitoba.** The harvest is very late, and excessive and continuous rains have interfered greatly both with harvesting and with threshing. A great deal of grain has been damaged, and at the end of September much remained out in stook exposed to the wet. The ground is so soft in many places that it is impossible to move either binder or threshing machine. In various parts heavy winds have shelled a good deal of the grain in the field. Heavy frosts on September 14, and from the 24th to the 26th September, did a considerable amount of damage. Mr. C. A. Lewis, of Swan River, where fall wheat is grown, reports: "The continued rain and frost and cloudy weather since the last report have materially altered the then pros-

perous outlook, except in regard to fall wheat, which was all cut and much of it threshed before the stormy weather set in. Spring wheat has grown considerably where not extra well stooked. Much is tough and is being threshed out of condition."

**Saskatchewan.** Rainy conditions have prevailed generally throughout Saskatchewan, but apparently have not been so hurtful to the grain yields as further east. Much damage however has been caused in certain sections, where late grain has sprouted, has shelled, or has been damaged by frosts. The numerous cases of second growth have caused lowering of grade. Late sown flax has been frozen in numerous instances. A correspondent, Mr. W. S. Simpson, of Marchmont Farm, Glenbryan, reports that his Marquis wheat yielded 53 bushels per acre, grading No. 1, and that his registered Banner oats yielded 108 bushels per acre. He has grown, he states, 125 varieties of potatoes and contemplates a general collective exhibit at the Lethbridge Dry Farming Congress, to include potatoes, oats, wheat, barley, rye, spelt and flax, of which last named plant he claims to have produced a winter grown variety.

**Alberta.** The conditions at harvest time, though frequently reported as difficult through rain, were not so injurious to the grain crops as they were in other provinces. Many reports refer to good crops fairly well saved, and state that they are turning out well in the threshing. All the same there are many instances of uneven ripening through second growth, which is lowering the grade. Late sown flax, and in some cases grain too, has been greatly damaged by September frosts.

**British Columbia.** Conditions generally are favourable, though August proved a very wet month. Potato and other root crops are good.

## DEPARTMENTAL NOTES.

**Experimental Farms and Stations.** At the Central Farm, Ottawa, the temperatures recorded during September are slightly higher on the whole than for the corresponding period of 1911, the highest being 80, the lowest 28.5 and the mean 58.01, compared with extremes of 80.8 and 28.8 and a mean of 56.9 a year ago. It has rained on twenty days out of the thirty, the precipitation amounting to 4.01 inches against 2.98 inches last year. The sun-shine recorded during the month averaged only 3.4 hours a day, compared with a daily average of seven hours for the previous September. The continued wet weather has made it difficult to harvest the grain, a great deal of which has been injured from sprouting, and the whole being very much discoloured and making a poor sample. Notwithstanding these unfavourable conditions the threshing returns show the yield to be a little above the average. The cutting of corn was commenced during the last week of September, and the results so far indicate a heavier crop than usual, although the corn has not matured as well as is desirable. The abundance of moisture which has prevailed has naturally caused grass to make exceptional growth.

J. A. Clark, Superintendent of the Station at Charlottetown, P. E. I., reports: "Although September has been a fairly good month for such operations harvesting has not yet been completed. The very heavy dews and occasional fogs greatly delayed the ripening of late grain, which, however, is much heavier than the early grain. The harvest was threshed as it was taken in, and the yields in general are a little above the average. No killing frost was recorded at this Station, though hoar frost did occur on low land. The potatoes that have been dug are free from rot, and the yields are good. Turnips and mangolds also promise well. The damp summer has produced an abundance of bloom in the flower gardens. The sweet peas at the close of the month constitute a wall of bloom over eight feet high, while perpetual roses are entirely covered with bloom for the second time this season. Exhibits were prepared and sent to the three local exhibitions."

Robert Robertson, Superintendent of the Farm at Nappan, N.S., reports: "September has been quite a seasonable month, with only an average rainfall. This, following an unusually wet August, has been sufficient to retard haying and harvest operations generally, especially as regards grain. Roots and broadleaf hay crops are much below the average. Pastures have been fairly good, but live stock have not been doing as well as usual, owing to the excessively wet weather."

G. A. Langelier, Superintendent of the Station at Cap Rouge, Que., reports: "September has been a miserable month, damp and cloudy nearly all the time, with an average of only a little over three hours of sunshine per day. At the time of writing (September 30) not ten per cent. of the grain in this district has been cut, and a great many fields are still green. The crop of corn has been a complete failure, and with oats as they are now the outlook for the farmer is not any too favourable. At the Experimental Station an artesian well is being drilled and a large modern barn is in course of construction. The ornamental grounds have also been much improved and give promise of looking very attractive by the end of next summer."

W. C. McKillican, Superintendent of the Farm at Brandon, Man., reports: "September has been very disappointing. Continued wet weather has delayed the ripening of crops, has prevented the completion of cutting, and has made it impossible to do more than make a meagre start at threshing. At the end of the month some grain still remains to be cut in practically all parts of the province, and threshing has hardly commenced. The wet has also lowered the grade of the wheat and has made harvesting an expensive and tedious operation on account of the amount of lodged crop. Work on the Experimental Farm has consisted chiefly in the cutting and stooking of grain, and the cutting of Indian corn and filling the silo. A little threshing has also been done."

Angus Mackay, Superintendent of the Farm at Indian Head, Sask., reports: "September has been very unfavourable for harvesting and threshing operations, much wet weather being experienced, which has injured the sample of both wheat and barley. The first frost at the Experimental Farm

was nine degrees, registered on the night of the 13-14th, which killed all tender garden stuff, flowers, etc. Excepting the pea plots all grain had then been cut and was out of harm's way. After a delay of ten days, owing to rain, threshing was resumed on the last day of the month."

Wm. A. Munro, Superintendent of the Station at Rosthern, Sask., reports: "Harvesting has been delayed this season owing to the frequent rains, leaving the quality of the grain somewhat injured because of weathering. The potato crop throughout the district has been abnormal. At the Experimental Station here the three highest-yielding varieties were: Morgan Seedlings, 848 bushels per acre; Dreer's Standard, 840 bushels; and Everett, 824 bushels. These had been planted with the plough, 4 inches deep, 12 inches apart in the row, and 30 inches between the rows. In an experiment as to depth of planting, potatoes planted in a furrow in which the subsoil plough had been run 4 inches further yielded 789 bushels per acre; planted 6 inches deep without subsoil, 775 bushels; planted 4 inches deep, 659 bushels; and planted 2 inches deep, 565 bushels per acre. Potatoes planted on land summer-fallowed in 1911 and given a coating of manure in the autumn of the same year, yielded 657 bushels, as against a yield of 563 bushels from potatoes planted on land on which a pea crop had been ploughed under in 1911."

R. E. Everest, Superintendent of the Station at Scott, Sask., reports: "The early part of September was somewhat cool and cloudy, with frequent rains. The first frost was recorded on the 15th, and since then the night temperatures have usually gone below freezing. Towards the end of the month the day temperatures were higher, the closing days being especially warm and bright. In this district harvesting has been general during September, and threshing has commenced. A quantity of flax remains to be cut, some farmers preferring to leave this crop standing until a short time before threshing. At the station here the principal work has been the cutting, threshing and cleaning of grain. Some very satisfactory yields have been obtained, both as regards quantity and quality of grain. Roots are a good crop, while potatoes promise an excellent return."

G. H. Hutton, Superintendent of the Station at Lacombe, Alta., reports: "The heavy rains of August continued into the first week of September, but gave way to fine, dry, warm weather for the final three weeks of the month. During this period harvesting has been completed, extremely heavy crops of wheat, oats and barley being cut and shocked. Frost has since however affected wheat after cutting, the wet weather having prevented the kernel from becoming hard. Even after the wheat was in the shock the bran wrinkled when frost came. At this station potatoes have been dug, the crop of tubers being satisfactory both as regards yield and quality. The varieties in the comparative tests of wheat, oats, barley and peas have been threshed; also a few of the barley blocks in the different rotations. During the month a number of steers have been purchased, and though the price of feeders is very high, yet there appears to be a shortage of cattle everywhere, and high prices for finished cattle should prevail next spring."



W. H. Fairfield, Superintendent of the Station at Lethbridge, Alta., reports: "The weather during September has not been very favourable for threshing, although some of this work has been done in the district. The first frost recorded at the Station was on the 15th, when a temperature of 23.1° was registered. On the 6th of the month 32.2° were registered and at this time frost occurred in many neighbourhoods. On the Station farm threshing has been completed with the exception of a few small plots. The last cutting of alfalfa has been made, but the yields will be lighter than usual, owing to the cool weather during August."

P. H. Moore, Superintendent of the Farm at Agassiz, B. C., reports: "September, excepting during the first week, has been quite fine and warm, with no rain for a little over three weeks. The work had got somewhat behind during the continued wet weather of the previous month, and this fine spell enabled it to be overtaken. A good deal of fall ploughing has been done. The potatoes have been dug, but they were badly attacked by late blight, and the tubers are now showing signs of developing dry rot as well. Towards the end of the month corn cutting was started; but, being rather short of hands, this work necessarily made slow progress. Roots are looking well and should give a good crop. The live stock generally on the Experimental Farm are all thriving. The sheep especially are doing well and one ewe, which lambed in the spring, has lambed again, giving twins."

The records of temperature, precipitation and sunshine at the several Experimental Farms and Stations for the month of September are given in the following table:

**Meteorological Record for September, 1912.**

| Experimental Farm<br>or Station at— | Degrees of temperature, F. |        |       | Precipitation<br>in<br>inches | Hours of sunshine |        |
|-------------------------------------|----------------------------|--------|-------|-------------------------------|-------------------|--------|
|                                     | highest                    | lowest | mean  |                               | possible          | actual |
| Ottawa, Ont. ....                   | 80.0                       | 28.5   | 58.01 | 4.01                          | 376               | 102.1  |
| Charlottetown, P. E. I. ....        | 73.0                       | 38.0   | 54.02 | 2.90                          | 376               | 167.9  |
| Napier, N. S. ....                  | 73.0                       | 33.0   | 52.99 | 2.86                          | 376               | 149.9  |
| Cap Rouge, Que. ....                | 74.0                       | 31.2   | 53.37 | 3.34                          | 376               | 91.2   |
| Brandon, Man. ....                  | 80.2                       | 18.5   | 49.80 | 3.46                          | 378               | 126.5  |
| Indian Head, Sask. ....             | 74.0                       | 22.0   | 46.23 | 1.98                          | 375               | 117.8  |
| Rosthern, Sask. ....                | 73.2                       | 20.6   | 45.74 | 2.76                          | 378               | 133.0  |
| Scott, Sask. ....                   | 74.5                       | 15.7   | 45.64 | 2.01                          | 378               | 132.7  |
| Lacombe, Alta. ....                 | 75.8                       | 20.8   | 46.41 | 1.27                          | 375               | 175.2  |
| Lethbridge, Alta. ....              | 76.7                       | 23.1   | 47.07 | 2.61                          | 378               | 169.3  |
| Agassiz, B. C. ....                 | 81.0                       | 36.0   | 56.40 | 2.50                          | 378               | 164.3  |

J. H. GRISDALE, Director Experimental Farms.

Ottawa, October 14.

**Live Stock Branch.** During the past summer a vigorous campaign has been prosecuted in the interests of the sheep industry. In co-operation with the Dominion Sheep Breeders' Association a careful survey of the possibilities of sheep raising has been made in the provinces of British Columbia, Nova Scotia, New Brunswick and Prince Edward Island. It was found that in the Maritime provinces, where the soil and climate are particularly adapted to the growing of sheep, there was a general and admitted need of new blood to rejuvenate the stock. The farm flocks had, as it were, "run to seed"; and in recognition of the demand it was decided that the introduction of high class breeding rams, together with a limited number of grade ewes, would meet the most urgent requirements of that part of the Dominion. In British Columbia there appeared a definite lack of flock material, the ewe stock of the province not having increased in proportion to the demand for home-grown mutton and lamb. The markets of Victoria and Vancouver have developed in the farmers a faith in sheep raising, and their desire to increase and improve their flocks became at once evident to those in charge of the work.

In order to meet the demand, both east and west, a large number of carefully selected grade ewes and pure bred rams were purchased in Ontario and shipped to the four provinces during the month of September. With the view also of stimulating local enterprise each of the latter provinces was drawn upon to supply its quota of rams so far as such were available and proved suitable for the purpose. In addition to this a few Cheviot rams were purchased in the United States, these being selected to meet the special requirements of the hill country in Nova Scotia and New Brunswick.

These sheep, amounting to practically 1,800 head, including both rams and ewes, are being sold during the current month by public auction,—the rams singly, the ewes in lots of five, at the following places: In British Columbia,—Victoria, New Westminster and Vernon; in Nova Scotia,—Yarmouth, Bridgewater, Inverness, North Sydney and Truro; in New Brunswick,—Moncton, Sussex, St. Stephen, Fredericton and Bathurst; in Prince Edward Island,—Summerside, Hunter River, Mt. Stewart and Melville.

Reports regarding the sales from the Maritime provinces are not yet to hand; but a note from the officer in charge in British Columbia reports the first sale at Victoria as being well attended and the bidding brisk throughout. Two hundred and twenty Long Wool and Down grade ewes averaged just under \$9.50 each, the highest price paid being \$13.50 each for two pens of Short Wools. Thirty-six rams fetched on an average nearly \$17.00 each, the highest price paid being \$33.00 for an Oxford Down ram purchased for the Vancouver Island Flock Masters' Association. The sale is reported as a very satisfactory one, the animals being distributed among buyers from many different points.

It is proposed that the results accomplished by these sales may be rendered if possible more permanent and effective through the undertaking of what may almost be termed a missionary campaign in the districts where the sheep have been sold and in other localities where the people may manifest any definite interest in sheep farming. Arrangements have already been made for this work through Dr. S. F. Tolmie, representative of the

Live Stock Branch in British Columbia, and through the appointment of Mr. James A. Telfer to act as an instructor in sheep breeding and management in the Maritime provinces.

Attention will be directed not only to the production of mutton and lamb but to the care and marketing of wool. To assist farmers in demonstrating to themselves the utility and profit of maintaining sheep on land is the object of the whole endeavour. To accomplish this the best expert advice obtainable is being placed at their disposal through the medium and in the person of the instructors; but it is the active enterprise and initiative of the people themselves,—the appeal thus being direct between one farmer and another—which will be depended upon to produce the looked-for results. In this way it is hoped that sheep raising may be revived as a national industry and thus placed upon a comprehensive and permanent business basis.

H. S. ARKELL, for Live Stock Commissioner.

Ottawa, October 16.

**Dairy and Cold Storage Branch.** The exportation of Canadian peaches to Great Britain has shown a very gratifying increase this season. The feasibility of shipping peaches from Canada to the old country markets was demonstrated by this Branch in 1910, when trial shipments were forwarded to the leading markets in Great Britain with the utmost success.

The total quantities exported in the past three seasons were as follows:

|      |       |        |       |        |
|------|-------|--------|-------|--------|
| 1910 | 3,743 | single | layer | cases. |
| 1911 | 3,934 | "      | "     | "      |
| 1912 | 8,443 | "      | "     | "      |

Owing to the unfavourable weather conditions of this year it was feared that the keeping qualities of Canadian peaches would be impaired, and that it would be risky to export them; but reports received to date of consignments which have reached England have been very favourable.

In September this Branch shipped 98 cases of Elberta peaches and 84 boxes of grapes for the Canadian exhibit in the Crystal Palace, London. The grapes consisted mostly of Campbell's Early and Niagaras, with a few Rogers numbers 9 and 15.

Officers of this Branch are now engaged in preparing a collection of apples for the International Exhibition to be held at Ghent, Belgium, next summer. About 1,200 boxes of our standard varieties will be packed and placed in cold storage on this side for shipment next spring.

Since the opening of the fruit shipping season, the following firms have been convicted and fined for selling imported fruit which was not marked in accordance with the provisions of the Inspection and Sale Act:

|                                      |                                  |
|--------------------------------------|----------------------------------|
| Plunkett & Savage, Lethbridge, Alta. | Royal Fruit Co., Edmonton, Alta. |
| McPherson Fruit Co., "               | Plunkett & Savage, "             |
| The Good Company, "                  | Brown Fruit Co., "               |

The following have also been convicted and fined for improper packing and marking of apples:

|                                 |                                   |
|---------------------------------|-----------------------------------|
| Jas. Marchen & Co., Tweed, Ont. | H. F. Grimmon, Port Milford, Ont. |
| P. Shannon, Halston, Ont.       | J. & H. Coyle, Colborne, Ont.     |
| Jas. Vair, Barrie, Ont.         | M. Laughlin, Mountain, Ont.       |

The following significant paragraph appears in a recent report of British Columbia's Market Commissioner in the prairie provinces: "No Nova Scotian apples will reach McLeod, (Alberta) and very few from Ontario, this market having been spoiled for barrel packing by inferior shipments several years ago." With this statement for text a good sermon could be preached emphasising the fact that apple growers in Ontario and Nova Scotia generally are suffering financial loss, because of the sins of a few careless or dishonest packers "several years ago."

The exports of apples from the port of Montreal this season up to October 12 amounted to 89,327 barrels, compared with 118,005 barrels for the same period last year. From Halifax the exports this year up to the same date were 136,596 barrels and 15,379 boxes and last year 308,905 barrels and 2,247 boxes. Judging by the increased shipments of boxes this season box packing is making good headway in Nova Scotia.

The special refrigerator car services for the carriage of butter to Montreal and Toronto, which have been in operation since May 13, were discontinued on October 12. Three inspectors were employed at Montreal and one at Toronto to report condition of the cars on arrival. A summary of the Montreal reports gives a total tonnage of over twenty-one million pounds of butter for these cars, with an average temperature of 53½ degrees.

J. A. RUDNICK,

Dairy and Cold Storage Commissioner.

Ottawa, October 17.

**Seed Branch.** The 1912 seed crop is now harvested, and general information regarding the quality of the available supply of seed for the 1913 crop is of interest.

The cereal seed crops, particularly the oat crop of the provinces east of Lake Superior, suffered from prolonged wet during harvest. The fall wheat was harvested in good condition, but the oats and barley and much of the spring wheat were badly weathered. In some localities repeated handling of the grain in the field was necessary for drying and in consequence the shelling was considerable. Even with the best of care in drying the grain in the shock, sprouting of the grain has been very general, and farmers will this year do well to test the percentage vitality of their oats and barley before spring seeding. In the Maritime provinces, including northeastern Quebec, the crop was unusually late in maturing.

Next year's seed supply for the prairie provinces is defective in very few localities. Even in those localities in northern Alberta and northwestern Saskatchewan, where slight frosts occurred about the twenty-second of August and the first of September, all of the oats that were sown in good time will grade No. 1 Feed, which as a rule will germinate seventy-five per cent or better.

Only thirty per cent of Canadian farmers when purchasing supplies of cereal seeds want and are willing to pay for high class seed of definitely known popular varieties. It is a matter for regret that when buying seed oats most farmers are apparently content to use ordinary commercial grain.



Hundreds of cars of No. 1 and No. 2 Canada Western oats are each year loaded out of the elevators at Fort William and distributed for seed throughout eastern Ontario, Quebec and the Maritime provinces. The Seed Control Act cannot be applied to protect farmers who deliberately buy and use for seed commercial grain that was never intended for that purpose. The large dealers in this kind of "seed" grain are unable to procure in commerce the quantities they require of oats, barley, and wheat that is clean, uniform in type of grain, and suitable for seed.

To create a supply of seed oats of such quality there would seem to be a strong desire—especially on the part of dealers who undertake to meet the demand from farmers by abridging the necessity of observing the Seed Control Act—so to amend the Grain Inspection Act as to provide for a grade of oats that they could represent and sell as seed as distinguished from commercial grain. It is believed that the following definition of a grade of oats would meet their requirements.

"No. 1 Canada Western Seed Oats shall be sound, re-cleaned, of the intermediate and long white type of grain, free from wild oats and all noxious weed seeds and other kinds of grain, and shall weigh not less than thirty-six pounds to the bushel."

The principal difficulty in securing this advantage to the producer and user of this kind of seed grain arises from the unwillingness on the part of elevator owners to set apart storage space for such a special grade.

There is a shortage in the supply of seed for field peas. Perhaps because of the labour required in handling this crop the area devoted to peas has been very much reduced, even in the northern districts where the pea weevil does not give serious trouble. The crop has suffered from excessive wet much more than the cereals.

The unusual shortage and extremely high price of timothy seed last year is being followed this year by an abundant supply and commensurately low prices. The saving of timothy seed this year has been very general in all parts of North America and Europe where timothy is grown. Quite large areas have been left for seed on farms and in districts throughout the east of Canada that had not produced timothy seed during the past fifteen years. The quality of the seed on the whole is good, except that very little is available that has not been perceptibly discoloured by wet, which affects its commercial but not necessarily its real value.

The alsike seed crop is an important one in central Ontario. The area available for seed was this year very much reduced, and the yield per acre and quality of the seed are below the average.

The wet season produced a rank growth in the second crop of red clover. The bloom appeared quite profuse but spread over a long period. The yield of seed per acre is precarious and quite low considering the tonnage of straw. The seed has not ripened uniformly, and most farmers' samples show a large per cent of brown immature seeds.

Two hundred and sixty-seven samples of all kinds of seeds have been tested in the seed laboratory during the past month, including 75 samples of timothy, four of red clover, 88 of alsike, seven of alfalfa, and the balance of field roots and vegetable seeds. As soon as sufficient quantities of seed of the 1912 crop are available, the general quality of the timothy, red clover,

alfalfa and alsike seed that may be included in each of the grades Extra No. 1, No. 1, and Nos. 2 and 3 will be determined for the season 1912-13. The proportion of weed seeds that may be permitted in each grade is fixed by the Seed Control Act.

GEO. H. CLARK, Seed Commissioner.

Ottawa, October 22.

## CROP REPORTS FROM OTHER COUNTRIES.

**United Kingdom.** The Board of Agriculture (England and Wales) reports (October 1) that the fine and dry weather which generally prevailed after the first week of September enabled good progress to be made in harvesting the grain. In the south and midlands practically all had been secured by the end of the month; but in the north some still remained out. In parts of the country labour seems to have been hardly sufficient. Potato-lifting had generally commenced; but very little progress had been made with the main crop, although work was more advanced in the south. In a few districts the tubers, although everywhere small, proved sounder than was expected; but these are not the majority, as disease generally made further progress during the month, and in many counties the crop is very bad. The yield throughout England and Wales is expected to be about 87 per cent of an average. Roots are mostly healthy, but the cool weather has been all against progress, and they are still very small; so that prospects are now for only a poor crop. Turnips and swedes are now expected to yield about 6 per cent below average, while a deficiency of some 3 per cent is looked for in mangolds. A great deal of hay was made during September, much of it being the first cut. This, combined with the late grain harvest, prevented autumn cultivation generally, and ploughing is very backward almost everywhere. The land is now generally in good condition for these operations, except where the long spell of dry weather has made it too hard. "Seeds" are everywhere very thick and luxuriant, and are frequently stated to have grown as tall as the grain. Pastures are, throughout most of the country, very full, although the quality of the grass is unsatisfactory. In some parts they are said to be getting bare. Live stock have done much better than in August, and are generally thriving.

**Australia.** The Government Statist of Victoria estimates the area under wheat for grain and hay for the season 1912-13 in the State of Victoria at 2,505,000 acres, compared with 2,468,454 acres, the actual area for 1911-12. The stocks of wheat, and flour the equivalent of wheat, in the State on June 30 1912 were estimated at 8,124,242 bushels as against 16,135,000 bushels at the same date of 1911. The area under oats for grain and hay for 1912-13 is estimated at 1,292,700 acres, compared with 837,384 acres in 1911-12. The acting Government Statistician for New South Wales estimates the area of wheat for grain and hay in the State for the year 1912-13 at 2,914,378 acres, compared with 2,901,684 acres, the actual area in 1911-12.

**France.** The Journal Officiel of September 14, an extract from which has been furnished by the British Ambassador to France, publishes an

approximate statement by the French Department of Agriculture of this year's yields of wheat, maslin (or mixed grain) and rye. The following is a statement of the acreage and yields compared with 1911 :

| Crops        | 1912       | 1911       | 1912        | 1911        | 1912              | 1911              |
|--------------|------------|------------|-------------|-------------|-------------------|-------------------|
|              | acres      | acres      | bush.       | bush.       | bush.<br>per acre | bush.<br>per acre |
| Wheat .....  | 16,199,000 | 15,897,000 | 330,247,500 | 322,341,700 | 20·38             | 20·27             |
| Maslin ..... | 324,600    | 314,500    | 6,309,700   | 5,858,600   | 19·43             | 17·77             |
| Rye .....    | 2,994,500  | 2,902,000  | 51,332,000  | 46,749,700  | 17·14             | 16·17             |

The average weight per measured bushel is for wheat 61 lb., for maslin 59·4 lb. and for rye 58·2 lb. A later report places the yield of oats at 353,516,000 bushels from 9,680,000 acres, compared with 328,706,000 bushels from 9,863,000 acres in 1911, and of barley at 52,274,000 bushels from 1,856,000 acres, compared with 49,864,000 bushels from 1,907,000 acres in 1911.

**Holland.** H. M. Consul at Amsterdam communicates a report on the condition of crops in the Netherlands, which appeared in the *Staatscourant* of September 17. It states that the unfavourable weather to which a part of the crops was exposed for a considerable length of time, has caused considerable loss and damage in various parts of the country. Of the total area of meadow land and land under cultivation in the Netherlands, aggregating 5,149,950 acres, meadow land (2,996,110 acres) will have produced good financial results during 1912. Of the agricultural crops, covering a total of 2,153,840 acres, rye (550,810 acres), barley (66,690 acres) and flax (37,000 acres) have produced good crops, of which by far the greater part came in in good condition. The potato crop (414,960 acres) has certainly suffered in quality ; but the result will probably be very good, which can also be said of onions, brown beans and chicory (aggregating 27,170 acres). The sugar beet crop (155,510 acres) will probably be under the average. Root crops (69,160 acres) and clover (165,190 acres) have furnished a normal supply of fodder. The crops cultivated on large areas, and that have suffered considerably from the unfavourable weather, are oats (338,390 acres), wheat (143,260 acres), peas (64,220 acres) and to a lesser degree beans (42,000 acres). Where these crops are grown in large quantities, which is particularly the case on clay soils, the final results will depend on the amount of damage done. Especially in north and south Holland and Zeeland the damage done is very considerable. The greater part of the crops, which were excellent in quality and quantity in the spring, was spoilt by bad weather during the harvest.

**Germany.** The Imperial Statistical Bureau reported (September 6) that frequent rainfalls, strong winds and extraordinarily low temperatures characterised the weather during August. Warm, dry days occurred only

occasionally in the first half of the month. Over most of the country the grain harvest was greatly delayed. Wheat and rye have sprouted considerably, and barley has lost colour. On September 1 the numerical condition of oats, potatoes, clover and grasses, alfalfa and meadows was as follows: Oats 2·8 (3·0), potatoes 2·6 (3·5), clover and grasses 2·6 (4·3), alfalfa 2·4 (4·1), water meadows 2·1 (3·3), other meadows 2·4 (4·2). The figures within parentheses are of those of September 1 1911.

**Austria.** The Austrian Department of Agriculture reports that at the beginning of September the condition of field crops, according to the scale of 1 = very good, 2 = over average and 3 = average, was as follows: Wheat and rye 2·3, barley 2·5, oats 2·4, corn 2, potatoes 2·7, sugar beet 1·9, turnips 2, clover 2·4, meadows 2·3, pastures 2·4. The quality of wheat leaves everywhere much to be desired; but on the whole the threshing results are satisfactory. Rye does not come up to expectations, but its quality is better than that of wheat. The threshing of barley is still in arrears, and the harvesting of oats is hindered through bad weather. In quality oats have suffered much damage from lodging and unequal ripening. Corn shows robust development. Potatoes suffer from the wet weather. Sugar beets have a good leaf, but had too little warmth for root growth.

**Hungary.** The Hungarian Department of Agriculture reports (September 9) variable weather during the previous twenty days, and that it has been too cold for the season. Rains have been abundant but they were not equally distributed over the country. As a general rule the yield of the grain crops is satisfactory in quantity, but the quality is poor, this being due to the drouth of July and the too copious rainfalls which followed. The yield of straw is generally good. The following table gives the area and latest forecasts of the yield of the principal grain crops of Hungary, (including those of Croatia and Slavonia,) for 1912, compared with the final estimates of the yield in 1911:

| Crops                      | Area<br>1912 | Yield<br>per acre<br>1912 | Total<br>yield<br>1912 | Total<br>yield<br>1911 |
|----------------------------|--------------|---------------------------|------------------------|------------------------|
|                            | acres        | bush.                     | bush.                  | bush.                  |
| Wheat. ....                | 9,442,000    | 19·7                      | 186,290,000            | 190,770,000            |
| Rye and mixed grains. .... | 2,985,000    | 19·2                      | 57,379,000             | 54,329,000             |
| Barley ..                  | 2,789,000    | 26·0                      | 72,608,000             | 76,742,000             |
| Oats ..                    | 2,726,000    | 29·5                      | 80,522,000             | 90,446,000             |

In Hungary proper (not including Croatia and Slavonia) the total yield of corn is 181,387,000 bushels and of potatoes 191,118,000 bushels.

**Russia.** H. M. Acting Consul General at Odessa reports (September 25) that the 1912 hay crop of European Russia must be considered a great



success. Nearly 60 p. c. of the hay producing area yielded good results both in quantity and quality, 20 p. c. was satisfactory, while only about 20 p. c. was unsatisfactory or bad. Though hay figures very rarely, and then only in small quantities, among the exports of Russia, still the Russian hay crop is not without importance for the world's trade, since an abundant crop sets free other products for exportation, while a scanty crop has to be supplemented by grain and roots which would otherwise swell the volume of exports. A report on the fruit crop in European Russia states that apples, pears and quinces were almost an average crop in quantity, especially in the south, but the quality was poor. Plums and cherries were almost an entire failure. Peaches and apricots, especially the latter, were poor. Berries were nearly an average crop. Grapes were often undersized, and were not sweet enough owing to a rainy summer. Nuts were below the average. From the British Embassy at St. Petersburg it is reported, according to the Commercial Gazette of September 1/14, that although the exceptionally dry summer of this year has adversely affected the flax crops this year's yield will equal and in some districts exceed the harvest of 1911, chiefly owing to the increased area placed under cultivation as the result of the high prices for flax which ruled last year. The Gazette estimates that 47 p. c. of the area under flax will give a satisfactory and somewhat above the average yield, while 53 p. c. of the area under flax will give a yield below the average; and classifies the probable total yield, so far as can be ascertained at present, as "not above the average". The Ministry of Commerce and Industry and various other official and semi-official public bodies, have issued circulars to flax growers advising them to delay selling their crops in view of an anticipated rise in prices throughout Europe.

**United States.** The Crop Reporting Board of the U. S. Department of Agriculture issued (October 9) a preliminary estimate of production as follows: Spring wheat 330,391,000 bushels, compared with 190,682,000 bushels in 1911; winter wheat 389,912,000 bushels, compared with 430,656,000 bushels; all wheat 720,333,000 bushels compared with 621,338,000 bushels. Oats are estimated to yield 1,417,172,000 bushels, compared with 922,298,000 bushels in 1911, barley 224,619,000 bushels, compared with 160,240,000 bushels, rye 35,422,000 bushels, compared with 33,119,000 bushels and tame hay 72,425,000 tons compared with 54,916,000 tons. The yields per acre are in bushels as follows: 15.1 for winter wheat, as already reported, 17.2 for spring wheat, 16 for all wheat, 37.4 for oats, 29.7 for barley, 16.9 for rye and 1.47 ton for tame hay. These yields, as regards spring cereals, are considerably in excess of the yields as interpreted from the reports on condition previously published. At the time of harvest the quality of these crops was, Spring wheat 88.7 p. c., compared with a ten-year average of 86.8, oats 91 p. c., compared with 86.7, barley 86.2, compared with 87.1.

The following table gives for the later field crops of the United States particulars of condition on October 1 and of production as interpreted from the condition:

| Crops           | Area<br>1912 | Condition      |                |                         | Yield per acre    |                 | Total yield      |                  |
|-----------------|--------------|----------------|----------------|-------------------------|-------------------|-----------------|------------------|------------------|
|                 |              | Oct. 1<br>1912 | Oct. 1<br>1911 | Ten-<br>year<br>average | 1912 <sup>1</sup> | 1911<br>(final) | 1912             | 1911<br>(final)  |
|                 | 000<br>acres | p. c.          | p. c.          | p. c.                   | bush.             | bush.           | million<br>bush. | million<br>bush. |
| Corn. ....      | 108,110      | 82.2           | 70.4           | 80.4                    | 27.9              | 23.9            | 3,016            | 2,531            |
| Buckwheat. .... | 825          | 89.2           | 81.4           | 83.3                    | 21.4              | 21.1            | 18               | 18               |
| Potatoes. ....  | 3,689        | 85.1           | 62.3           | 76.2                    | 108.8             | 80.9            | 401              | 293              |
| Flaxseed. ....  | 2,992        | 81.8           | 80.5           | 83.3                    | 9.8               | 7.0             | 29               | 19               |
| Rice. ....      | 710          | 89.2           | 85.4           | 84.8                    | 33.4              | 32.9            | 24               | 23               |
|                 |              |                |                |                         | lb.               | lb.             | million<br>lb.   | million<br>lb.   |
| Tobacco. ....   | 1,194        | 81.8           | 80.5           | 83.3                    | 816.0             | 893.7           | 974              | 905              |

<sup>1</sup> Nine year average. <sup>2</sup> Interpreted from condition reports. <sup>3</sup> Based on average for 1905-9.

The month of September has been generally favourable for the maturing of the crops in the United States. On October 1, or at time of harvest, the composite condition of all crops was about 20 p.c. better than last year and 10 p.c. better than in an average season. Last year (1911) was unusually unfavourable for crops.

## INTERNATIONAL INSTITUTE OF AGRICULTURE.

The September number of the Bulletin of agricultural statistics gives the latest estimates of this year's production of wheat, rye, barley and oats in the adhering countries of the northern hemisphere, including data received up to September 18. As compared with the figures in the September issue of the Census and Statistics Monthly the most important additions are those of France and Rumania; the changes in previously given data concern Italy, Canada and the United States. The following statement shows the areas and yields of the four chief cereals for all the countries that have reported:

### I. Area and yield of Wheat, Rye, Barley and Oats in 1912 compared with 1911.

| Crops                      | Harvest area |              |                     | Total production |              |                     | Yield per acre |       |
|----------------------------|--------------|--------------|---------------------|------------------|--------------|---------------------|----------------|-------|
|                            | 1911         | 1912         | per cent<br>of 1911 | 1911             | 1912         | per cent<br>of 1911 | 1911           | 1912  |
|                            | 000<br>acres | 000<br>acres | p.c.                | 000<br>bush.     | 000<br>bush. | p.c.                | bush.          | bush. |
| Wheat (22 countries). . .  | 227,550      | 220,577      | 96.9                | 2,969,162        | 3,199,091    | 106.7               | 13.23          | 14.57 |
| Rye (18 countries). . .    | 98,137       | 98,085       | 99.9                | 1,348,035        | 1,587,151    | 117.7               | 13.70          | 16.25 |
| Barley (20 countries). . . | 55,858       | 55,377       | 99.1                | 1,111,415        | 1,175,803    | 105.7               | 19.88          | 21.18 |
| Oats (20 countries). . .   | 113,499      | 111,335      | 98.1                | 2,799,838        | 3,296,895    | 117.8               | 24.66          | 29.65 |

From this statement it will be noticed that the total production is more than last year of wheat by 6·7 p. c. in 22 countries, of rye by 17·7 p. c. in 18 countries, of barley by 5·7 p. c. in 20 countries and of oats by 17·8 p. c. in 20 countries.

In Sweden, which is not included in the foregoing table, drenching rains in the central and southern parts of the country have greatly damaged the cereal harvest, and sprouting has occurred in many places. The estimated production in bushels is 7,263,000 of wheat, 22,680,000 of rye, 15,174,000 of barley and 77,826,000 of oats, these figures being less than last year by 11·8 p. c. for wheat and 8·1 p. c. for rye, and more than last year by 3·3 p. c. for barley and 8·9 p. c. for oats.

The following table shows the area and production of corn and flaxseed in the countries that have reported to September 18 :

**II. Area and production of Corn and Flaxseed by countries in 1912 as compared with 1911.**

| Countries                               | Area           |                |              | Production       |                  |              | Yield per acre |              |
|---|----------------|----------------|--------------|------------------|------------------|--------------|----------------|--------------|
|   | 1911           | 1912           | p.c. of 1911 | 1911             | 1912             | p.c. of 1911 | 1911           | 1912         |
|   | 000 acres      | 000 acres      | p. c.        | 000 bush.        | 000 bush.        | p. c.        | bush.          | bush.        |
| <b>Corn—</b>                            |                |                |              |                  |                  |              |                |              |
| Bulgaria . . . . .                      | 1,562          | 1,666          | 102·9        | 30,591           | 55,116           | 180·2        | 19·59          | 34·25        |
| Spain . . . . .                         | 1,145          | 1,152          | 100·6        | 28,730           | 25,984           | 90·4         | 25·01          | 22·62        |
| Hungary . . . . .                       | 6,090          | 6,124          | 100·5        | 137,422          | 191,386          | 139·3        | 22·62          | 31·22        |
| Italy <sup>1</sup> . . . . .            | 3,831          | 3,726          | 97·3         | 89,885           | 92,909           | 103·4        | 23·41          | 24·85        |
| Rumania . . . . .                       | 5,153          | 5,137          | 99·7         | 118,268          | 113,676          | 96·1         | 22·94          | 22·14        |
| Russia in Europe <sup>2</sup> . . . . . | 3,937          | 4,061          | 103·2        | 81,929           | 61,263           | 74·8         | 50·87          | 15·13        |
| Russia in Asia <sup>3</sup> . . . . .   | 22             | 22             | 98·7         | 361              | 645              | 178·7        | 16·09          | 29·15        |
| Switzerland . . . . .                   | 3              | 3              | 100·0        | 121              | 126              | 103·9        | 36·96          | 38·39        |
| United States . . . . .                 | 105,826        | 108,112        | 102·2        | 2,531,485        | 2,994,975        | 118·3        | 23·89          | 27·72        |
| Japan . . . . .                         | 136            | 136            | 100·0        | 3,480            | 3,539            | 101·7        | 25·65          | 25·96        |
| Egypt <sup>4</sup> . . . . .            | 1,840          | 1,903          | 103·4        | 67,903           | 76,446           | 112·6        | 36·96          | 40·14        |
| <b>Totals and averages . . . . .</b>    | <b>129,545</b> | <b>131,985</b> | <b>101·9</b> | <b>3,090,175</b> | <b>3,616,065</b> | <b>117·0</b> | <b>23·89</b>   | <b>27·40</b> |
| <b>Flaxseed—</b>                        |                |                |              |                  |                  |              |                |              |
| Belgium . . . . .                       | 47             | 52             | 111·1        | —                | 498              | —            | —              | —            |
| Bulgaria . . . . .                      | —              | 2              | —            | —                | —                | —            | —              | —            |
| Spain . . . . .                         | 4              | 3              | 74·4         | —                | 34               | —            | —              | —            |
| France . . . . .                        | —              | 55             | —            | —                | —                | —            | —              | —            |
| England and Wales . . . . .             | 5              | 41             | 186·7        | —                | —                | —            | —              | —            |
| Ireland . . . . .                       | 67             | 55             | 82·4         | —                | —                | —            | —              | —            |
| Hungary . . . . .                       | —              | 24             | —            | —                | —                | —            | —              | —            |
| Italy . . . . .                         | 22             | 20             | 90·7         | —                | —                | —            | —              | —            |
| Netherlands . . . . .                   | 39             | 37             | 94·6         | —                | —                | —            | —              | —            |
| Rumania . . . . .                       | 52             | 79             | 151·5        | —                | —                | —            | —              | —            |
| Canada . . . . .                        | 683            | 1,678          | 245·8        | 7,867            | 23,145           | 294·2        | 11·52          | 13·74        |
| United States . . . . .                 | 2,757          | 2,992          | 108·5        | 19,370           | 29,000           | 149·7        | 7·00           | 9·72         |
| India . . . . .                         | 3,721          | 4,946          | 132·9        | 22,544           | 25,648           | 113·8        | 6·05           | 5·26         |
| Japan . . . . .                         | —              | 16             | —            | —                | —                | —            | —              | —            |
| Algeria . . . . .                       | —              | 7              | —            | —                | —                | —            | —              | —            |
| Egypt . . . . .                         | —              | 8              | —            | —                | —                | —            | —              | —            |

<sup>1</sup> Late crop. <sup>2</sup> 63 governments. <sup>3</sup> 10 governments. <sup>4</sup> Corn and millet. <sup>5</sup> 445 acres. <sup>6</sup> 830 acres. <sup>7</sup> 61½ acres.

Three countries give estimates of the production of flax fibre, viz., Belgium 372,000 cwt. of 100 lb., Spain 15,000 cwt., or only 43·7 p. c. of last year's yield, and Holland 216,400 cwt., or 103·4 p. c. compared with last year.

Five countries have given estimates of the production of sugar beet compared with 1911, viz., Belgium 2,255,000 short tons against 1,627,000 tons, an increase of 38·6 p. c., Bulgaria 49,600 tons against 68,300 tons, a decrease of 27·4 p. c., Denmark 581,900 tons against 805,200 tons, a decrease of 27·7 p. c., Spain 1,189,000 tons against 964,400 tons, an increase of 23·3 p. c. and Rumania 330,700 tons against 290,000 tons, an increase of 14 p. c.

**Southern Hemisphere.** In Australia the area sown to autumn wheat is 7,749,000 acres, or 4·1 p. c. more than the previous year. The condition of the crop on September 1 was good. In New Zealand the spring sowings of wheat and oats commenced under fairly good conditions; barley sowings have not yet begun. Weather conditions are disappointing.

## ENGLISH ACREAGE AND LIVE STOCK RETURNS, 1912.

The Board of Agriculture and Fisheries issued (September 9) a preliminary statement giving the acreage under crops and the numbers of live stock in England and Wales on June 4 1912. The returns from Scotland have not yet been received. The following table shows the areas under field crops in England and Wales in 1912 compared with 1911:

| Field crops   | 1912      | 1911      | Difference between 1912-11 | Field crops    | 1912       | 1911       | Difference between 1912-11 |
|---------------|-----------|-----------|----------------------------|----------------|------------|------------|----------------------------|
|               | acres     | acres     | acres                      |                | acres      | acres      | acres                      |
| Wheat.....    | 1,863,356 | 1,842,532 | + 20,824                   | Clover and     |            |            |                            |
| Barley.....   | 1,456,518 | 1,424,313 | + 32,205                   | grass.....     | 2,522,965  | 2,608,777  | - 85,812                   |
| Oats.....     | 2,072,394 | 2,047,173 | + 25,221                   | Permanent      |            |            |                            |
| Rye.....      | 54,188    | 40,328    | + 13,860                   | grass.....     | 15,831,171 | 15,949,603 | - 118,432                  |
| Beans.....    | 277,017   | 301,454   | - 24,437                   | Hops.....      | 34,831     | 33,956     | + 1,775                    |
| Peas.....     | 201,144   | 166,894   | + 34,250                   | Orchards....   | 244,831    | 248,676    | - 3,845                    |
| Buckwheat...  | 4,990     | 5,654     | - 664                      | Small fruit... | 77,979     | 77,189     | + 790                      |
| Potatoes..... | 463,007   | 429,172   | + 33,835                   | Other field    |            |            |                            |
| Turnips and   |           |           |                            | crops & bare   |            |            |                            |
| swedes.....   | 1,072,857 | 1,124,572 | - 51,715                   | fallow ..      | 748,400    | 748,036    | + 364                      |
| Mangold.....  | 485,645   | 450,070   | + 35,575                   |                |            |            |                            |

The returns show an increase in the arable area of 36,071 acres and a decrease in the area under permanent grass of 115,432 acres. The areas of each of the four grain crops were substantially increased, wheat by 20,824 acres, or 1 p. c., barley by 32,205 acres, or 2 p. c., oats by 25,221 acres, or 1 p. c., and rye by 13,860 acres, the latter representing over a third of the previous year's total. Potatoes show a further increase of 33,835 acres, or nearly 8 p. c. Last year showed a similar increase over the previous year of about 6 p. c. The aggregate area of England and Wales, excluding water, is 37,143,953 acres.



The numbers of live stock are returned as follows, the figures of 1911 being placed within parentheses: Horses 1,406,099 (1,420,919), cattle 5,841,908 (5,914,247), sheep 18,053,584 (19,330,650), swine 2,496,358 (2,651,039). Thus the live stock returns show decreases among all species. Horses used for agricultural purposes are fewer by 30,470, but "other horses" (apart from unbroken horses) show an increase of 21,094. Separate returns under the latter head were first collected in 1911, and it is probable that some of the horses comprised within this category may previously have been returned as agricultural horses. Cattle have declined by 72,339, of which 44,818 were cows and heifers in-milk or in-calf. Sheep declined by over 1¼ million, or 6·6 p. c., the greatest relative decline being among those (other than ewes) aged one year and above. Pigs declined by 154,681, or 5·8 p. c., the decrease in the case of breeding sows being 41,514, or 11·1 p. c.

In Ireland, according to the statistics of the Irish Department of Agriculture, the acreage and numbers of live stock in 1912 are as follows: Wheat 44,845 (45,056), barley and bere 165,366 (158,180), oats 165,366 (158,180), rye 7,765 (9,025), potatoes 595,218 (591,259), flax 54,917 (66,618). The total acreage of the country is 20,350,725, distributed as follows: Grain crops 1,265,597, green crops 1,022,128, flax 54,917, fruit 15,327, hay 2,479,159, pasture 12,418,867, woods, etc. 291,585, other land, including barren mountain, turf bog, town land, roads, fences, water, etc. 2,803,145. Horses number 617,532 (616,331), mules and jennets 30,911 (31,740), asses 243,437 (246,353), cattle 4,848,498 (4,711,720), sheep 3,828,839 (3,907,436), swine 1,323,957 (1,415,119), goats 252,722 (258,474), poultry 25,525,724 (25,447,801). The figures within parentheses are those of 1911.

## BRITISH IMPORTS OF BUTTER AND CHEESE, 1911-12.

Messrs. Weddel & Co.'s Review of the imported dairy produce trade for the year ended June 30 1912 contains statements of much interest to Canadian dairymen and exporters of dairy produce. It points out that the year was one of the most remarkable in the history of the importation of dairy produce into the United Kingdom. The summer of 1911 was one of the hottest and driest known, and the area over which these conditions prevailed was unprecedentedly extensive. So great and so severe a drouth had not been known to occur simultaneously in the same regions for a hundred years past.

In the sections devoted to the supply of British Dominion and foreign butter it is shown that during the past decade the former has been gradually replacing the latter. In 1903, for instance, of the total supply to British markets of imported butter, amounting to 200,186 long tons, 176,320 tons were from foreign countries, while 23,866 tons were from the British sources of Canada, Australia and New Zealand. For the year ended June 30 1912, out of an almost exactly similar total, viz., 200,195 tons, the British supply was 52,857 and the foreign 147,338 tons. A feature of the trade which is commented on is the almost entire dropping out of Canadian butter. In 1903 the imports from Canada were 13,238 tons; in

1911, the year of the highest importation on record of butter into the United Kingdom, the Canadian receipts were only 776 tons. Last year this quantity rose to 2,997 tons; but, as has previously been shown in the Census Monthly, the exportation of Canadian butter was caused by the abnormally high prices, and subsequently Canada had to re-import supplies. It is anticipated that Canada, owing to the needs of her increasing population, will drop entirely out of the butter trade, her place being taken by Australia and New Zealand, for whose butter there is likely to be an increasing demand owing to the possibility of shipping butter more freshly made.

The following statement shows the imports of butter by principal countries, for each of the last two years ended June 30:

| Countries whence imported | 1910-11   | 1911-12   | Countries whence imported | 1910-11   | 1911-12   |
|---------------------------|-----------|-----------|---------------------------|-----------|-----------|
|                           | long tons | long tons |                           | long tons | long tons |
| British—                  |           |           | Foreign—con.              |           |           |
| Canada .....              | 776       | 2,997     | Germany.....              | 231       | 74        |
| Australia.....            | 44,395    | 33,677    | Holland.....              | 6,272     | 5,337     |
| New Zealand....           | 15,852    | 16,183    | Italy.....                | 281       | 76        |
| Total British..           | 61,023    | 52,857    | Norway.....               | 1,295     | 1,615     |
| Foreign—                  |           |           | Russia.....               | 30,201    | 30,757    |
| Argentina.....            | 932       | 2,603     | Sweden.....               | 18,671    | 17,123    |
| Denmark.....              | 88,379    | 80,398    | U.S.A.....                | 538       | 795       |
| France.....               | 14,665    | 8,333     | Other countries.          | 302       | 227       |
|                           |           |           | Total foreign..           | 161,767   | 147,338   |
|                           |           |           | Grand total..             | 222,790   | 200,195   |

Owing to the great scarcity of butter in the United Kingdom phenomenal prices were realised, as will be seen from the following comparative statement of yearly averages:

| Butter from               | Year's average<br>1910-11 | Year's average<br>1911-12 | Quinquennial<br>average<br>1907-08-11-12 |
|---------------------------|---------------------------|---------------------------|--|
|                           | per cwt.<br>s d           | per cwt.<br>s d           | per cwt.<br>s d                          |
| Canada <sup>1</sup> ..... | -                         | -                         | 114 10                                   |
| Australia.....            | 105 0                     | 121 9                     | 111 5                                    |
| New Zealand.....          | 109 1                     | 125 8                     | 115 5                                    |
| Denmark.....              | 116 8                     | 132 2                     | 121 11                                   |
| Siberia.....              | 103 6                     | 119 10                    | 109 6                                    |
| France.....               | 119 0                     | 138 4                     | 120 0                                    |

<sup>1</sup> October average of three years 1907-08 to 1909-10.

The imports of cheese from Canada during the past five years have progressively declined. From an importation of 95,884 long tons in 1906 the imports have dropped to 72,690 tons in 1911-12. Regretting a decline in the importation of British cheese, Weddel's Review attributes it to the

progress and prosperity of Canada, whose rapid increase of population prevents her from supplying her own needs and at the same time continuing her exports to the United Kingdom. This development in Canada is bringing prosperity to New Zealand, "which is preparing to take over the business which Canada year by year is less able to carry on". The following statement shows the imports of British and foreign cheese for the two years ended June 30 1912 :

| Countries whence imported | 1910-11   | 1911-12   | Countries whence imported | 1910-11   | 1911-12   |
|---------------------------|-----------|-----------|---------------------------|-----------|-----------|
|                           | long tons | long tons |                           | long tons | long tons |
| British—                  |           |           | Foreign—                  |           |           |
| Canada .....              | 76,457    | 72,690    | Holland .....             | 11,284    | 11,137    |
| Australia .....           | 617       | 93        | Italy .....               | 4,092     | 3,957     |
| New Zealand .....         | 20,256    | 24,093    | Switzerland .....         | 547       | 612       |
|                           |           |           | U. S. A. ....             | 7,045     | 2,470     |
| Total British .....       | 97,330    | 97,776    | Other countries .....     | 1,166     | 887       |
|                           |           |           | Total foreign .....       | 24,134    | 19,063    |

With regard to the quality of Canadian cheese the following paragraph may be quoted :

"For the last few years Canadian cheese has been so free from damage in transit that there can be very little room for further improvement in this direction. It is only the manufacture that offers opportunities for any further progress towards perfection, and the past year has not shown any wide field for criticism of a suggestive character on this point. Canadian shippers are every year more and more alive to the necessity of placing their cheese on our markets before the bulk of the New Zealand article arrives, which is in January. This will gradually do away with some of the expense of long storage to Canada, and at the same time prevent deterioration in quality in the stores there, and so give better satisfaction when it arrives in this country".

The average price of Canadian cheese for the year ended 1911-12 is 71s 5d per cwt. of 112 lb., compared with 59s 8d for the previous year. For New Zealand cheese the average prices were respectively 69s 10d and 59s 1d.

## THE MILKING OF COWS BY MACHINERY.<sup>1</sup>

Discovery of a thoroughly efficient machine for the milking of cows means the solution of a problem which has taxed the ingenuity of inventors for over 20 years. Such a machine should be especially useful in Canada, where farm labour is scarce and where the size of dairy herds is largely governed by considerations of the labour supply. At the present time an interesting trial is taking place at the Central Experimental Farm at Ottawa of an American milking machine, and the writer, at a recent visit to the farm during the milking hour, was enabled to see it in actual operation.

<sup>1</sup> Milking machines of various descriptions have been tried and exhibited on numerous occasions in the mother-country. For references to reports and articles on the subject see the annual volumes of the Journal of the Royal Agricultural Society of England from 1890, especially Vols. 66, 1905, pp. 81-84; 68, 1907, pp. 133-134; 69, 1908, p. 187; 70, 1909, pp. 219-220; 72, 1911, pp. 256-258.

The machine in question is known as the "Sharples Mechanical Milker", and it is sold by the Sharples Separator Company, of 1130-1146 Dundas Street, Toronto. The Milker is attached by rubber tubing to overhead iron pipe lines fixed horizontally above the line of cows to be milked. It is operated by a gasoline engine or an electrically driven duplex pump with two tanks so designed that one causes a vacuum and the other supplies compressed air. The vacuum creates the suction by means of which the milk from the cow's udder is drawn straight into the pail without its coming into contact with the outside air or with the working parts of the machine. The Sharples machine, it is claimed, differs from other mechanical milkers by its principle of non-continuous suction.<sup>2</sup> By means of an attachment called the pulsator, which is ingeniously attached to the pipe above each cow, the suction, and consequently the flow of milk, is arrested automatically at regular intervals. The stoppage of the suction is effected by transmission to the teats of compressed air, which destroys the vacuum every second, the result being to relieve the teats and prevent the bad effects of continuous suction. The alternating compression to the outside of the teats largely resembles that of hand milking, and thus the constant, momentary cessation of the suction rests the cow and imitates both the natural action of the calf in milking and the more artificial action of the milker by hand in drawing the milk alternatively from two teats milked at a time. Experience of continuous-suction milking machines has proved that they distress the cows and frequently cause them to dry off prematurely.

In the Sharples Machine, now at the Central Experimental Farm, teat cups with india-rubber linings called inflations, are attached to all four teats which, allowing for the momentary cessation of the suction as described, are milked simultaneously. Each teat cup gives an "upward squeeze" for which special advantages are claimed. Towards the end of the operation the man in charge works the machine, while still in motion of milking, gently up and down against the udder to remove the strippings; but the final strippings, weighing about  $\frac{1}{4}$  lb., have usually to be withdrawn by hand, the quantity varying somewhat with the cow and with other conditions incident to the operation. For 28 cows with six units, i.e., complete individual machines, operated by three men, the whole process lasts 45 minutes. Each cow takes eight or nine minutes to be milked, the time being about the same as that used for hand milking, the advantage being that only half the number of men are required. The machine at the farm is however being used largely for experimental purposes; and it is stated that the machine with the same number of men could as easily milk a herd of from 50 to 60 cows, whilst with it four men could manage 100 cows. The animals were perfectly quiet; and even one to which the machine was attached for the first time showed only slight traces of initial restiveness and settled down perfectly during the progress of the work.

It will be understood that in describing this machine and its evident merits we refrain altogether from expressing opinions as to the relative

<sup>2</sup> Milking Machines embodying the principle of intermittent suction have been exhibited in England: at Darlington in 1905 and at York in 1900. See *Journal Roy. Agr. Soc. of Eng.*, Vol. 56, 1895, p. 461; Vol. 61, 1900, p. 468.



economy of milking by hand and by machinery. This point is now being carefully tested at the farm in trials which will form the subject of a special report soon to be published. The great problem in connection with milking, whether by hand or by machinery, is how to ensure absolute cleanliness, involving the exclusion of deleterious organisms and the limitation of bacteria capable of setting up organic changes. This point too is under scientific investigation, as the milk yielded by both hand and machine processes is under thorough chemical and bacteriological examination at the farm laboratories. In connection with all milking machinery extraordinary care has to be exercised in order to keep the parts scrupulously clean. Sometimes also, but rarely, there may be difficulty in fitting the cups to the cows' teats, and an accidental fall to the ground of the cups during the operation of milking is apt to result disastrously from suction into the milk pail of dirt instead of milk. One of the great advantages claimed for the Sharples Mechanical Milker over other milking machines is its type of teat cup termed "Universal", so named because it needs no rubber rings graded to fit various sized teats, but fits all teats except those so abnormally large that they will not enter the mouths of the cups.

The report of the trials at the Central Experimental Farm, dealing exhaustively with all the important points they raise, will be received with much interest. So also will the results of the competitive trials to take place next year in connection with the Royal Show at Bristol, England, particulars of which were printed on pages 189 to 190 of the Census Monthly for August last.

## SOIL FERTILISATION.

NOTES OF THE PROCEEDINGS OF SECTION VII (AGRICULTURAL CHEMISTRY) OF THE INTERNATIONAL CONGRESS OF APPLIED CHEMISTRY, HELD AT WASHINGTON AND NEW YORK, U.S.A., SEPTEMBER 4 TO 13 1912.

By A. McGill, LL.D., F.R.S.C., Chief Analyst, Inland Revenue Department, Ottawa.

Perhaps the most noteworthy feature of the work of Section VII (Agricultural chemistry) was the attention paid to soil fertilisation. Rindell emphasises the weak points of Liebig's compensation theory of manures and recognises that azotised material is necessary although the air contains abundance of nitrogen. The same crop requires very different amounts of nutriment at different stages of its growth; and the degree of concentration at which plant food is offered has much to do with the effectiveness of the manure. The concentration of the soil solution is the subject of an interesting and important paper by Cameron, who holds that under any given climatic conditions the concentration of the soil solution with respect to those constituents which are derived from the soil minerals varies within narrow limits, no matter what may be the relative masses of these minerals in the soil. With regard to interpretation of results obtained by the lysimeter, he says: "Great as may be the value of data on the composition of lysimeter waters, they are, in the nature of the case, quite incompetent

to give any direct quantitative information on the concentration of the soil solution with respect to its several constituents".

The possible exhaustion of existing sources of fertilising material and the need of securing further supplies is the subject of several interesting papers. Robinson and Fry point out that orthoclase and potash mica, finely ground, are not efficient potash fertilisers; and, moreover, both these minerals are normally present in American soils in such amount that artificial addition cannot materially affect the composition of the soil. Ross has studied feldspar, alunite and greensand marls as possible sources of potash. The dust obtained from potash-containing clays, during the manufacture of cement, is a promising source of potash; and it is shown that, reckoning eight p.c. of potash from the feldspars used in producing the cement manufactured in the United States in 1909, 400,000 tons would be available, having a value of over \$26,000,000,—or three times the value of the potash salts used during 1909. "Whether or not this would cover the cost of the feldspar, its transportation, and the expenses incident to the recovery of the potash, can only be determined by experimentation on a large scale; but the probability that potash salts can thus be obtained in large quantities as a by-product makes this method of getting at the potash in feldspar quite promising".

Turrentine presents a study of the salines of the United States as a source of potash, and concludes: "In no cases do the artificial or natural brines or the concentrates thereof contain sufficient potassium salts to make them of commercial value as a source of potash". Some brines from western desert basins present possible commercial value in this regard. The bitterns from sea-water, evaporated as a source of salt, contain enough potassium to give them some value as a manure, but are available in too small amount to be of consequence to agriculture. Waggaman, has studied alunite as a source of potash.

Curry and Smith submit an important study of the part played by potassium in soils and summarise results as follows: (1) A large amount of potassium fertiliser is not used profitably at the present time; (2) field observations show that potassium fertilisers do not produce increased yields of grass, especially on clay soils.

Particularly interesting are certain studies of so-called catalytic action in the cases of boracic acid, sulphate of alumina, manganese sulphate, zinc sulphate. Experiments conducted with boracic acid during 1910 and 1911, according to Agulhon, confirm his previous results reported to the Congress of 1909. Laboratory tests with peas, beans, beets and radishes showed increased yields of about 34 per cent. Experiments at Mendon proved that 20 to 50 kgr. per hectare (17.84 to 44.61 lb. per acre) was too great excess. With 10 kgr. per hectare (8.92 lb. per acre) appreciable gain in production was found; the second year, without further addition of boric acid, the results were satisfactory. At Marchais and Gien similar results were obtained, all tending to show that for grains in general amounts less than 3 kgr. per hectare (2.67 lb. per acre) give the best results. Bertrand and Agulhon confirm Stocklasa's experiments of 1911 regarding the value of sulphate of alumina. They found that two milligrammes of alumina (as sulphate)

per kgr. (kgr. = 2.2 lb.) of earth gave an increase of 18 per cent. in the case of barley and of 10 per cent. in radishes. Bertrand obtained 10 to 20 per cent increases with manganese as sulphate.

Skinner, who has previously reported upon harmful and beneficial organic compounds occurring in soils, offers a valuable paper upon the rôle played by two nitrogenous soil constituents: histidine and arginine. These are primary decomposition products of protein, and form definite compounds with silver. Both have beneficial effects on plant growth, especially when the soil is poor in nitrates. In this they resemble creatine and creatinine.

## TINNED SALMON IN OREGON, U.S.A.

H. M. Consul at Portland, Oregon, U.S.A., sends the following estimates of the pack of tinned salmon in his consular district up to September 1. It is taken from the "Pacific Fisherman".

| Variety                      | Alaska    | Puget Sound | Columbia River | Totals    |
|------------------------------|-----------|-------------|----------------|-----------|
|                              | cases     | cases       | cases          | cases     |
| King Spring Chinook .....    | 71,150    | 15,000      | 303,000        | 389,150   |
| Red Sockeye blueblack .....  | 1,824,700 | 165,000     | —              | 1,989,700 |
| Coho silver medium red ..... | 55,500    | 45,000      | —              | 100,500   |
| Pink or humpback .....       | 1,057,300 | 1,000       | —              | 1,058,300 |
| Dog or chum .....            | 368,000   | 1,000       | —              | 369,000   |
| Ungraded .....               | 83,000    | —           | —              | 83,000    |
|                              | 3,459,650 | 227,000     | 303,000        | 3,989,650 |

## THE WEATHER DURING SEPTEMBER.

The Dominion Meteorological Office reports that in the province of Ontario, exclusive of the eastern counties, near the coast of British Columbia and over the northeastern portion of Manitoba the mean temperature was just average, or slightly above; but in all the other provinces the month was characterised by abnormally cool weather, this being particularly the case in southern Saskatchewan, where the negative departure from average was as much as 8°. Severe frosts occurred in the western provinces, but elsewhere frosts recorded were light and local in character. The precipitation of the month was somewhat less than average over the larger part of British Columbia, and over eastern Quebec and the Maritime provinces, while over the remainder of the Dominion, exclusive of the districts of Nipissing and Muskoka in Ontario, and of southern Saskatchewan and perhaps some areas in northern Alberta, it was in excess. The excess was particularly marked in southeastern Manitoba, and in the Lower Ottawa valley, where almost double the average quantity was recorded. Light snow fell in some localities in the western provinces, and severe thunderstorms occurred in all provinces.

In British Columbia the mean temperatures along the coast were slightly in excess of the average, while elsewhere in the province the mean was subnormal. Precipitation was deficient in all districts. In the western provinces cool, showery weather was the dominant feature of September. The mean temperature was considerably below normal in all districts except northeastern Manitoba, and in southern Saskatchewan the negative departure was as much as 8°. Heavy rainfalls were very general and some light snowfalls occurred. In the eastern counties of Ontario the mean temperature was subnormal, but elsewhere in the province the average was exceeded. Precipitation exceeded the average in most localities and some heavy thunderstorms occurred. Cool unsettled conditions with many showery days characterised the weather in Quebec. In western districts the precipitation was excessive, and in some localities was nearly double the normal amount. Mean temperatures were generally about two degrees below the average. In New Brunswick fine weather prevailed throughout the month, while the mean temperature was below the average in all districts. Frosts were remarkably infrequent, and almost the total amount of precipitation occurred on three days. Winds were light and no gales occurred. Light snow fell in Carleton county on the last day of the month. At Halifax, Nova Scotia, the first and last weeks of the month were fine and bright, the intervening period being cool, damp and cloudy. The weather was generally cool throughout the month. In Prince Edward Island cool, cloudy damp weather prevailed during the greater part of the first three weeks of the month; the last week was warmer, being fine and bright.

## COLONIAL AND FOREIGN PRODUCE IN BRITISH MARKETS.

**Wheat, etc.** On September 30 the prices for imported wheats at Mark Lane per quarter of 496 lb. were as follows: Manitoba No. 1 43s-43s 6d, No. 2 42s 6d-42s 9d, No. 3, 41s-41s 6d, No. 4 37s-37s 6d, No. 5 31s 6d-32s, No. 6 27s 6d-28s, feed 26s-26s 6d, Australian 42s-42s 6d, New Zealand 41s 3d-41s 9d, Russian finest 40s 6d-41s 6d, good 39s 6d-40s 6d, com. 38s 6d-39s 6d, California 40s 6d-41s, Blue Stem 40s 3d-40s 9d, white Walla 39s 6d-39s 9d, red Walla 39s-39s 3d, white Bombay 39s 6d-40s, white Calcutta, 39s-39s 6d, white Karachi, 39s-39s 6d, red Karachi 39s-39s 3d, Bahia Blanca 38s 9d-39s, Rosa Fé 38s-38s 6d, Baruso 37s-37s 6d, Canadian oats per 320 lb. 24s-25s.

**Flour.** On September 30 the Mark Lane prices for imported flour, per sack of 280 lb., were: Hungarian 37s-38s 6d, Iron Duke 28s 3d-28s 6d, American finest 30s 6d-31s 6d, 1st pat. 30s-30s 6d, 2nd pat. 29s-29s 6d, 1st bak. 28s 28s 3d, 2nd bak. 26s 6d-26s 9d, low grade 21s 6d-22s, Manitoba pat. 29s 6d-29s 9d, straights 28s 9d-29s, Kansas best 29s-29s 3d, firsts 28s 6d-28s 9d, seconds 27s 3d-27s 6d, Californian 31s-32s, Australian 27s 6d-28s, French fine 32s 6d-33s 6d, Belgian 30s 6d-31s 6d, Galatz 32s 6d-34s 6d.



**Fresh Meats.** The average official monthly prices in August were per 112 lb : Canadian and U. S. A. port-killed, London 59s and 55s ; Birmingham 60s 6d and 56s ; Liverpool 57s and 53s 6d ; Argentine frozen hind quarters, London 37s 6d ; Birmingham 36s 6d ; Liverpool and Manchester 38s ; Edinburgh 37s 6d ; Glasgow 39s ; fore quarters, London and Manchester 29s 6d ; Birmingham 30s ; Liverpool 29s ; Edinburgh 30s 6d ; Glasgow 31s ; Argentine chilled hind quarters, London 48s 6d ; Birmingham 47s ; Liverpool 46s ; Manchester 46s 6d ; Edinburgh 50s 6d ; Glasgow 51s 6d ; fore quarters, London 31s 6d ; Birmingham, Liverpool and Manchester 32s ; Edinburgh and Glasgow 33s ; Australian frozen hind quarters, London 35s 6d ; Birmingham 36s 6d ; Liverpool 34s ; Manchester 36s ; Glasgow 37s 6d ; fore quarters, London 29s 6d ; Birmingham 31s ; Liverpool and Manchester 28s ; Glasgow 30s. For the week ended September 25 the prices were : Canadian and U. S. A. port-killed, London 56s and 53s 8d ; Argentine frozen hind quarters, London, Leeds and Edinburgh 38s 6d ; Birmingham, Liverpool, Manchester and Glasgow 37s 4d ; Dundee 39s 8d ; Argentine chilled hind quarters, London, Birmingham and Glasgow 49s ; Leeds, Liverpool and Manchester 46s 8d ; Dundee 51s 4d ; Edinburgh 50s 2d ; Australian frozen hind quarters, London, Leeds and Glasgow 37s 4d ; Birmingham 36s 2d ; Liverpool and Manchester 35s.

**Bacon and Hams.** The average official prices in August for Canadian bacon per 112 lb. were : London 73s and 71s 6d ; Bristol 73s and 69s 6d ; Liverpool 72s and 69s ; Glasgow 74s and 72s. For American long cut hams the prices were : London 68s and 62s ; Bristol 64s and 62s ; Liverpool 64s and 60s ; Glasgow 64s 6d. For the week ended September 25 the prices for bacon were : Canadian sides, London and Glasgow 75s and 73s ; Bristol 74s and 72s ; Liverpool 72s and 70s ; Canadian Cumberland cuts Liverpool 72s and 69s ; Glasgow 72s and 70s ; Danish sides, London 78s and 75s ; Bristol 78s and 74s ; Liverpool 77s and 74s ; Canadian long cut green hams, London 70s and 66s ; Bristol 72s and 67s ; Liverpool 70s and 65s ; Glasgow 66s and 64s ; American long cut green hams, London 64s and 60s ; Bristol 64s and 61s ; Liverpool 65s and 60s 6d ; Glasgow 64s (first quality) ; American short cut green hams, London 60s and 58s ; Bristol 63s and 58s ; Liverpool 66s and 61s 6d ; Glasgow 63s (first quality).

**Cheese.** The average prices in August for Canadian cheese per 112 lb. were : London 66s and 65s ; Bristol 66s and 63s ; Liverpool 65s 6d and 63s ; Glasgow 66s 6d (first quality). For the week ended September 25 the prices were : London 67s and 66s ; Bristol 66s and 64s ; Liverpool 66s 6d and 64s 6d ; Glasgow 66s (first quality).

**Plant Breeding in Scandinavia.** A work with this title has recently been issued by the Canadian Seed Growers' Association at Ottawa. It consists of 193 octavo pages with 62 illustrations, diagrams, etc., and is written by Mr. L. S. Newman, B.S.A., the Secretary of the Association. The main object of the publication is to give a general survey of the plant

breeding work conducted at the Swedish Seed Association at Svalof, a village in the south of Sweden. The book, which is the outcome of prolonged study and investigation on the spot, is primarily of interest to scientific readers, particularly members of the Canadian Seed Growers' Association engaged in the scientific production of new varieties of grain; but efforts have been made, so states the author in his preface, to render the work as intelligible to the general public as the nature of the subject permits. It is the only work written in English that deals comprehensively with present scientific methods of seed selection.

**Guide to the Experimental Farms.** The recent increase in the number of the Dominion Experimental Farms and Stations, as well as the growing complexity of the work carried on, renders both opportune and necessary the little "Guide to the Experimental Farms and Stations", which has just been issued from the Central Experimental Farm at Ottawa. Visitors to the farms will henceforth possess printed notes of all the leading lines of investigation, which cannot fail to be of great assistance in studying the lessons they convey. Considerable developments have taken place in the official organisation since the present Director (Mr. J. H. Grisdale) took office in 1911, and it is stated in the "Guide" that in response to the popular demand additional experimental stations have been and are being located as rapidly as possible. Several new stations are now in course of establishment: one at Kentville, N.S., in the Annapolis fruit-growing district (285 acres); a second at Ste. Anne de la Pocatière, Quebec (126½ acres); and a third at Sydney, Vancouver Island, B.C. In addition also to the farm at Agassiz, B.C., some 52 acres have been obtained at Invermere for fruit growing experiments.

**International Agricultural Congresses at Ghent, 1913.** Copies of the programmes of the International Congresses of Agriculture and Teaching of Household Economy, to be held at Ghent in 1913, as announced in the September number of the Census Monthly, have been received at the Census and Statistics Office, Ottawa, and copies, either in English or French, will be forwarded upon receipt of applications.

**Hops in the District of Oregon.** H. M. Consul at Portland, Oregon, reports (October 11) that the hop crop in his district has exceeded all estimates; but, owing to rains during the picking season, the quality is reported to be very variable. Estimates by dealers and growers, and published reports, vary very much; but it is generally conceded that the yield in Oregon is not less than 115,000 bales or 189,955 cwt. and in Washington 35,000 bales or 57,812 cwt. of all grades. Some estimates give 5,000 bales more in each State.

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PUBLISHED BY AUTHORITY OF HONOURABLE GEORGE E. FOSTER, MINISTER OF TRADE AND COMMERCE. CORRESPONDENCE RELATING TO THE CENSUS AND STATISTICS MONTHLY SHOULD BE ADDRESSED TO ARCHIBALD BLUE, CHIEF OFFICER OF THE CENSUS AND STATISTICS OFFICE, DEPARTMENT OF TRADE AND COMMERCE, OTTAWA, CANADA.

## ROOT AND FODDER CROPS OF CANADA.

Report for the month ended October 31 1912.

The returns from agricultural correspondents at the end of October show that upon total areas for potatoes, turnips, mangolds, etc., hay and clover, alfalfa, fodder corn and sugar beets, amounting to 8,732,000 acres, as compared with 9,160,000 acres last year, the total value of the products is \$192,568,500, compared with \$223,790,000, a decrease in value of \$31,221,500. This decrease is caused by the diminution, both in area and yield, of the hay and clover crop, which is less than last year in area by 426,000 acres, in yield by 2,000,000 tons, and in value by \$28,380,000. All the other crops show increases, except alfalfa, the area of which in Canada is relatively small. The yield of potatoes is 81,343,000 bushels of the value of \$32,173,000, of turnips and other roots 87,505,000 bushels, value \$20,713,000, of fodder corn, 2,858,900 tons, value \$13,557,500, of sugar beets 204,000 tons, value \$1,020,000, and of alfalfa 310,100 tons, value \$3,610,000.

In quality all these crops are marked high, the standard percentage being about 87, excepting for turnips, etc., which are 93, and for fodder corn, which is 82. A word of caution is necessary with regard to potatoes, for whilst yield and quality are generally good at harvesting, there are numerous reports of rotting in the cellars, the produce of the heavier soils having been considerably affected by the constant rains.

The area estimated to be sown to fall wheat in five provinces of Canada this season aggregates 1,086,800 acres, as compared with 1,156,900 acres, the area sown last year. This represents a net decrease of 70,100 acres, or 6 p.c. In Ontario the acreage sown is 696,000 acres, compared with 797,200 acres, a decrease of 101,200 acres, or 12.6 p.c.; in Alberta the figures are 312,000 acres as against 300,700, an increase of 11,300 acres, or 3.7 p.c.; and in Saskatchewan the area sown is 72,000 acres against 53,000 acres, an increase of 19,000 acres, or 36 p.c. Small areas in Manitoba and British Columbia complete the totals. The decrease in area is due to the persistent rains which have hindered ploughing and sowing operations. The condition of this crop on October 31 was 92.67 p.c. of the standard for the five provinces. It was above 90 in each province, except Manitoba, where the small area of about 4,000 acres had a per cent condition of 88.1.

The percentage of fall ploughing completed upon land intended for next year's crops ranges from 45 in Ontario to 77 in Prince Edward Island for the east and from 24 in Alberta to 38 in British Columbia for the west. It is remarkable that both this year and last year the seasons in the three Northwest provinces have been adverse to fall ploughing, and less than about 25 p.c. of such ploughing has been possible in both years, as compared with a more normal percentage at the same date of from 50 to 75.

In the three Northwest provinces the area summer fallowed this year is estimated as being from 2 to 5 per cent more than last year.

Census and Statistics Office,  
Ottawa, November 16 1912.

ARCHIBALD BLUE  
Chief Officer.

**I. Estimates of Area, Yield, Quality and Value of Potatoes, Root  
and Fodder Crops 1912.**

| Field crops              | Areas     | Yield<br>per<br>acre | Total<br>yield | Quality | Average<br>price | Total value |
|--------------------------|-----------|----------------------|----------------|---------|------------------|-------------|
|                          | acres     | bush.                | bush.          | p.c.    | \$<br>per bush.  | \$          |
| Canada—                  |           |                      |                |         |                  |             |
| Potatoes.....            | 472,400   | 172·19               | 81,343,000     | 87·01   | 0·39             | 32,173,000  |
| Turnips and other roots. | 217,400   | 492·51               | 87,505,000     | 93·00   | 0·23             | 20,713,000  |
|                          |           | tons                 | tons           |         | per ton          |             |
| Hay and clover.....      | 7,633,600 | 1·44                 | 10,973,000     | 86·54   | 11·07            | 121,495,000 |
| Fodder corn.....         | 278,740   | 10·26                | 2,858,900      | 82·38   | 4·74             | 13,557,500  |
| Sugar beets.....         | 19,000    | 10·74                | 204,000        | 87·35   | 5·00             | 1,020,000   |
| Alfalfa.....             | 111,300   | 2·79                 | 310,100        | 87·74   | 11·65            | 3,610,000   |
| P. E. Island—            |           | bush.                | bush.          |         | per bush.        |             |
| Potatoes.....            | 31,600    | 206·39               | 6,522,000      | 90·09   | 0·26             | 1,696,000   |
| Turnips and other roots. | 7,200     | 440·75               | 3,173,000      | 90·60   | 0·21             | 666,000     |
|                          |           | tons                 | tons           |         | per ton          |             |
| Hay and clover.....      | 188,000   | 1·28                 | 24,000         | 81·30   | 11·64            | 280,000     |
| Fodder corn.....         | 260       | 6·00                 | 1,500          | 82·50   | 4·00             | 6,000       |
| Alfalfa.....             | 30        | 2·63                 | 79             | 90·00   | 10·00            | 800         |
| Nova Scotia—             |           | bush.                | bush.          |         | per bush.        |             |
| Potatoes.....            | 27,000    | 298·57               | 8,061,000      | 93·14   | 0·47             | 379,000     |
| Turnips and other roots. | 10,000    | 475·54               | 4,755,000      | 91·60   | 0·34             | 1,617,000   |
|                          |           | tons                 | tons           |         | per ton          |             |
| Hay and clover.....      | 478,000   | 1·58                 | 755,000        | 79·95   | 12·82            | 9,679,000   |
| Fodder corn.....         | 600       | 8·58                 | 5,100          | 87·36   | 5·00             | 25,500      |
| Alfalfa.....             | 30        | 3·50                 | 105            | 100·00  | 12·00            | 1,300       |
| New Brunswick—           |           | bush.                | bush.          |         | per bush.        |             |
| Potatoes.....            | 42,300    | 174·64               | 7,387,000      | 81·97   | 0·42             | 3,103,000   |
| Turnips and other roots. | 8,800     | 284·75               | 2,506,000      | 84·07   | 0·32             | 802,000     |
|                          |           | tons                 | tons           |         | per ton          |             |
| Hay and clover.....      | 558,000   | 1·48                 | 826,000        | 81·38   | 10·12            | 8,359,000   |
| Fodder corn.....         | 180       | 7·30                 | 1,300          | 82·14   | 6·13             | 8,000       |
| Alfalfa.....             | 140       | 2·00                 | 280            | 90·00   | 10·00            | 2,800       |
| Quebec—                  |           | bush.                | bush.          |         | per bush.        |             |
| Potatoes.....            | 128,600   | 137·11               | 17,632,000     | 91·66   | 0·35             | 6,171,000   |
| Turnips and other roots. | 13,100    | 251·60               | 3,296,000      | 92·91   | 0·28             | 923,000     |



**I. Estimates of Area, Yield, Quality and Value, of Potatoes, Root and Fodder Crops 1912—con.**

| Field crops              | Areas     | Yield per acre | Total yield | Quality | Average price | Total value |
|--------------------------|-----------|----------------|-------------|---------|---------------|-------------|
|                          | acres     | tons           | tons        | p.c.    | \$ per ton    | \$          |
| Quebec—con.              |           |                |             |         |               |             |
| Hay and clover.....      | 2,750,000 | 1' 22          | 3,355,000   | 88' 31  | 9' 36         | 31,403,000  |
| Fodder corn.....         | 36,300    | 7' 38          | 268,000     | 79' 03  | 3' 79         | 1,016,000   |
| Alfalfa.....             | 10,000    | 2' 75          | 27,500      | 88' 33  | 9' 00         | 248,000     |
| Ontario—                 |           | bush.          | bush.       |         | per bush.     |             |
| Potatoes.....            | 153,500   | 143' 90        | 22,089,000  | 71' 29  | 0' 59         | 13,033,000  |
| Turnips and other roots. | 148,000   | 436' 25        | 64,565,000  | 94' 11  | 0' 19         | 12,267,000  |
|                          |           | tons           | tons        |         | per ton       |             |
| Hay and clover.....      | 3,240,000 | 1' 62          | 5,249,000   | 92' 40  | 12' 04        | 63,198,000  |
| Fodder corn.....         | 241,400   | 10' 70         | 2,583,000   | 83' 34  | 4' 84         | 12,562,000  |
| Sugar beets.....         | 17,000    | 11' 16         | 190,000     | 89' 94  | 5' 00         | 950,000     |
| Alfalfa.....             | 85,000    | 2' 76          | 235,000     | 89' 25  | 11' 75        | 2,761,000   |
| Manitoba—                |           | bush.          | bush.       |         | per bush.     |             |
| Potatoes.....            | 24,900    | 231' 55        | 5,766,000   | 93' 59  | 0' 35         | 2,018,000   |
| Turnips and other roots. | 4,700     | 354' 20        | 1,665,000   | 91' 32  | 0' 38         | 633,000     |
|                          |           | tons           | tons        |         | per ton       |             |
| Hay and clover.....      | 141,000   | 1' 71          | 241,000     | 76' 86  | 9' 40         | 2,265,000   |
| Alfalfa.....             | 2,900     | 2' 73          | 7,900       | 75' 26  | 9' 20         | 72,700      |
| Saskatchewan—            |           | bush.          | bush.       |         | per bush.     |             |
| Potatoes.....            | 25,500    | 209' 70        | 5,347,000   | 93' 20  | 0' 40         | 2,139,000   |
| Turnips and other roots. | 9,800     | 304' 47        | 2,984,000   | 99' 16  | 0' 42         | 1,253,000   |
|                          |           | tons           | tons        |         | per ton       |             |
| Hay and clover.....      | 20,600    | 1' 70          | 35,000      | 77' 63  | 7' 71         | 270,000     |
| Alfalfa.....             | 1,100     | 2' 19          | 2,400       | 85' 77  | 11' 66        | 28,000      |
| Alberta—                 |           | bush.          | bush.       |         | per bush.     |             |
| Potatoes.....            | 26,000    | 211' 64        | 5,503,000   | 92' 94  | 0' 39         | 2,146,000   |
| Turnips and other roots. | 13,000    | 260' 98        | 3,393,000   | 93' 65  | 0' 57         | 1,933,000   |
|                          |           | tons           | tons        |         | per ton       |             |
| Hay and clover.....      | 174,000   | 1' 70          | 296,000     | 84' 03  | 9' 09         | 2,691,000   |
| Sugar beets.....         | 2,000     | 7' 00          | 14,000      | 83' 75  | 5' 00         | 70,000      |
| Alfalfa.....             | 8,300     | 2' 56          | 21,000      | 89' 54  | 10' 70        | 225,000     |
| British Columbia—        |           | bush.          | bush.       |         | per bush.     |             |
| Potatoes.....            | 13,000    | 233' 15        | 3,036,000   | 91' 67  | 0' 49         | 1,488,000   |
| Turnips and other roots. | 2,800     | 415' 90        | 1,168,000   | 95' 31  | 0' 53         | 619,000     |
|                          |           | tons           | tons        |         | per ton       |             |
| Hay and clover.....      | 84,000    | 2' 28          | 192,000     | 88' 33  | 17' 45        | 3,350,000   |
| Alfalfa.....             | 3,800     | 4' 20          | 15,900      | 105' 00 | 17' 00        | 270,300     |

**II. Estimated Areas sown to Fall Wheat in 1912, compared with 1911 and Condition on October 31 1912-11-10.**

| Provinces        | 1912      | 1911      | Total increase (+) or decrease (-) | Per cent increase (+) or decrease (-) | Per cent condition of crop, October 31 |        |        |
|------------------|-----------|-----------|------------------------------------|---------------------------------------|--|--------|--------|
|                  |           |           |                                    |                                       | 1912                                   | 1911   | 1910   |
|                  | acres     | acres     | acres                              | p. c.                                 | p. c.                                  | p. c.  | p. c.  |
| CANADA.....      | 1,086,000 | 1,156,900 | - 70,100                           | - 6' 06                               | 92' 67                                 | -      | -      |
| Ontario.....     | 696,000   | 797,200   | - 101,200                          | - 12' 60                              | 93' 04                                 | 95' 17 | 99' 48 |
| Manitoba.....    | 3,900     | 3,100     | + 800                              | + 25' 71                              | 88' 53                                 | -      | -      |
| Saskatchewan.... | 72,000    | 53,000    | + 19,000                           | + 35' 85                              | 91' 47                                 | -      | -      |
| Alberta.....     | 312,000   | 300,700   | + 11,300                           | + 3' 76                               | 93' 97                                 | 95' 47 | 97' 68 |
| British Columbia | 2,900     | 2,900     | -                                  | -                                     | 92' 78                                 | -      | -      |

### III. Fall Ploughing and Summer Fallowing 1912, 1911, and 1910.

| Provinces              | Per cent of fall ploughing completed on land intended for the next year's crop |       |       | Per cent of acreage summer fallowed compared with previous year as represented by 100 |        |        |
|------------------------|--|-------|-------|---|--------|--------|
|                        | 1912   | 1911  | 1910  | 1912  | 1911   | 1910   |
|                        | p.c.   | p.c.  | p.c.  | p.c.  | p.c.   | p.c.   |
| Prince Edward Island.. | 77.44  | 90.40 | 78.28 | 104.84  | 98.38  | 93.83  |
| Nova Scotia.....       | 60.24  | 73.36 | 65.25 | 95.21   | 94.39  | 109.02 |
| New Brunswick.....     | 55.63  | 84.85 | 77.61 | 84.60   | 92.73  | 88.84  |
| Quebec.....            | 60.49  | 71.28 | 77.81 | 88.77   | 92.02  | 95.15  |
| Ontario.....           | 44.97  | 73.57 | 65.31 | 88.21   | 93.26  | 95.87  |
| Manitoba.....          | 26.72  | 34.12 | 80.72 | 103.46  | 95.71  | 90.88  |
| Saskatchewan.....      | 24.50  | 19.20 | 64.27 | 105.66  | 102.66 | 104.57 |
| Alberta.....           | 24.16  | 18.73 | 63.82 | 102.46  | 92.85  | 107.32 |
| British Columbia.....  | 38.00  | 50.31 | 71.33 | 80.00   | 70.00  | 74.00  |

NOTE. In Ontario summer fallowing consists in early ploughing and continuous cultivation during the summer; in the Northwest provinces the process is usually confined to the one operation of breaking the sod, and in the Maritime provinces to the early ploughing of pastures.

### NOTE ON THE CONDITION OF FALL WHEAT.

For the purposes of the report cabled to the International Institute of Agriculture at Rome the percentage figure in Table II (p. 257) of 92.67, which expresses the condition of fall wheat in Canada on October 31 in percentage of a standard represented by 100, has been converted into 97, the percentage of a condition of 100 as representing the promise of a yield per acre equal to the average of the three years 1909 to 1911. In other words the condition of fall wheat on October 31 indicates a yield per acre next year inferior by 3 p.c. to the average yield per acre of the three years 1909-11, assuming that the conditions between now and harvest are not affected by extraordinary phenomena.

### PRODUCTION OF CANADIAN BEET ROOT SUGAR.

From the three sugar beet factories at present in operation in Canada there was produced during the sugar-refining campaign of 1911-12 from Canadian grown sugar beets a total of 22,157,155 lb. or 11,078 short tons of beet root sugar, as compared with 20,612,276 lb. or 10,306 tons in the previous campaign of 1910-11. The three factories are situated at Wallaceburg and Berlin in Ontario and at Raymond in Alberta.

**Erratum.** By a printer's error the yield of flaxseed in Saskatchewan for the year 1911 on page 198 of the Census and Statistics Monthly for September last was printed as 16,413,000 bushels instead of 6,413,000 bushels, the correct estimate.

## NOTES OF REPORTS FROM THE PROVINCES.

In the Maritime provinces good yields of potatoes have been obtained, but on low-lying lands damage has occurred through the excessive wet. In Ontario complaints are frequent that potatoes are rotting badly in the cellars, and there are also numerous references to rotting of the crop in the field. Unfavourable weather greatly hindered autumn field work, and fall ploughing is very backward as compared with a normal season. Very little fall ploughing has been accomplished in the Northwest provinces. The hay crop is of poor quality, and from Saskatchewan it is reported that owing to scarcity wheat and oat straw will be baled and fed to horses and cattle. One correspondent refers to considerable damage caused by large flocks of mallard ducks—especially to barley. In British Columbia, owing to the wet ground, little fall ploughing has been possible. Hay is a good crop, but the wet weather reduced its quality. All roots, especially potatoes, yielded well, and but little damage is reported from rot.

## NOTICE TO CROP REPORTING CORRESPONDENTS.

There will be no crop report for the end of November. The next schedules to be issued to correspondents will relate to the final returns of the crop yields of the past season, and will be mailed early in December. The results will be published soon after the close of the calendar year.

## DEPARTMENTAL NOTES.

**Experimental Farms and Stations.** At the Central Farm, Ottawa, the temperatures recorded during October range slightly higher than for the corresponding period of last year—the highest being 75, the lowest 26·2 and the mean temperature 48·92, compared with extremes of 72 and 23·6 and a mean of 47·17 for this month in 1911. Rain has fallen on fifteen days amounting to 2·47 inches, while in the previous October the precipitation was 2·13 inches, distributed over eleven days. The bright sunshine averages 5·58 hours a day, as against 4·9 hours daily in October 1911.

On the Experimental Farm the cutting of Indian corn, which was started during the latter part of September, was finished during the first week of October, the corn being of fair quality and giving 18 tons to the acre. Roots have been harvested, the yield averaging 26 tons per acre. The potatoes in a four-acre field were dug and pitted early in the month, giving the heavy crop of 443 bushels per acre, about ten per cent being found to be affected by rot when the tubers were subsequently removed from the pit to the root cellar.

J. A. Clark, Superintendent of the Station at Charlottetown, P.E.I., reports: "The first three weeks of October were bright, with moderate temperatures. The thermometer reached the freezing point on the 9th and again on the 16th. The only severe frost occurred on the night of the 16th, when three and one-half degrees of frost were registered. The closing week has been mild and dull, with frequent light showers, there being less than

five hours of bright sunshine in the last eight days. Light hail storms were experienced on the 16th and 17th. Late grain harvested at the beginning of the month turned out exceedingly well. Corn, mangolds and sugar beets have been harvested, the crop being an average one. Turnips and carrots, which are still in the ground, promise heavy yields. A very large percentage of fall ploughing has been done. The clover in the new meadows is strong and vigorous. The grapes at the Station ripened and were quite prolific."

Robert Robertson, Superintendent of the Farm at Nappan, N.S., reports: "October has been a fairly seasonable month, with no very extreme weather of any kind and very little frost. The rainfall totals 1.67 inch, most of it being experienced during the opening week. Fall work has been progressing well. Roots and corn are away below the average in most places, although on some odd fields, where the land is high and porous, turnips are exceptionally good. Quite a large proportion of the grain has failed to ripen, and also much of the feeding hay on the marshes. Broadleaf hay has not been worth cutting. Cattle as a rule are thin, and fewer than usual will be fed this winter. The price of hay is unusually high."

G. A. Langelier, Superintendent of the Station at Cap Rouge, Que., reports: "It rained on seventeen days during October, which has kept the land and the roads in bad shape. Nearly all the grain in the district has been put in during the month, a lot of it being immature when stored. This has certainly been a very bad season. Indian corn for ensilage has been practically a failure, oats are of poor quality, and potatoes have rotted both in the ground and in cellars. Quite a few farmers are now raising turnips to ship to Montreal, to be retailed by grocers. They are getting \$14 a ton for them at present and this should prove a paying proposition, if manure or artificial fertilisers are bought to give back to the soil the fertility which is sold off. At the Experimental Station nearly all the work on the land has been finished, except the ploughing of areas which were in roots."

W. C. McKilican, Superintendent of the Farm at Brandon, Manitoba, reports: "October has been mild and dry. The precipitation amounts to only one sixth of that of the corresponding period of last year. It has been the brightest month since July, with a total of 137.8 hours of sunshine, or over twelve hours more than during October a year ago. A few nights of high winds have been experienced, but the occasional storm indications have generally lacked fulfilment in this immediate vicinity. The fine weather has been most opportune, as it permitted much of the long delayed threshing to be done, practically no threshing having yet been done in Manitoba at the beginning of the month. Although good progress has been made some grain still remains to be threshed. On the Experimental Farm threshing, the harvesting of root crops and fall ploughing have been the principal operations."

Angus Mackay, Superintendent of the Farm at Indian Head, Sask., reports: "October on the whole has been favourable for threshing and other outside work, and the great bulk of the grain in this district has been threshed. Half an inch of snow fell on the morning of the 21st, but it had all gone by noon of the same day. Since then the weather has been fine,



with a few cold days. The work on the Experimental Farm has consisted chiefly in threshing (which was completed on the 9th), the taking up of roots, fall ploughing and cultivating the land, and putting up seed grain for Ottawa. Early in the month exhibits were prepared for the Dry Farming Congress at Lethbridge, Alta., and these were shipped on the 12th."

Wm. A. Munro, Superintendent of the Station at Rosthern, Sask., reports: "The weather during October has been favourable for threshing operations and fall ploughing. No wheat in the district is reported as having been frozen, and the threshing is nearly completed. The one complaint respecting the quality of the grain is that it is somewhat weathered, due to rains in September. The yields of grain at the Experimental Station are not so heavy this year as last, but the quality is considerably better. Marquis wheat, with 73 bushels per acre, was the highest yielder in the 1-40th of an acre plots last year. This season the highest is a new variety originated at the Central Farm, Ottawa, under the number "521 B.," which has given a return at the rate of 44 bushels per acre, Marquis being a close second with 43 bushels per acre. The new variety ripened six days later than Marquis."

R. E. Everest, Superintendent of the Station at Scott, Sask., reports: "October has been a very favourable month for threshing and grain hauling, and this work has been well advanced. It is estimated that probably sixty per cent of the threshing has been done. From this point grain has moved freely, over seventy carloads having been shipped to date this season. For this district 1912 goes down as a good crop year. At the Experimental Station, the work has consisted chiefly in the taking up of potatoes and roots, threshing, and the planting of bulbs and autumn seeds. Potatoes, turnips and the field grains have given very satisfactory yields."

G. H. Sutton, Superintendent of the Station at Lacombe, Alta., reports: "October has been characterised by a considerable amount of cloudy weather, and by a heavier rainfall than usual for this month. Notwithstanding this handicap, work has proceeded with less delay than was experienced in the fall of 1911. Threshing is well under way and much more fall ploughing has been done than at this date last year. The barley has been injured by weathering, but the sample is plump and the yield quite satisfactory. At the Station, on certain rotations, Marquis wheat averaged 36 bushels per acre. The buildings under construction here are nearing completion, especially the beef and storage barns. The floor has yet to be laid in concrete in the dairy barn."

W. H. Fairfield, Superintendent of the Station at Lethbridge, Alta., reports: "The precipitation during October has been somewhat more than normal, which has resulted in considerable delay to threshing; but wherever this work has been completed farmers have taken advantage of the moisture and got through a considerable amount of fall ploughing. At the station all the roots have been taken up and stored for the winter, and a small quantity of alfalfa seed has been threshed. The event of the month in this district has been the International Dry Farming Congress and Exposition, held from the 21st to the 26th. Large numbers of farmers, not only from some distance but particularly from the surrounding towns, were in attendance at the Congress and Exposition."

P. H. Moore, Superintendent of the Farm at Agassiz, B.C., reports: "October has been cool and wet on the whole, the second week being the only one during which fine weather predominated. No frost has so far been recorded. The work of cutting Indian corn and putting it into the silos was finished about the middle of the month. During the last two weeks good progress has been made in the pulling and storing of roots, which are yielding well. All classes of live stock on the farm are in good condition."

The records of temperature, precipitation and sunshine at the several Experimental Farms and Stations for the month of October are given in the following table:

Meteorological Record for October, 1912.

| Experimental Farm<br>or Station at— | Degrees of temperature, F. |        |       | Precipitation<br>in<br>inches | Hours of sunshine |        |
|-------------------------------------|----------------------------|--------|-------|-------------------------------|-------------------|--------|
|                                     | highest                    | lowest | mean  |                               | possible          | actual |
| Ottawa, Ont. ....                   | 75.0                       | 26.2   | 48.92 | 2.47                          | 339               | 173.0  |
| Charlottetown, P.E.I. ....          | 73.0                       | 28.5   | 47.71 | 3.72                          | 339               | 134.2  |
| Nappan, N.S. ....                   | 74.0                       | 25.0   | 46.80 | 1.67                          | 339               | 146.9  |
| Cap Rouge, Que. ....                | 72.0                       | 28.2   | 44.94 | 2.74                          | 339               | 87.0   |
| Brandon, Man. ....                  | 75.7                       | 16.0   | 41.60 | .24                           | 333               | 137.8  |
| Indian Head, Sask. ....             | 80.0                       | 20.0   | 39.93 | .35                           | 331               | 113.8  |
| Rosthern, Sask. ....                | 67.7                       | 17.7   | 38.48 | .22                           | 334               | 107.4  |
| Scott, Sask. ....                   | 75.0                       | 14.2   | 39.09 | .15                           | 335               | 161.0  |
| Lacombe, Alta. ....                 | 70.6                       | 13.6   | 39.24 | 1.56                          | 328               | 147.5  |
| Lethbridge, Alta. ....              | 72.2                       | 14.2   | 42.34 | 1.07                          | 331               | 172.9  |
| Agassiz, B.C. ....                  | 64.0                       | 33.0   | 47.81 | 6.99                          | 334               | 65.2   |

J. H. GRISDALE, Director Experimental Farms.

Ottawa, November 16.

**Live Stock Branch.** The issue of Bulletin No. 16, entitled "The Care of Market Eggs," written by Mr. W. A. Brown, poultry specialist in the Branch, would make it appear opportune that a brief statement be made of certain phases of the work which is being undertaken in the interests of the poultry industry.<sup>1</sup> By way of explanation it may be stated that the efforts of the Branch have been primarily directed to a solution of the problems relating to the marketing of eggs and other poultry products. The loss resulting from the practice of unwise and unsatisfactory methods in the delivery of the product from the producer to the consumer has imposed, during the past few years, a serious burden upon the whole egg and poultry trade. This loss, whether chargeable to the farmer or to the produce merchant, has deprived the producer of receiving full value for his product, particularly if this has been of a high class character, and has compelled the consumer to pay a price out of all proportion to the original cost of the article. Not only has this been the case, but it is a fact also that at certain seasons of the year the consumer is practically unable to purchase,

<sup>1</sup> See also note on the "Standardization of Eggs" in the Census and Statistics Monthly of May 1911. Vol. 4, No. 36, p. 122.

except at an exorbitant price, either eggs or dressed poultry, which, on the one hand, are not either stale or off in flavour, and, on the other, either lacking seriously in condition or without the finish and bloom which the best trade demands. Largely as a result of these conditions, notwithstanding the fact that domestic consumption is steadily increasing, poultry production has not developed as could be desired, and our larger markets have been compelled in consequence to depend from time to time upon an imported article to meet the requirements of their trade.

To attempt a solution of the problems arising out of this situation has constituted the point of departure for the work which has been undertaken to date. This work in general has mainly followed two directions: the one consisting in the development of the egg circle movement and the other in a study of the trade itself in the warerooms of the produce merchants.

**EGG CIRCLE MOVEMENT.** There has been considerable demand, particularly in Eastern Canada, that the Live Stock Branch should definitely engage in encouraging this movement, with the view of co-operating with the provinces in such work of this nature as they had already undertaken. It is a recognised fact that the market will pay a premium for a product which may be relied upon as fresh, uniform in quality, and in other respects such as it is represented to be. This being the case it would seem desirable that an earnest effort should be made to assist the farmers in securing for themselves any advantage that may be obtained through the production of a high class article. The operation of egg circles, while attended with certain difficulties, has proved one of the most successful means of attaining this end. The organisation of a circle provides for the membership of those agreeing to the conditions imposed by the constitution and for the appointment of a board of directors and of a paid manager who is directly responsible to this board. The members are required to stamp their eggs. The manager collects them and ships them to some reliable firm where they are graded. Payment for the eggs is made one week in arrears at the price prevailing at the time of collection. It is usual for the manager personally to collect the eggs at stated intervals, but in certain cases the members may arrange to deliver the eggs to some central point such as a store, creamery or cheese factory, from which point the manager makes the shipment.

Prior to the definite organisation of such circles a good deal of educational work has been done, particularly in Manitoba, Quebec and Prince Edward Island. One circle however has been already organised and is at present in operation. Although commenced at a time when the delivery of eggs was comparatively small it has already proved of considerable economic importance to the farmers of that district. As a direct result of the circle work, and through the increased competition stirred up between the different egg buyers and merchants, prices from five to seven cents in advance of those ever paid before at this time of the year have been received, and between \$200 and \$300 more than they would otherwise have obtained for their eggs have been directly distributed to the farmers. The increased price of eggs has given a stimulus to winter egg production and the members and farmers generally are bestirring themselves to develop this phase of their business, a movement which it may be noted will receive every encouragement and support.

**INVESTIGATION OF THE EGG TRADE.** For some time it has been recognised that there is a great deterioration in the quality of eggs during the period occupied between the day on which they are produced and that on which they reach the consumer. It has been apparent also that the present system of purchase and of distribution has not tended to improve the situation. To ascertain the exact percentage of loss met with in the egg trade and to gather data as to the exact cause or causes to which this loss should be attributed is the purpose of the inquiry which is now being made. The wholesale egg dealers are being approached at the present time with the view of obtaining information as regards the exact grading according to the standards in use of the eggs which have been received during the past two years. From this data may be computed the number of rotten, dirty, cracked and bulk eggs which have been marketed. The dealers approached have fully concurred in the value of this investigation and have shown their willingness to assist and co-operate with the Department in the adoption of methods having for their object the elimination of the very considerable waste, which apparently it has hitherto been impossible to avoid. The economic value of the poultry industry is increasing from year to year, and such steps as may be taken to encourage the output of a better product and to improve marketing conditions cannot but result in decidedly advancing the interests of the producer and in satisfying in a more comprehensive manner the needs of the consumer.

F. TORRANCE, Live Stock Commissioner.

Ottawa, November 16.

**Dairy and Cold Storage Branch.** About the end of October a sample shipment of apples left Nova Scotia for Buenos Aires, Argentine Republic. The varieties, consisting of Kings, Baldwins, Spys and Ben Davis, were packed in barrels and boxes, and the shipment was forwarded from Halifax to Liverpool, there to be transhipped to the Pacific Steam Navigation Company for direct shipment to Buenos Aires. The arrangements for the despatch of this sample consignment were made by the Markets Division of this Branch at the request of the Canadian Trade Commissioner at Buenos Aires, and the apples were packed and shipped by the United Fruit Companies of Nova Scotia, Ltd. The consignment was carried in cold storage from Liverpool to Buenos Aires under the following freight rates:

|   |   |   |   |    |   |
|---|---|---|---|----|---|
| Under 5 tons on 1 bill of lading £8 per ton weight, or measurement ship's option. |   |   |   |    |   |
| 5 to 10   | " | 1 | " | £6 | " |
| 10 tons and over  | 1 | " | " | £5 | " |

The charges for transhipment from steamer to steamer at Liverpool would average about 4s per ton.

According to the Canadian Trade Commissioner the Argentine affords a good market for imported apples, and we hope that the sample shipment referred to may be the forerunner of a substantial trade.

During the past month this Branch has had several inquiries from firms in Great Britain for information regarding the supply of potatoes in Canada and current prices, in order to determine if there is sufficient margin to



warrant exportation this year from Eastern Canada to the United Kingdom. Our correspondents stated that there was only about two-thirds of a crop of potatoes in England this season, but that the quantity grown in Scotland, owing to increased acreage, was large. On the continent the potato crop was good and large supplies have been reaching Great Britain from Holland and Germany. At the end of September the top price for best Kentish in London was 58c. per bushel, while best Dutch were fetching 41c. The last of October a London firm reported that they were buying good potatoes in bags in Germany for 39c. per bushel, in Belgium and France for 36c. and in Holland for 34c. The London market requires potatoes that will cook white and floury; any shipped from Canada would have to be packed in barrels. Names and addresses of potato merchants in London and Manchester will be furnished on request.

Since the publication of the October Census Monthly the Northern Fruit Co. and the Early Fruit Co., both of Saskatoon, Sask., have been convicted and fined for selling imported fruit, which was not marked in accordance with the provisions of the Inspection and Sale Act, Part ix, and the following have been convicted and fined for the improper packing and marking of apples:

|                                     |                             |
|-------------------------------------|-----------------------------|
| V. E. Griffin.....                  | Port Williams, Nova Scotia. |
| A. C. Murphy.....                   | " "                         |
| O. G. Cogswell.....                 | " "                         |
| T. H. Walker.....                   | Kingston, "                 |
| J. A. McDonald.....                 | Steam Mills, "              |
| Wallace Eldridge.....               | Avon Valley, "              |
| H. A. Spence.....                   | St. Croix, "                |
| G. Spence.....                      | " "                         |
| Percy D. VeeBaker.....              | Melvorn Square, "           |
| George Innis.....                   | Peterborough, Ontario.      |
| H. Gregory.....                     | South Gower, "              |
| W. H. Osborne.....                  | Bowmanville, "              |
| Geo. Palmer.....                    | Port Hope, "                |
| Norman Martin.....                  | " "                         |
| G. N. McKenzie.....                 | Waupees, "                  |
| John Thompson.....                  | South Bay, "                |
| W. H. Phillips (2 convictions)..... | Frankford, "                |
| J. L. Denike.....                   | Cressy, "                   |
| G. H. McCullough.....               | Brighton, "                 |
| Frank Huff.....                     | Westlake, "                 |
| M. C. Sprung.....                   | Mountain View, "            |
| John Coyle & Co.....                | Colborne, "                 |
| Geo. Desparais.....                 | Chateauguay, Quebec.        |

J. A. RUDDICK, Dairy and Cold Storage Commissioner.

Ottawa, November 22.

**Seed Branch.** Thirty thousand dollars were set apart last year to reimburse the provincial departments of agriculture for approximately half the cost of organising and conducting seed fairs, provincial seed exhibitions and field crop competitions. All who know the advantages of using good seed realise the value of these organisations in the improvement of field and garden crops. The new and superior strains of seed produced at experiment stations may be increased in quantity by farmers who make a specialty of growing registered seed under the supervision of the Canadian Seed Growers' Association. Such registered seed is much in demand by

farmers who compete in field crop competitions. The product of their crops, though not eligible for registration, ultimately becomes disseminated, either directly or through seed fairs, among the less progressive farmers in the locality.

Experience has shown that the expenses for advertising and for judges at seed fairs and field crop competitions amount on the average to about \$25 for each organisation—frequently less for seed fairs, sometimes more for field crop competitions where judges are required to travel long distances. Either of these organisations is well provided for when the prize list amounts to \$75, making a total expenditure of approximately \$100. Under the new plan of reimbursing the provincial departments of agriculture by money subventions, on receipt of certified statement showing the amount of work done and the total amount expended in cash prizes to seedgrowers, a cheque for two-thirds of that amount is issued to the department which conducted the competitions. Such subventions however must not exceed \$50 for each seed fair, \$50 for each field crop competition (allowing competitions in three kinds of crops to any agricultural society) and \$400 for a provincial seed exhibition. Any province with less than a million acres in field crops may receive an amount up to but not exceeding \$1,000. For any province having more than a million acres under cultivation in field crops the amount of the subvention is increased pro rata, \$1,000 for each million acres.

The total area under field crops, as shown by the unrevised census returns for 1911, and the amount of the subvention each province may be able to earn on account of this educational work for the improvement of field crops is as follows :

| Provinces                 | Approximate<br>area under field<br>crops | Total<br>subvention<br>available |
|---------------------------|--|----------------------------------|
|                           | acres                                    | \$                               |
| Prince Edward Island..... | 465,765                                  | 1,000                            |
| Nova Scotia.....          | 573,040                                  | 1,000                            |
| New Brunswick.....        | 918,057                                  | 1,000                            |
| Quebec.....               | 5,164,487                                | 5,165                            |
| Ontario.....              | 9,473,240                                | 9,473                            |
| Manitoba.....             | 4,932,632                                | 4,932                            |
| Saskatchewan.....         | 8,006,421                                | 8,006                            |
| Alberta.....              | 3,277,006                                | 3,277                            |
| British Columbia.....     | 43,024                                   | 1,000                            |

Subventions have been paid during the present year on account of these organisations to all of the provinces, and although some of them may not during the first year earn the total amount of the subvention made available it is encouraging to note that much interest has been taken in the work and that the expenditure has been productive of excellent results. British Columbia successfully conducted 20 competitions in field crops, including oats, wheat, potatoes, turnips and red clover. This plan of co-operating with and assisting the provinces is in vogue in Europe and has grown

out of centuries of experience in the administration of organisations working for the perfection of field agriculture. It virtually imposes upon all the provinces the maintenance of a highly efficient service for agriculture, for which they must bear half the expense. The benefit which any province may receive on account of these subventions, while not involving large amounts, is restricted only by a liberal estimate of what the province is able to accomplish the first year.

During the past month 496 samples were received at the seed laboratory compared with 227 the corresponding month last year. The increase however is principally in root and vegetable seeds. Most of the samples of alsike seed were uncleared and consequently of low grade. Samples graded under the Seed Control Act were as follows:

| Number of samples   | No. 1 | No. 2 | No. 3 | Rejected |
|---------------------|-------|-------|-------|----------|
| 21 Red clover ..... | -     | 7     | 13    | 1        |
| 93 Alsike .....     | 1     | 21    | 35    | 36       |
| 76 Timothy .....    | 10    | 45    | 10    | 11       |
| 19 Alfalfa .....    | 8     | 6     | 3     | 2        |

Of the total samples of timothy and clovers only about 25 p.c. were from farmers.

GEO. H. CLARK, Seed Commissioner.

Ottawa, November 20.

**Tobacco Division.** The season of 1912 from the tobacco-growing point of view has been exceptionally unfavourable. Long-continued rains, followed by cold, first hampered the work of planting and then considerably delayed growth. Up to the month of August, both in the Quebec and Ontario districts of cultivation, the position appeared to be critical. Fortunately an exceptionally mild autumn served to a certain extent to bring things back into condition.

The Quebec crop will be remarkable for tobaccos somewhat shorter than the average and for a less elastic tissue than usual; but the curing is proceeding without trouble, thanks to the late arrival of severe cold. No tobacco has been frozen in the field and probably none will get frozen in the barn. On the whole, therefore, in spite of the weak development of the product the crop of 1912 will be one of the soundest which has been produced during recent years.

The cold and rainy summer has especially prevented the success of the fairly numerous barley plantations which had been tried in the immediate neighbourhood of Montreal. One would not wish to pronounce too positively against cultivation in the province of Quebec of a type so slow to ripen, but one might say that it presents no possibility of success in a season such as that which has just ended.

In Ontario, upon all soils sufficiently well drained, and wherever the planting was early, the crop has been normal.

The position may be summed up as follows. Tobacco on low-lying and ill-drained land has failed to ripen ; it is average upon plots planted early and where the water has not lodged, and some plantations yield crops even over the average. Desiccation is proceeding normally. It will be possible to strip the early tobaccos before January. Colour is fairly good and much better than one would expect. The average yield per acre is estimated at 1,150 lb. and the total production at 6,500,000 lb.; but these figures are necessarily only approximate.

F. CHARLAN, Chief of the Tobacco Division.

Ottawa, November 21.

## CROP REPORTS FROM OTHER COUNTRIES.

**England and Wales.** The Board of Agriculture reports (November 1) that in consequence of the wet and cold season the grain is small, badly matured and often damp and sprouted. In some parts of the country, however, wheat and barley were harvested in dry weather, and in those cases condition and quality are fair, but they are not the majority. Barley is perhaps in some counties not quite so inferior in quality as wheat ; but most samples are discoloured, and the quantity suitable for malting will be much less than usual. Oats seem decidedly the worst of the three cereals.

The bulk of the potato crop has been lifted. As already reported there is much disease all over the country, although some areas seem fairly free. In some districts a considerable proportion is so diseased as to be unmarketable ; and in many places the proportion of sound tubers has proved to be larger than was feared. The potatoes are practically everywhere of small size. Mangold lifting is very generally in progress, but little had been done with the pulling of turnips and swedes, which had made growth during October, and were still growing at the date of the reports. The roots are everywhere small, but are generally reported as sound and of fair quality.

Autumn cultivation, owing to the lateness of the harvest, was generally backward ; and the weather, in spite of having been mostly fine, was not everywhere very suitable, the land in some cases being too hard to work, while some rather heavy rains at the end of the month caused interruption. Operations were even more behind-hand in the north. Some fair breadths of wheat had been sown, especially in the south and east, under favourable conditions ; while some winter oats had also been got in. Large areas still remained unsown. In a few cases, where the wheat was up, it was looking well.

**Ireland.** The Irish Department of Agriculture reported (mid-October) that the harvesting of the later cereal crops was got through under more favourable conditions and with much benefit to the quality of both grain and straw. The potato crop has also benefited by the dry weather, and though yields will be below average these will not be so poor as at one time was anticipated. Reports regarding the flax crop are highly favourable in respect of yield, quality and prices, and growers are likely to be well recompensed this season.



**Germany.** The Imperial Statistical Bureau reports (October 7) that potato lifting was everywhere in progress and that as a general rule the yield was satisfactory. Only in the northeast of the Empire were the reports unfavourable; in west and south Germany good and even extraordinarily high yields are reported. Disease is not so rife as might have been expected from the wet weather. Only on heavy, impermeable soils are there many diseased tubers. The numerical condition of the following crops at the beginning of October for the Empire was: Potatoes 2·4, compared with 3·5 last year, clover 2·4, compared with 4·1, alfalfa 2·5, compared with 3·9, water meadows 2·2, compared with 3·2, and other meadows 2·6, compared with 3·8. On November 6 the Bureau reported the condition of autumn sown crops at the beginning of November as 2·9 for winter wheat, against 2·5 in November 1911, 2·9 for winter spelt against 2 and 2·9 for winter rye against 2·5. (Scale: 1 = very good, 2 = good, 3 = average, 4 = poor, 5 = very poor).

The sowing of winter grain was not completed at the end of October. Rye for the most part was sown, but large areas of wheat had still to be planted. Crops sown in September and at the beginning of October had germinated slowly, because needful warmth was lacking; but their condition was now fairly good. Much rye and most of the wheat was not visible above ground at the time the reports were sent in.

**Austria.** The Austrian Agricultural Department reports that at the beginning of November the sowing of wheat and rye, which is generally backward this year, was only just ended; on heavy soils in the Carpathian and Sudetic lowlands the autumn cultivation was not completed, and, especially in the Carpathian countries, the areas sown to wheat after roots will show a considerable shrinkage. The following indicates the condition of crops at the beginning of November, numerically expressed according to the Austrian scale, viz., 1 = very good, 2 = over-average, 3 = average, 4 = under average, 5 = very poor: Winter wheat 3 (2·4), winter rye 3 (2·2), corn 2·9 (3·3), potatoes 3 (3·3), sugar beet 2 (3·6), turnips 2·3 (3·1), cabbage 2·2 (3·1), clover 2·6 (3·6), meadows 2·9 (2·8), pastures 2·8 (3·1). The figures within parentheses are those of November 1911.

**Hungary.** The Hungarian Department of Agriculture reports (October 21) that cold rains, which have fallen all over the country during the past two months, have greatly injured agriculture, and the abnormal weather of the autumn has further aggravated the situation. As a result corn ripened badly: threshing has been very backward and is not yet everywhere completed. In the Great Plain (Alfold) much damage has been caused by constant rains, and both yield and quality have been considerably reduced. The following table gives the latest revised estimates of the yield from the principal cereals for the whole of Hungary, including Croatia and Slavonia:

| Crops               | Area 1912 | Yield per acre 1912 | Total yield 1912 | Total yield 1911 |
|---------------------|-----------|---------------------|------------------|------------------|
|                     | acres     | bush.               | bush.            | bush.            |
| Wheat.....          | 9,442,000 | 19·53               | 184,367,000      | 190,770,000      |
| Rye and maslin..... | 2,984,000 | 18·99               | 56,682,000       | 54,329,000       |
| Barley.....         | 2,789,000 | 26·17               | 72,989,000       | 76,742,000       |
| Oats.....           | 2,726,000 | 26·53               | 72,336,000       | 90,446,000       |

Autumn cultivation for the crops of 1913 has been considerably delayed where it has been possible to complete it, and in certain districts it has not been possible to undertake it all.

**Russia.** H. M. Consul at Riga reports (October 21) that according to the Rigaer Börsenblatt of October 7/20 a large part of the spring grain still remains in the fields unthreshed and is beginning to sprout. The drouth in July [o.s.] greatly reduced the harvest outlook, as the grain became prematurely ripe and dropped. Continued rain during harvest time did much further damage. Oats suffered greatly from mildew.

H. M. Consul at Odessa reports (October 4) that the high hopes which were entertained in July of the 1912 harvest have been disappointed. Continual rain since the time of cutting has hindered threshing operations and has caused the grain to sprout, large quantities of which are still in the fields. Deterioration is estimated roughly at 30 to 40 p. c. all round, being less in the north of the district and greater in the south. On one large estate near Odessa early threshing before the rain gave over 20 bushels per acre, while late threshing gave only five bushels. The harvest as a whole appears to be below the average both in quantity and quality. Local prices are high.

The crop of spring wheat is poor in quantity, in parts yielding only four or five bushels an acre. Winter wheat is short in quantity and of poor quality. Rye, which was an excellent crop, is now bad both as to quantity and quality. The barley crop is of fair quantity (about 10 to 12 bushels per acre). There is however much damp and discoloured grain, and it is said there will be little or none good enough to export for brewing purposes. The oat crop is fair in quantity and of good quality. Maize is not due to be cut for nearly another month, but the prospects are bad owing to rain. It is feared that little of it will ripen properly and that most of the crop will have to be used as fodder. Grain cut by self-binding machines has stood the weather far better than that cut by ordinary machines or by hand. Thus heavier loss has fallen on the poorer farmers who cannot afford expensive machinery.

Some large land owners are experiencing labour difficulties. The season is so far advanced that the peasants are now busy preparing their land for next year's crops, and therefore refuse hired work at carting and threshing. It is thought that this difficulty about labour may increase the demand for labour-saving machinery.

A further report (November 6) states that in the southwest of Russia, owing to the very late harvest and the unfavourable weather conditions which followed it, only a very small proportion of the ground intended for winter crops has been sown up to date. The proportion is by some put as low as one-seventh of the area that ought to be sown.

**Finland.** H. M. Consul at Helsingfors reports (October 29) that according to the official statistics, as quoted in the leading commercial journal of

this town, the results of the harvest, as compared with last year, are as follows :

| Crops          | 1912        | 1911                   |
|----------------|-------------|------------------------|
|                | bushels     | bushels                |
| Rye .....      | 11,962,000  | 9,845,000              |
| Barley .....   | 6,545,000   | 6,545,000 <sup>1</sup> |
| Oats .....     | 25,895,000  | 21,945,000             |
| Potatoes ..... | 22,702,500  | 20,000,000             |
|                | tons        | tons                   |
| Hay .....      | 295,000,000 | 171,000,000            |

<sup>1</sup> Approximately the same as in 1912.

**United States.** The Crop Reporting Board of the United States Department of Agriculture issued (November 8) the following estimates of the production and value of this year's crops compared with 1911 :

| Crops          | Yield per acre |       |                 | Total yield |           | Price Nov. 1 |       |
|----------------|----------------|-------|-----------------|-------------|-----------|--------------|-------|
|                | 1912           | 1911  | 10 year average | 1912        | 1911      | 1912         | 1911  |
|                | bush.          | bush. | bush.           | 000 bush.   | 000 bush. | cents        | cents |
| Corn.....      | 29.3           | 23.9  | 26.7            | 3,169,137   | 2,531,488 | 58.4         | 64.7  |
| Wheat.....     | 16.0           | 12.5  | 14.0            | 720,333     | 621,338   | 83.8         | 91.5  |
| Oats.....      | 37.4           | 24.4  | 29.5            | 1,417,172   | 922,298   | 33.6         | 43.8  |
| Barley.....    | 29.7           | 21.0  | 25.4            | 224,619     | 160,240   | 53.8         | 84.9  |
| Rye.....       | 16.9           | 15.6  | 16.1            | 35,422      | 33,119    | 68.8         | 83.1  |
| Flaxseed.....  | 9.9            | 7.0   | 8.8             | 29,755      | 19,370    | 133.4        | 210.6 |
| Buckwheat..... | 22.9           | 21.1  | 19.3            | 19,124      | 17,549    | 65.5         | 73.0  |
| Potatoes.....  | 112.3          | 80.9  | 94.3            | 414,289     | 292,737   | 45.5         | 76.3  |
|                | ton            | ton   | ton             | 000 tons    | 000 tons  | \$ c.        | \$ c. |
| Hay .....      | 1.47           | 1.14  | 1.43            | 72,425      | 54,916    | 11.80        | 14.62 |
|                | lb.            | lb.   | lb.             | 000 lb.     | 000 lb.   |              |       |
| Tobacco.....   | 803.4          | 893.7 | 825.2           | 959,437     | 906,109   | -            | -     |

The average weights per measured bushel for wheat, oats and barley are as follows : Wheat 58.3 lb. against 57.8 lb. last year and 57.7 lb. the ten-year average; oats 33 lb. against 31.1 lb. last year and 31.3 lb. the ten-year average; barley 46.8 lb. against 46 lb. last year and 46.9 lb. in 1910. The per cent quality this year as compared with the ten year average is for corn 101.1, buckwheat 100.9, potatoes 102.4, flaxseed 101.2, tobacco 100.5. The percentage of the 1911 crop of corn on farms at November 1 1912 is estimated at 2.6 p. c. (64,764,000 bushels) against 4.3 p. c. (123,824,000 bushels) of the 1910 crop on farms at Nov. 1 1911 and 3.8 p. c., the average of similar estimates of the past ten years. Of apples the production this year is 69.9 p. c. of a full crop, against 62.4 p. c. last year and 51.3 p. c., the ten-year average. The quality is 83 p. c. against 78.2 p. c. last year and 72.1 p. c. in 1910.

## INTERNATIONAL INSTITUTE OF AGRICULTURE.

According to information received up to October 15, and published in the October issue of the Bulletin of Agricultural Statistics, the total wheat production in 1912 of 23 countries in the northern hemisphere is 3,257,690,000 bushels, or 7·2 p.c. more than in 1911. Rye in 19 countries totals 1,586,000,000 bushels, or 17·8 p.c. above last year. Barley shows a total of 1,279,591,000 bushels in 22 countries, or 5·2 p.c. more than in 1911. Oats yield 3,844,631,000 bushels in 21 countries, which is 20·7 p.c. above last year and corn 3,619,265,000 bushels in 14 countries, a per cent increase of 16·4. In all these cases, excepting corn, the area is less than last year; so that the excess of total yield is entirely due to a better harvest.

The following total shows, for the countries named, the area and production of sugar beet:

Area Condition and Yield of Sugar Beet 1912, compared with 1911.

| Countries             | Area<br>1912 | Per<br>cent of<br>1911 | Condition<br>(100=average<br>yield) |                | Production          |                     |                  |
|-----------------------|--------------|------------------------|-------------------------------------|----------------|---------------------|---------------------|------------------|
|                       |              |                        | Sept. 1<br>1912                     | Aug. 1<br>1912 | estimate<br>of 1912 | obtained<br>in 1911 | p. c. of<br>1911 |
|                       | acres        | p. c.                  | p. c.                               | p. c.          | tons                | tons                | p. c.            |
| Prussia.....          | 1,053,000    | 121·7                  | -                                   | -              | 14,430,000          | 6,610,000           | 218·3            |
| Austria.....          | 649,000      | 105·4                  | -                                   | -              | -                   | -                   | -                |
| Belgium.....          | 163,000      | 108·6                  | -                                   | 105            | 2,006,000           | 1,627,000           | 123·3            |
| Bulgaria.....         | 7,400        | 101·1                  | -                                   | 80             | 50,000              | 68,000              | 72·6             |
| Denmark.....          | 75,000       | 121·7                  | 110                                 | -              | 886,000             | 805,000             | 110·0            |
| Spain.....            | 106,000      | 129·6                  | 100                                 | 100            | 1,189,000           | 964,000             | 123·3            |
| France.....           | 610,000      | 103·1                  | -                                   | -              | -                   | -                   | -                |
| Hungary.....          | 426,000      | 147·2                  | -                                   | -              | -                   | -                   | -                |
| Italy.....            | 131,000      | 99·8                   | -                                   | -              | 1,653,000           | 1,588,000           | 104·1            |
| Netherlands.....      | 155,000      | 113·0                  | 90                                  | -              | -                   | -                   | -                |
| Rumania.....          | 35,000       | 105·6                  | 110                                 | -              | 353,000             | 290,000             | 121·6            |
| Russia in Europe..... | 1,860,000    | 96·7                   | -                                   | -              | -                   | -                   | -                |
| Sweden.....           | -            | -                      | -                                   | 118            | 1,091,000           | 905,000             | 120·6            |
| Canada.....           | 19,000       | 91·0                   | 105                                 | -              | -                   | -                   | -                |
| United States.....    | -            | -                      | 101                                 | 98             | -                   | -                   | -                |

**Winter Sowings for 1912-13.** The preparatory work and sowings for the winter cereals of next year in the northern hemisphere are reported as progressing favourably in England and Wales, France, Belgium, Denmark, Spain and Italy; but these operations, hindered by heavy rains, are backward in Austria, Hungary, Norway, Sweden and Rumania. In Japan thunderstorms in September damaged the autumn sowings of wheat and barley. In Egypt preparatory work for autumn sowings has hardly been commenced, the ground being still occupied by crops of the preceding season. In Tunis conditions are favourable in all parts.



**Southern Hemisphere.** The areas in Argentina sown for the year 1912-13 compared with 1911-12 are estimated as follows :

| Crops          | 1912-13    | 1911-12    | p. c. of<br>1911-12 |
|----------------|------------|------------|---------------------|
|                | acres      | acres      | p. c.               |
| Wheat .....    | 16,971,000 | 17,043,000 | 99·6                |
| Oats .....     | 2,941,000  | 2,548,000  | 115·4               |
| Flaxseed ..... | 4,312,000  | 4,028,000  | 107·1               |

In New Zealand the germination of winter wheat, barley and oats is irregular and the weather conditions are unfavourable. On October 1 the condition of all cereal crops, expressed according to the Institute's scale, was 100. The work of preparation for the sowing of spring cereals is very backward.

## INTERNATIONAL AGRICULTURAL STATISTICS.

The International Institute of Agriculture has published its first Year Book of International Agricultural Statistics<sup>1</sup>, the preparation of which was sanctioned at the General Assembly of the Institute of May 1911. The agricultural statistical departments of various countries, including those of Great Britain and the United States, are accustomed to issue in connection with their own statistics statements of the agricultural statistics of other countries, usually with the foreign weights and measures converted into national equivalents. But apart from the "Essai d'Inventaire" or Trial Inventory, issued by the Institute in 1910, the new "Annuaire" of the Rome Institute is the first attempt to combine, with uniform denominations of measure and weight, the agricultural statistics of the principal countries of the world. As indicated in the preface a great expenditure of time and labour has been necessary for planning the work, collecting the data and effecting the conversions and calculations; but in the result a book of reference has been placed at the disposal of statesmen and students which will enable them to ascertain the agricultural conditions of countries other than their own with an ease and certainty never hitherto possible.

The general scope of the work is explained in an introduction by Professor Umberto Ricci, chief of the General Statistical Office of the Institute, under whose direction the work was carried out. It covers the area and population of each adhering country; the distribution of the surface into productive and non productive areas; and the distribution of productive areas into the seven categories of arable lands, pastures and meadows, vineyards, gardens and orchards, other crops, woods and forests, and marsh, heath and waste lands. The countries dealt with comprise only those adhering to the Institute to the present number of 50. These include almost the whole of the civilised world, and the omission of the few non-adhering countries does

<sup>1</sup> Annuaire International de Statistique Agricole, 1910. 327 pp., 8vo. Imprimerie de l'Institut International d'Agriculture, Rome, 1912.

not materially detract from the value of the work. Only in respect of a few tropical products are there serious gaps in the tables given.

The figures cover the decennial period from 1901 to 1910, except that for the southern hemisphere, where the harvest year extends from one calendar year into another, the period is from 1901-2 to 1910-11. The statistical procedure in compiling the tables is carefully explained, and in a series of notes placed at the end of each set of tables are given the sources, the coefficients and other explanations. For each crop, so far as data are available, two quinquennial averages of areas and total production are calculated, with also similar averages for the decennial period; whilst for the areas and yields of certain of the principal crops index numbers, based upon 100 as representing the data of the first year, are calculated to show the annual variations throughout the decade.

With the view of presenting a comparison between the two quinquennial periods of 1901 to 1905 and 1906 to 1910 for the principal agricultural products in the adhering countries the following table is compiled from the Year Book, Canadian equivalents being substituted for the metric areas and weights. The number of countries to which the data apply is given in each case, for it must be understood that the organisation of agricultural statistics in many of the adhering countries is incomplete. Indeed one purpose served by the Year Book is to show the extent to which this is at present the case.

| Crops           | Countries | Average of five years,<br>1901-1905 |                             | Average of five years,<br>1906-1910 |                             |
|-----------------|-----------|-------------------------------------|-----------------------------|-------------------------------------|-----------------------------|
|                 |           | area                                | total yield                 | area                                | total yield                 |
|                 | No.       | acres                               | bush.                       | acres                               | bush.                       |
| Wheat.....      | 26        | 203,354,000                         | 2,797,877,000               | 213,475,000                         | 2,354,599,000               |
| Rye.....        | 20        | 106,803,000                         | 1,566,307,000               | 106,171,000                         | 1,566,904,000               |
| Barley.....     | 25        | 64,708,000                          | 1,148,905,000               | 71,258,000                          | 1,310,598,000               |
| Oats.....       | 23        | 116,505,000                         | 3,218,270,000               | 127,129,000                         | 3,626,197,000               |
| Corn.....       | 17        | 117,600,000                         | 2,707,910,000               | 126,513,000                         | 3,250,185,000               |
| Flaxseed.....   | 13        | 8,161,000                           | 93,116,000                  | 7,014,000                           | 91,979,000                  |
| Potatoes.....   | 19        | 31,890,000                          | 4,408,779,000<br>short tons | 33,406,000                          | 4,821,455,000<br>short tons |
| Sugar beet..... | 11        | 3,346,000                           | 31,822,000<br>short cwt.    | 3,666,000                           | 36,519,000<br>short cwt.    |
| Hops.....       | 8         | 206,000                             | 1,878,000<br>lb.            | 196,000                             | 1,740,000<br>lb.            |
| Tobacco.....    | 19        | 2,406,000                           | 1,347,475,000               | 2,553,000                           | 1,503,182,000               |

From this table it is apparent that all the crops, save rye, hops and flaxseed show increased net average annual acreages during the second lustrum as compared with the first. Of wheat the net average annual increase is 10,121,000 acres, or 4.7 p.c., of barley 6,550,000 acres, or 10 p.c., of oats 10,624,000 acres, or 9.1 p.c., and of corn 8,913,000 acres, or 7.6 p.c. In total production the net average annual increase represents 156,722,000 bushels, or 5.6 p.c., for wheat, 161,693,000 bushels, or 14.1 p.c., for barley,

407,927,000 bushels, or 12·7 p.c., for oats and 542,275,000 bushels, or 20 p.c., for corn.

Finally the numbers of the principal descriptions of farm live stock are given for 39 adhering countries from data either of the latest census or from the most recent reports of countries where statistics of live stock are issued annually. The total numbers by continental divisions are as follows :

| Division                       | Horses     | Asses and mules | Cattle      | Sheep       | Goats      | Swine       |
|--------------------------------|------------|-----------------|-------------|-------------|------------|-------------|
|                                | No.        | No.             | No.         | No.         | No.        | No.         |
| Northern hemisphere—           |            |                 |             |             |            |             |
| Europe.....                    | 42,912,019 | 4,282,862       | 126,563,674 | 163,118,749 | 16,971,176 | 71,240,915  |
| North and Central America..... | 26,789,750 | 5,299,865       | 79,737,193  | 58,862,590  | 7,237,561  | 62,925,042  |
| Asia.....                      | 12,135,413 | 1,459,847       | 134,581,976 | 56,765,465  | 30,695,290 | 2,121,449   |
| Africa.....                    | 322,986    | 597,652         | 3,826,608   | 10,216,462  | 4,675,565  | 116,952     |
| Total.....                     | 82,160,168 | 11,631,226      | 344,709,451 | 288,963,266 | 59,579,592 | 136,412,358 |
| Southern hemisphere—           |            |                 |             |             |            |             |
| South America....              | 8,833,833  | 772,224         | 39,983,893  | 98,026,159  | 4,441,776  | 1,922,683   |
| Africa.....                    | 428,789    | 86              | 3,554,277   | 30,379,410  | 4,634      | 687,214     |
| Oceania.....                   | 2,529,125  | 519             | 13,518,040  | 116,316,635 | —          | 1,270,942   |
| Total.....                     | 11,791,747 | 772,829         | 57,056,210  | 244,713,204 | 4,446,410  | 3,880,839   |
| Grand total...                 | 93,951,915 | 12,404,055      | 401,765,661 | 533,676,470 | 64,026,002 | 140,293,197 |

NOTE. In Chili asses and mules are included amongst horses. In Bulgaria, Italy, Rumania and Servia the cattle include buffaloes. In European and Asiatic Russia goats are included amongst the sheep.

## YIELD OF CROPS IN ENGLAND AND WALES, 1912.

The Board of Agriculture reports that the acreages and preliminary estimates of yield of the principal crops in England and Wales for 1912 compared with 1911 are as follows :

| Crops                              | 1912      | 1911      | 1912       | 1911       | 1912           | 1911           | Average 10 years 1902-11 |
|------------------------------------|-----------|-----------|------------|------------|----------------|----------------|--------------------------|
|                                    | acres     | acres     | bush.      | bush.      | bush. per acre | bush. per acre | bush. per acre           |
| Wheat.....                         | 1,863,343 | 1,842,532 | 53,681,464 | 59,956,576 | 28·81          | 32·54          | 31·71                    |
| Barley.....                        | 1,456,522 | 1,424,261 | 44,390,928 | 44,697,792 | 30·48          | 31·38          | 33·30                    |
| Oats.....                          | 2,072,479 | 2,047,173 | 73,433,712 | 78,724,760 | 35·43          | 38·46          | 41·59                    |
| Beans.....                         | 271,269   | 295,193   | 7,431,488  | 7,568,376  | 27·40          | 24·96          | 30·17                    |
| Peas.....                          | 173,330   | 139,711   | 3,903,136  | 3,684,936  | 22·52          | 26·38          | 27·28                    |
| Hay from clover, sainfoin, etc.... | 1,554,862 | 1,637,432 | long tons  | long tons  | long cwt       | long cwt       | long cwt                 |
| Hay from permanent grass..         | 4,941,531 | 4,830,823 | 6,094,416  | 4,343,096  | 24·67          | 17·98          | 23·83                    |

The total yield of wheat in England and Wales in 1912 amounts to 53,681,464 bushels, which is more than six million bushels less than last year. The yield per acre, 28.81 bushels, is nearly four bushels less than in 1911, and almost three bushels less than the decennial average. The yield per acre of barley was nearly 1 bushel below that of 1911, and, like wheat, nearly 3 bushels below the average, but in consequence of the increased acreage the total production is very little below that of last year. Oats are more deficient, being fully six bushels per acre below the average, and three bushels below last year; while the total production falls short of 1911 by over five million bushels. Beans are  $2\frac{3}{4}$  bushels below the average, but are better than last year's poor crop. Peas are  $4\frac{1}{4}$  bushels below the average, but in consequence of a considerably increased acreage, the total production is a little above that of 1911. The hay crop is much larger than last year; that from clovers and rotation grasses is nevertheless  $3\frac{1}{2}$  cwt. below the average. Meadow hay is the only one of the seven crops now reported on which shows an over-average yield, although the excess is not more than five sixths of a cwt. The total production of hay of all kinds amounts to 8,125,444 tons, which is nearly two million tons more than was produced in the droughty season of 1911.

## INTERNATIONAL CONGRESS OF DRY FARMING.

By Frank T. Shutt, M.A., F.I.C., Dominion Chemist, Ottawa.

The seventh International Dry Farming Congress was held at Lethbridge, Alberta, from October 21 to 25 1912, and there was also held in connection with it, but lasting a day longer, a fifth International Exposition of Dry Farmed Products. Both Congress and Exposition attracted to Lethbridge a large gathering of agricultural delegates and visitors, the greater number being from the Canadian provinces of Alberta and Saskatchewan and from neighbouring States of the American Union. Delegates also attended as representing ten other foreign countries, Mexico, Brazil, Uruguay and Argentina on the American continent, the European countries of Holland, Germany, Italy, Hungary and Russia and the oriental countries of British India, China, Persia and Palestine. The total number of registered delegates to the Congress was 2,594, most of them, viz., 1,898, from the province of Alberta. Saskatchewan sent 111, Washington State 102, Utah 100, British Columbia 93, Manitoba 56 and Ontario 28 delegates.

The term dry farming is comparatively new, being first used in the 'eighties in the semi-arid districts of the western United States. It is applied to methods of soil management resulting in moisture conservation and which are necessary for profitable agriculture in districts of sparse precipitation. Their systematic adoption therefore in those parts of the Canadian North-west receiving 20 inches of rain annually, or less, will undoubtedly mean the satisfactory settlement of much land hitherto considered too dry to be farmed profitably. It includes, first, deep ploughing (usually in the autumn) to increase the absorptive capacity of the soil; in other words the creation of a large reservoir within the soil for the storage of moisture; secondly,



frequent cultivation of the surface soil during the summer to check evaporation, which is effected by breaking up capillarity and by the formation of a dry earth mulch; and, thirdly, the selection of drouth-resisting crops. Every second or third season (according to moisture conditions) the land is summer-fallowed, that is, it is constantly harrowed to prevent the growth of weeds (which extract much moisture) and to preserve the dry earth mulch. In this way much moisture may be conserved for the succeeding crop. In some districts, with light land especially, an implement known as a sub-surface packer is used after the ploughing, to re-establish capillarity between the sub-soil and that which has been stirred by the plough.<sup>1</sup> This is considered as useful in permitting the upward passage of the moisture from the lower layers of the soil. Dry farming, therefore, may be said to be a system of soil tillage whereby the rain is stored and conserved for the use of crops. The principles involved have been long recognised, but that their systematic application can make general farming possible and profitable in districts where the annual precipitation is as a rule insufficient for good crop yields, is a matter of the last few years. The wide adoption of them undoubtedly means very much to our prairie provinces, for already the evidence is overwhelming that they make practicable the occupation by farmers of areas hitherto only thought suitable for ranching.

Such in principle is the system which has attracted the attention of agriculturists in all the semi-arid countries of the world and which has given rise to seven international dry farming congresses, held at different centres in the United States from 1907 and at Lethbridge in Canada last October. The international importance of such a congress may be inferred from the statement that a special system of tillage to conserve moisture and fertility is estimated to be necessary for at least 63 p. c. of the agricultural acreage of the world.

The Hon. Martin Burrell (Dominion Minister of Agriculture), in an address of welcome to the delegates, emphasised the importance, in districts of scanty precipitation, of paying strict attention to matters of detail in soil culture. He felt assured that the future prosperity of large non-irrigable areas in the Northwest would depend upon how closely the farmers followed the teachings of science in the conservation of soil moisture. He alluded to the valuable work of the Experimental Farms in this connection.

For detailed reports of the numerous practical and scientific addresses and papers delivered at the Congress the reader must be referred to the official report, which will be published by Mr. John T. Burns, Executive Secretary-Treasurer at Oklahoma City, Oklahoma, U.S.A. It may however be stated that the Government of the Dominion of Canada was represented at the Congress by several speakers and readers of papers. Mr. J. H. Grisdale, Director of the Dominion Experimental Farms at Ottawa, gave an address on the work of the Experimental Farms in relation to dry farming and the results obtained, especially with reference to cultural experiments on the western farms. Mr. Frank T. Shutt, Assistant Director of the Farms and Dominion Chemist, dealt with the influence of environment

<sup>1</sup> See article on "Packing the Soil for Wheat", *Census and Statistics Monthly*, Vol. 3 September 1910, p. 197. Ed.

on the composition of wheat and barley<sup>1</sup> and also spoke on soil moisture as affected by tillage; Mr. W. C. McKillican, Superintendent of the Brandon Experimental Farm, with dry farming as applied to soils in Manitoba; Mr. F. C. Nunnick, Agriculturist of the Commission of Conservation, with the conservation of agricultural lands in Canada, and Mr. L. H. Newman, Secretary of the Canadian Seed Growers' Association, with the preparation and distribution of improved seed stocks.

A very interesting paper, and one of some historic value, was read by Mr. Angus Mackay, Superintendent of the Experimental Farm at Indian Head, Saskatchewan. It dealt with summer-fallowing as practised in the prairie provinces and the splendid results which have resulted therefrom. Summer-fallowing is the essential principle of dry farming, and to Mr. Mackay is due the honour of introducing it, in 1888, into the farming practice of the Northwest. He is Canada's pioneer dry farmer, and his work and teachings in this connection during the past quarter of a century have been of inestimable value.

At the Exposition of Dry Farmed Products, held in connection with the Congress, rewards and prizes were offered in six sections of 321 classes. Many of the prizes consisted of agricultural implements given by manufacturers. The prominent part taken by Canadian exhibitors is shown by the fact that out of 484 prizes or rewards 296 were gained by Canadians; the remaining 188 were obtained by exhibitors from the United States. Of 62 prizes for wheat 52 were gained by Canadians and 10 by United States exhibitors. Out of 17 sweepstakes Canada secured 14.

The grand sweepstakes premium for the best bushel of hard wheat raised in 1912 under dry farming conditions was gained by Mr. Henry Holmes, of Raymond, Alberta, for a sample of Marquis wheat, which the Jury of Awards considered to be far ahead of all others; and there were 183 entries in the class. Mr. Holmes also secured with Marquis wheat the first prize in class 6 of section 1 for the best bushel of hard wheat and the sweepstakes premium for the best bushel of Marquis wheat.

Mr. Holmes, who thus achieved such remarkable successes with the new variety produced at the Central Experimental Farm, Ottawa,<sup>2</sup> came to Alberta from Utah in 1900. He bought a section of good clay loam land, and his prize wheat was taken from an eleven acre block grown on land that had been well summer-fallowed in 1911. He sowed the seed at the rate of one bushel to the acre on April 18, and the crop was cut on August 22. He attributes his success to good work on the land while it was in summer fallow and to the use of good seed, he having carefully followed essential features in the methods recommended by the Canadian Seed Growers' Association.

Altogether the Dry Farming Congress and Exposition of 1912—the first to be held in Canada—proved a remarkable success. It will probably have the result of still further stimulating the immigration to western Canada from the United States. One prominent western man who had attended the Congress said to me: "This has been the best advertisement we have ever

<sup>1</sup> See Census and Statistics Monthly for February, 1910, Vol. 3, No. 20, pp. 40-41. Ed.

<sup>2</sup> For previous references to Marquis wheat see Census and Statistics Monthly, Vol. 4, 1911, No. 42 p. 294, No. 43, pages 309 and 322. Ed.

had. We have a great number of our American friends here, and what we have shown them at this Exposition has been a revelation to them. I feel sure it has raised the value of Alberta land \$1 per acre, and you may look for a larger inflow from the south than ever."

## THE WEATHER DURING OCTOBER.

The Dominion Meteorological Office reports that the temperature was below the average over British Columbia, Alberta, nearly the whole of Saskatchewan, also in western Manitoba; elsewhere in the Dominion it was above the average, the largest positive departures, amounting to from 3 to 4 degrees, occurring in the Ottawa and St. Lawrence valleys. The chief negative departures, which aggregated about 3.5 degrees, were experienced in northwestern Saskatchewan and on Vancouver Island. The precipitation was above the average in eastern Ontario, over the whole of Quebec, the larger portion of New Brunswick, and in southern British Columbia; elsewhere in the Dominion the average was not maintained. In eastern Quebec and in New Brunswick the rainfall was heavy, varying from five to seven inches; whereas in our western provinces it was quite light, only a few localities reporting a total fall for the month exceeding much over half an inch. A few light falls of snow or snow flurries were locally experienced.

## COLONIAL AND FOREIGN PRODUCE IN BRITISH MARKETS.

**Wheat, etc.** On October 28 the prices of imported wheats at Mark Lane per quarter of 496 lb. were as follows: American best spring 40s 6d-41s 6d, ordinary 39s 6d-40s 6d, red winter 38s-39s, Australian 41s 6d-42s, New Zealand 40s 9d-41s-3d, Russian finest 41s-42s, good 40s-41s, com. 39s-40s, Californian 41s-41s 6d, Blue Stem 41s-41s 3d, white Walla 40s 6d-40s 9d, red Walla 40s-40s 3d, white Bombay 41s-41s 6d, white Calcutta 40s 9d-41s, white Karachi 40s 6d-40s 9d, red Karachi 40s-40s 3d, Argentine 38s-39s. Canadian oats per 320 lb. 25s-26s, Bahia Blanca per 304 lb. 19s 9d-20s. Buenos Aires per 304 lb. 19s 19s 6d.

**Flour.** On October 28 the Mark Lane prices for imported flour per sack of 280 lb. were: Hungarian 38s-39s, American finest 30s 6d-31s 6d, 1st pat. 30s-30s 6d, 2nd pat. 29s-29s 6d, 1st bak. 28s-28s 3d, 2nd bak. 26s 6d-26s 9d, low grade 21s 6d-22s, Manitoba pat 30s-30s 3d, straights 29s 3d-29s 6d, Kansas best 28s-29s, firsts 27s-28s, seconds 26s-27s, Californian, 31s-32s, Australian 28s 9d-29s, French fine 33s-34s, Belgian 51s-52s, Galatz 34s-35s.

**Fresh Meats.** The average official monthly prices in September were per 112 lb.: Canadian and U.S.A. port-killed, London 57s and 55s; Argentine frozen hind quarters, London 37s; Birmingham and Glasgow 37s 6d; Liverpool and Manchester 38s; Edinburgh 38s 6d; fore quarters, Lon-

don, Birmingham and Glasgow 31s 6d ; Liverpool and Manchester 29s 6d ; Edinburgh 30s ; Argentine chilled hind quarters, London and Edinburgh 46s 6d ; Birmingham 46s ; Liverpool and Manchester 43s 6d ; Glasgow 45s ; fore quarters, London 33s ; Birmingham and Glasgow 32s 6d ; Liverpool, and Manchester 30s 6d ; Edinburgh 34s ; Australian frozen hind quarters, London, Birmingham and Glasgow 36s 6d ; Liverpool and Manchester 35s 6d ; fore quarters, London 30s ; Birmingham 30s 6d ; Liverpool and Manchester 28s ; Glasgow 29s 6d. For the week ended October 28 the prices for Argentine frozen hind quarters were : London, Liverpool, Manchester and Glasgow 32s 8d ; Birmingham, Leeds and Dundee 33s 10d ; Edinburgh 37s 4d ; chilled hind quarters, London 38s 6d ; Birmingham and Edinburgh 42s ; Leeds and Glasgow 39s 8d ; Liverpool, Manchester and Dundee 37s 4d ; Australian frozen hind quarters, London, Birmingham and Leeds 32s 8d ; Liverpool and Manchester 30s 4d ; Glasgow 31s 6d.

**Bacon and Hams.** The average official prices in September for Canadian bacon per 112 lb. were : London 73s and 71s ; Bristol 72s and 70s ; Liverpool 70s 6d and 68s ; Glasgow 73s 6d and 71s 6d. For American long cut hams the prices were : London 65s and 61s 6d ; Bristol 64s and 61s ; Liverpool 64s and 59s 6d ; Glasgow 63s and 62s. For the week ended October 28 the prices for bacon were : Canadian sides, London and Bristol 75s and 73s ; Liverpool and Glasgow 73s and 71s ; Canadian Cumberland cuts, Liverpool 73s and 71s ; Danish sides, London 79s and 77s ; Bristol 80s and 76s ; Liverpool 77s and 72s ; Canadian long cut green hams, London 75s and 70s ; Bristol 74s and 70s ; Liverpool 72s and 68s ; Glasgow 73s and 71s ; American long cut green hams, London 72s and 68s ; Bristol 68s and 66s ; Liverpool 70s and 65s ; Glasgow 68s (first quality) ; American short cut green hams, London 70s and 67s ; Bristol 68s and 65s ; Liverpool 70s and 64s 6d ; Glasgow 67s (first quality).

**Cheese.** The average prices in September for Canadian cheese per 112 lb. were : London 73s and 71s ; Bristol 72s and 70s ; Liverpool 70s 6d and 68s ; Glasgow 73s 6d and 71s 6d. For the week ended October 28 the prices were : London 65s and 64s ; Bristol and Liverpool 66s and 63s 6d ; Glasgow 66s (first quality).

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# CENSUS AND STATISTICS MONTHLY

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No. 54

PUBLISHED BY AUTHORITY OF HONOURABLE GEORGE E. FOSTER, MINISTER OF TRADE AND COMMERCE. CORRESPONDENCE RELATING TO THE CENSUS AND STATISTICS MONTHLY SHOULD BE ADDRESSED TO ARCHIBALD BLUE, CHIEF OFFICER OF THE CENSUS AND STATISTICS OFFICE, DEPARTMENT OF TRADE AND COMMERCE, OTTAWA, CANADA.

## FIELD CROPS OF CANADA

Report for the year ended December 31 1912.

Upon a total area under field crops of 32,449,000 acres a harvest has been reaped the value of which, calculated at average local market prices, makes a total of \$511,951,000. The area under wheat last year was 9,758,400 acres, of which 781,000 acres represents the harvested area of fall wheat grown principally in Ontario and Alberta, but also to a limited extent in Manitoba, Saskatchewan and British Columbia. The total production of wheat was 199,236,000 bushels of the value of \$123,522,000. Fall wheat produced 16,396,000 bushels of the value of \$13,735,000. Oats upon 9,216,900 acres yielded 361,733,000 bushels of the value of \$116,996,000, barley upon 1,415,200 acres yielded 44,014,000 bushels of the value of \$20,405,000 and flax upon 1,677,800 acres yielded 21,681,500 bushels of the value of \$19,626,000.

By comparison with 1911 the results of last year's harvest, both as regards total yield and value, are upon the whole inferior. The average prices realised for most of the crops were somewhat less, whilst the yields from wheat, peas, beans and corn for husking were also lower. On the other hand oats yielded about  $13\frac{1}{2}$  million bushels more than in 1911 and the following crops also show more or less an excess yield, viz., barley, rye, buckwheat, mixed grains, flax, potatoes, turnips, etc., fodder corn, sugar beet and alfalfa.

The average yields per acre for the year 1912 compared with 1911 are as follows : Wheat, 20.42 bushels against 20.87 ; oats, 39.25 against 37.76 ; barley, 31.10 against 28.94 ; rye, 19.06 against 18.89 ; peas, 15.04 against 15.80 ; buckwheat, 26.34 against 22.69 ; mixed grains, 34.38 against 29.78 ; flaxseed, 12.92 against 11.47 ; beans, 17.40 against 19.06 ; corn for husking, 56.58 against 59.59 ; potatoes, 172 against 144 ; turnips, etc., 402 against 374 ; hay and clover, 1.47 ton against 1.61 ; fodder corn, 10.26 tons against 9.92 ; sugar beets, 10.74 tons against 8.66 and alfalfa, 2.79 tons against 2.24.

The quality of the grains of cereals, as shown by average weight per measured bushel, is somewhat inferior to that of last year in the case of wheat,

rye, peas, mixed grains and flax, but is superior in the case of oats, barley, buckwheat, beans and corn for husking.

In the three Northwest provinces of Manitoba, Saskatchewan and Alberta the production of wheat is placed at 183,322,000 bushels compared with 194,083,000 bushels in 1911, of oats at 221,857,000 bushels compared with 212,819,000 and of barley at 26,671,000 bushels compared with 24,043,000 bushels. The wheat production of 1912 in Manitoba was 58,899,000 bushels from 2,653,100 acres, in Saskatchewan 93,849,000 bushels from 4,891,500 acres and in Alberta 30,574,000 bushels from 1,417,200 acres.

Conditions as affecting live stock are reported to have been much the same as those of 1911. Mild weather through the fall and up to Christmas enabled farmers to economise their feeding supplies, and live stock have entered winter quarters in excellent condition.

Census and Statistics Office,  
Ottawa, January 10, 1913.

ARCHIBALD BLUE  
Chief Officer.

### I. Areas and Estimates of Yield and Value of Field Crops, 1912.

| Crops                  | Area      | Yield per acre | Total yield | Weight per measured bush. | Average price | Total value |
|------------------------|-----------|----------------|-------------|---------------------------|---------------|-------------|
|                        | acres     | bush.          | bush.       | lb.                       | \$ per bush.  | \$          |
| Canada—                |           |                |             |                           |               |             |
| Fall wheat .....       | 781,000   | 20 39          | 16,396,000  | 60 21                     | 0 84          | 13,735,000  |
| Spring wheat .....     | 8,977,400 | 20 37          | 182,840,000 | 58 90                     | 0 60          | 109,787,000 |
| All wheat .....        | 9,758,400 | 20 42          | 199,236,000 | 59 22                     | 0 62          | 123,522,000 |
| Oats .....             | 2,216,900 | 39 25          | 361,733,000 | 35 40                     | 0 32          | 116,996,000 |
| Barley .....           | 1,415,200 | 31 10          | 44,014,000  | 47 59                     | 0 46          | 20,405,000  |
| Rye .....              | 136,110   | 19 06          | 2,594,000   | 54 84                     | 0 73          | 1,904,000   |
| Peas .....             | 250,820   | 15 04          | 3,773,500   | 56 88                     | 1 26          | 4,771,800   |
| Buckwheat .....        | 387,000   | 26 34          | 10,193,000  | 47 62                     | 0 62          | 6,337,000   |
| Mixed grains .....     | 522,100   | 34 38          | 17,952,000  | 44 48                     | 0 59          | 10,690,000  |
| Flax .....             | 1,677,800 | 12 92          | 21,681,500  | 54 88                     | 0 91          | 19,626,000  |
| Beans .....            | 59,800    | 17 40          | 1,040,800   | 59 05                     | 2 20          | 2,291,500   |
| Corn for husking ..... | 292,850   | 56 58          | 10,563,500  | 55 67                     | 0 62          | 10,325,400  |
| Potatoes .....         | 472,400   | 172 19         | 81,343,000  | —                         | 0 39          | 32,173,000  |
| Turnips, etc. ....     | 217,400   | 402 51         | 87,505,000  | —                         | 0 23          | 20,713,000  |
|                        |           | tons           | tons        |                           | per ton.      |             |
| Hay and clover .....   | 7,633,500 | 1 47           | 11,189,000  | —                         | 11 07         | 124,009,000 |
| Fodder corn .....      | 278,740   | 10 26          | 2,858,900   | —                         | 4 74          | 13,557,500  |
| Sugar beets .....      | 18,000    | 10 74          | 204,000     | —                         | 5 00          | 1,020,000   |
| Alfalfa .....          | 111,500   | 2 79           | 310,100     | —                         | 11 65         | 3,609,900   |
| P. E. Island—          |           | bush.          | bush.       |                           | per bush.     |             |
| Spring wheat .....     | 30,700    | 18 39          | 565,000     | 58 93                     | 0 96          | 542,000     |
| Oats .....             | 177,000   | 40 77          | 7,216,000   | 37 16                     | 0 43          | 3,103,000   |
| Barley .....           | 4,400     | 32 04          | 141,000     | 47 75                     | 0 65          | 92,000      |
| Peas .....             | 70        | 22 33          | 1,600       | 59 00                     | 1 14          | 1,800       |
| Buckwheat .....        | 2,700     | 36 83          | 99,000      | 46 55                     | 0 64          | 63,900      |
| Mixed grains .....     | 7,500     | 45 83          | 344,000     | 44 35                     | 0 49          | 169,000     |
| Potatoes .....         | 31,600    | 206 30         | 6,522,000   | —                         | 0 26          | 1,696,000   |
| Turnips, etc. ....     | 7,200     | 440 75         | 3,173,000   | —                         | 0 21          | 666,000     |
|                        |           | tons           | tons        |                           | per ton       |             |
| Hay and clover .....   | 188,000   | 1 28           | 240,000     | —                         | 11 64         | 2,794,000   |
| Fodder corn .....      | 260       | 6 00           | 1 500       | —                         | 4 00          | 6,000       |
| Alfalfa .....          | 30        | 2 63           | 79          | —                         | 10 00         | 800         |

## I. Areas and Estimates of Yield and Value of Field Crops, 1912—con.

| Crops                 | Area      | Yield<br>per<br>acre | Total<br>yield | Weight<br>per mea-<br>sured<br>bushel | Average<br>price | Total value |
|-----------------------|-----------|----------------------|----------------|---------------------------------------|------------------|-------------|
|                       | acres     | bush.                | bush.          | lb.                                   | \$<br>per bush.  | \$          |
| Nova Scotia—          |           |                      |                |                                       |                  |             |
| Spring wheat.....     | 12,800    | 20 19                | 258,000        | 58 82                                 | 1 08             | 279,000     |
| Oats.....             | 97,600    | 32 53                | 3,175,000      | 33 41                                 | 0 53             | 1,683,000   |
| Barley.....           | 5,600     | 27 22                | 152,000        | 48 06                                 | 0 77             | 117,000     |
| Rye.....              | 910       | 16 40                | 15,000         | 55 29                                 | 0 82             | 12,000      |
| Peas.....             | 190       | 25 50                | 4,900          | 60 43                                 | 1 82             | 9,000       |
| Buckwheat.....        | 7,500     | 26 27                | 197,000        | 47 72                                 | 0 65             | 128,000     |
| Mixed grains.....     | 4,300     | 34 70                | 149,000        | 44 10                                 | 0 68             | 101,000     |
| Beans.....            | 900       | 26 95                | 24,000         | 59 73                                 | 2 51             | 60,000      |
| Corn for husking..... | 150       | 58 50                | 8,800          | 58 33                                 | 0 84             | 7,400       |
| Potatoes.....         | 27,000    | 298 57               | 8,061,000      | —                                     | 0 47             | 379,000     |
| Turnips, etc.....     | 10,000    | 475 54               | 4,755,000      | —                                     | 0 34             | 1,617,000   |
|                       |           | tons                 | tons           |                                       | per ton          |             |
| Hay and clover.....   | 478,000   | 1 58                 | 755,000        | —                                     | 12 82            | 9,679,000   |
| Fodder corn.....      | 600       | 8 58                 | 5,100          | —                                     | 5 00             | 25,500      |
| Alfalfa.....          | 30        | 3 50                 | 105            | —                                     | 12 00            | 1,300       |
| New Brunswick—        |           | bush.                | bush.          |                                       | per bush.        |             |
| Spring wheat.....     | 12,400    | 18 11                | 225,000        | 56 62                                 | 0 75             | 169,000     |
| Oats.....             | 188,000   | 28 81                | 5,359,000      | 31 20                                 | 0 53             | 2,840,000   |
| Barley.....           | 2,500     | 27 42                | 69,000         | 46 88                                 | 0 66             | 46,000      |
| Peas.....             | 560       | 16 14                | 9,000          | 63 88                                 | 1 53             | 14,000      |
| Buckwheat.....        | 60,500    | 24 36                | 1,474,000      | 47 14                                 | 0 62             | 914,000     |
| Mixed grains.....     | 1,300     | 27 36                | 36,000         | 43 67                                 | 0 73             | 26,000      |
| Beans.....            | 300       | 19 25                | 5,800          | 58 14                                 | 2 84             | 16,500      |
| Potatoes.....         | 42,300    | 174 64               | 7,387,000      | —                                     | 0 42             | 3,103,000   |
| Turnips, etc.....     | 8,800     | 284 75               | 2,506,000      | —                                     | 0 32             | 802,000     |
|                       |           | tons                 | tons           |                                       | per ton          |             |
| Hay and clover.....   | 358,000   | 1 48                 | 826,000        | —                                     | 10 12            | 8,359,000   |
| Fodder corn.....      | 180       | 7 30                 | 1,300          | —                                     | 6 13             | 8,000       |
| Alfalfa.....          | 140       | 2 00                 | 280            | —                                     | 10 00            | 2,800       |
| Quebec—               |           | bush.                | bush.          |                                       | per bush.        |             |
| Spring wheat.....     | 63,100    | 16 17                | 1,020,000      | 57 96                                 | 1 18             | 1,204,000   |
| Oats.....             | 1,170,400 | 25 86                | 30,267,000     | 33 93                                 | 0 54             | 16,344,000  |
| Barley.....           | 91,300    | 23 69                | 2,163,000      | 46 95                                 | 0 79             | 1,709,000   |
| Rye.....              | 19,200    | 15 44                | 296,000        | 63 57                                 | 0 95             | 281,000     |
| Peas.....             | 20,000    | 15 11                | 438,000        | 53 96                                 | 2 03             | 880,000     |
| Buckwheat.....        | 114,600   | 26 44                | 3,030,000      | 47 27                                 | 0 73             | 2,212,000   |
| Mixed grains.....     | 120,600   | 26 74                | 3,209,000      | 44 21                                 | 0 67             | 2,150,000   |
| Flax.....             | 1,300     | 9 66                 | 12,500         | 53 07                                 | 1 76             | 22,000      |
| Beans.....            | 9,400     | 16 59                | 147,000        | 57 31                                 | 2 55             | 375,000     |
| Corn for husking..... | 21,000    | 24 47                | 514,000        | 55 71                                 | 1 03             | 529,000     |
| Potatoes.....         | 128,000   | 137 11               | 17,632,000     | —                                     | 0 35             | 6,171,000   |
| Turnips, etc.....     | 13,100    | 251 60               | 3,296,000      | —                                     | 0 28             | 923,000     |
|                       |           | tons                 | tons           |                                       | per ton          |             |
| Hay and clover.....   | 2,750,000 | 1 22                 | 3,355,000      | —                                     | 9 36             | 31,403,000  |
| Fodder corn.....      | 36,300    | 7 38                 | 268,000        | —                                     | 3 79             | 1,016,000   |
| Alfalfa.....          | 10,000    | 2 75                 | 27,500         | —                                     | 9 00             | 248,000     |
| Ontario—              |           | bush.                | bush.          |                                       | per bush.        |             |
| Fall wheat.....       | 561,000   | 20 63                | 11,573,000     | 60 53                                 | 0 92             | 10,647,000  |
| Spring wheat.....     | 110,000   | 18 77                | 2,065,000      | 57 93                                 | 0 88             | 1,817,000   |
| All wheat.....        | 671,000   | 20 32                | 13,638,000     | 59 74                                 | 0 91             | 12,464,000  |
| Oats.....             | 2,637,000 | 34 85                | 91,899,000     | 34 38                                 | 0 41             | 37,679,000  |
| Barley.....           | 500,000   | 29 49                | 14,745,000     | 47 15                                 | 0 61             | 8,994,000   |
| Rye.....              | 95,000    | 18 38                | 1,746,000      | 55 70                                 | 0 75             | 1,310,000   |
| Peas.....             | 220,000   | 14 95                | 3,289,000      | 58 95                                 | 1 16             | 3,815,000   |
| Buckwheat.....        | 201,700   | 26 74                | 5,393,000      | 48 29                                 | 0 56             | 3,020,000   |
| Mixed grains.....     | 389,000   | 36 54                | 14,214,000     | 44 96                                 | 0 58             | 8,244,000   |

## I. Areas and Estimates of Yield and Value of Field Crops, 1912—con.

| Crops                 | Area      | Yield<br>per<br>acre | Total<br>yield | Weight<br>per<br>meas' red<br>bushel | Average<br>price | Total value |
|-----------------------|-----------|----------------------|----------------|--------------------------------------|------------------|-------------|
|                       |           |                      |                |                                      | \$               | \$          |
| Ontario—con.          | acres     | bush.                | bush.          | lb.                                  | per bush.        |             |
| Flax.....             | 8,100     | 16.70                | 135,000        | 52.82                                | 1.62             | 219,000     |
| Beans.....            | 49,200    | 17.57                | 864,000        | 61.27                                | 2.13             | 1,849,000   |
| Corn for husking..... | 271,700   | 59.06                | 16,047,000     | 55.50                                | 0.61             | 9,789,000   |
| Potatoes.....         | 153,500   | 143.90               | 22,089,000     | —                                    | 0.59             | 13,053,000  |
| Turnips, etc.....     | 148,000   | 436.25               | 64,565,000     | —                                    | 0.19             | 12,267,000  |
|                       |           | tons                 | tons           |                                      | per ton          |             |
| Hay and clover.....   | 3,240,000 | 1.62                 | 5,249,000      | —                                    | 12.04            | 63,138,000  |
| Fodder corn.....      | 241,400   | 10.70                | 2,583,000      | —                                    | 4.84             | 12,502,000  |
| Sugar beets.....      | 17,000    | 11.16                | 190,000        | —                                    | 5.00             | 950,000     |
| Alfalfa.....          | 85,000    | 2.76                 | 235,000        | —                                    | 11.75            | 2,761,000   |
| Manitoba—             |           | bush.                | bush.          |                                      | per bush.        |             |
| Fall wheat.....       | 3,100     | 22.22                | 69,000         | 59.13                                | 0.67             | 46,000      |
| Spring wheat.....     | 2,650,000 | 22.20                | 58,830,000     | 60.77                                | 0.67             | 39,416,000  |
| All wheat.....        | 2,653,100 | 22.20                | 58,899,000     | 60.65                                | 0.67             | 39,462,000  |
| Oats.....             | 1,269,000 | 42.40                | 53,806,000     | 35.63                                | 0.28             | 15,066,000  |
| Barley.....           | 454,600   | 32.92                | 14,965,000     | 47.47                                | 0.37             | 5,537,000   |
| Flax.....             | 94,000    | 12.49                | 1,174,000      | 55.76                                | 1.04             | 1,221,000   |
| Potatoes.....         | 24,900    | 231.55               | 5,766,000      | —                                    | 0.35             | 2,018,000   |
| Turnips, etc.....     | 4,700     | 354.20               | 1,665,000      | —                                    | 0.38             | 633,000     |
|                       |           | tons                 | tons           |                                      | per ton          |             |
| Hay and clover.....   | 141,000   | 1.71                 | 241,000        | —                                    | 9.40             | 2,265,000   |
| Alfalfa.....          | 2,900     | 2.73                 | 7,900          | —                                    | 9.20             | 72,700      |
| Saskatchewan—         |           | bush.                | bush.          |                                      | per bush.        |             |
| Fall wheat.....       | 53,000    | 21.56                | 1,143,000      | 59.50                                | 0.76             | 869,000     |
| Spring wheat.....     | 4,838,500 | 19.16                | 92,706,000     | 59.63                                | 0.56             | 51,915,000  |
| All wheat.....        | 4,891,500 | 19.18                | 93,849,000     | 59.63                                | 0.56             | 52,784,000  |
| Oats.....             | 2,285,600 | 45.99                | 105,115,000    | 36.64                                | 0.23             | 24,176,000  |
| Barley.....           | 180,300   | 32.87                | 5,926,000      | 48.15                                | 0.33             | 1,956,000   |
| Flax.....             | 1,463,000 | 12.94                | 18,931,000     | 55.32                                | 0.89             | 16,849,000  |
| Potatoes.....         | 25,500    | 209.70               | 5,347,000      | —                                    | 0.40             | 2,139,000   |
| Turnips, etc.....     | 9,800     | 304.47               | 2,984,000      | —                                    | 0.42             | 1,253,000   |
|                       |           | tons                 | tons           |                                      | per ton          |             |
| Hay and clover.....   | 20,600    | 1.70                 | 35,000         | —                                    | 7.71             | 270,000     |
| Alfalfa.....          | 1,100     | 2.19                 | 2,400          | —                                    | 11.66            | 28,000      |
| Alberta—              |           | bush.                | bush.          |                                      | per bush.        |             |
| Fall wheat.....       | 161,000   | 21.83                | 3,515,000      | 59.63                                | 0.59             | 2,074,000   |
| Spring wheat.....     | 1,256,200 | 21.54                | 27,059,000     | 58.01                                | 0.53             | 14,341,000  |
| All wheat.....        | 1,417,200 | 21.57                | 30,574,000     | 58.52                                | 0.54             | 16,415,000  |
| Oats.....             | 1,359,300 | 46.30                | 62,936,000     | 38.94                                | 0.24             | 15,105,000  |
| Barley.....           | 174,900   | 33.05                | 5,780,000      | 48.12                                | 0.33             | 1,907,000   |
| Rye.....              | 21,000    | 25.56                | 537,000        | 54.00                                | 0.56             | 301,000     |
| Flax.....             | 111,400   | 12.83                | 1,429,000      | 54.76                                | 0.92             | 1,315,000   |
| Potatoes.....         | 26,000    | 211.64               | 5,503,000      | —                                    | 0.39             | 2,146,000   |
| Turnips, etc.....     | 13,000    | 260.98               | 3,393,000      | —                                    | 0.57             | 1,933,000   |
|                       |           | tons                 | tons           |                                      | per ton          |             |
| Hay and clover.....   | 174,000   | 1.70                 | 296,000        | —                                    | 9.09             | 2,691,000   |
| Sugar beets.....      | 2,000     | 7.00                 | 14,000         | —                                    | 5.00             | 70,000      |
| Alfalfa.....          | 8,300     | 2.56                 | 21,000         | —                                    | 10.70            | 225,000     |
| British Columbia—     |           | bush.                | bush.          |                                      | per bush.        |             |
| Fall wheat.....       | 2,900     | 33.00                | 96,000         | 58.50                                | 1.03             | 99,000      |
| Spring wheat.....     | 3,700     | 30.33                | 112,000        | 60.25                                | 0.93             | 104,000     |
| All wheat.....        | 6,600     | 31.51                | 208,000        | 59.66                                | —                | 203,000     |
| Oats.....             | 35,000    | 56.00                | 1,960,000      | 35.00                                | 0.51             | 1,000,000   |
| Barley.....           | 1,600     | 45.33                | 73,000         | 48.00                                | 0.64             | 47,000      |
| Peas.....             | 1,000     | 30.66                | 31,000         | 62.50                                | 1.38             | 43,000      |
| Potatoes.....         | 13,000    | 233.15               | 3,036,000      | —                                    | 0.49             | 1,488,000   |
| Turnips, etc.....     | 2,800     | 415.90               | 1,168,000      | —                                    | 0.53             | 619,000     |
|                       |           | tons                 | tons           |                                      | per ton          |             |
| Hay and clover.....   | 84,000    | 2.28                 | 192,000        | —                                    | 17.45            | 3,350,000   |
| Alfalfa.....          | 3,800     | 4.20                 | 15,900         | —                                    | 17.00            | 270,300     |



### II. Comparative Areas of Wheat, Oats and Barley in the Northwest Provinces for the years 1912-11-06-05 and 1900.

| Provinces            | 1912      | 1911      | 1906      | 1905      | 1900      |
|----------------------|-----------|-----------|-----------|-----------|-----------|
|                      | acres     | acres     | acres     | acres     | acres     |
| Northwest provinces— |           |           |           |           |           |
| Wheat.....           | 8,961,800 | 9,301,293 | 5,062,493 | 3,941,369 | 2,495,466 |
| Oats.....            | 4,913,900 | 4,563,203 | 2,309,439 | 1,697,170 | 833,390   |
| Barley.....          | 809,800   | 761,738   | 622,734   | 370,850   | 162,557   |
| Manitoba—            |           |           |           |           |           |
| Wheat.....           | 2,653,100 | 2,979,734 | 2,721,079 | 2,417,253 | 1,965,193 |
| Oats.....            | 1,269,060 | 1,260,736 | 931,282   | 779,279   | 573,848   |
| Barley.....          | 454,600   | 433,067   | 396,986   | 249,218   | 139,660   |
| Saskatchewan—        |           |           |           |           |           |
| Wheat.....           | 4,891,500 | 4,704,660 | 2,117,484 | 1,376,281 | 487,170   |
| Oats.....            | 2,285,600 | 2,124,057 | 901,646   | 606,346   | 141,517   |
| Barley.....          | 180,300   | 172,253   | 77,573    | 40,732    | 11,798    |
| Alberta—             |           |           |           |           |           |
| Wheat.....           | 1,417,200 | 1,616,899 | 223,930   | 147,835   | 43,103    |
| Oats.....            | 1,359,300 | 1,178,410 | 476,511   | 311,545   | 118,025   |
| Barley.....          | 174,900   | 156,418   | 108,175   | 80,900    | 11,099    |

### III. Comparative Yields of Wheat, Oats and Barley in the Northwest Provinces for the years 1912-11-06-05 and 1900.

| Provinces            | 1912        | 1911        | 1906        | 1905       | 1900       |
|----------------------|-------------|-------------|-------------|------------|------------|
|                      | bush.       | bush.       | bush.       | bush.      | bush.      |
| Northwest provinces— |             |             |             |            |            |
| Wheat.....           | 183,322,000 | 194,083,000 | 110,586,824 | 82,461,627 | 23,456,859 |
| Oats.....            | 221,857,000 | 212,819,000 | 110,569,628 | 68,810,855 | 16,653,681 |
| Barley.....          | 26,671,000  | 24,043,000  | 18,684,669  | 10,971,755 | 3,141,121  |
| Manitoba—            |             |             |             |            |            |
| Wheat.....           | 58,899,000  | 60,275,000  | 54,472,198  | 47,626,586 | 18,352,929 |
| Oats.....            | 53,806,000  | 57,893,000  | 44,643,300  | 31,458,692 | 10,952,365 |
| Barley.....          | 14,965,000  | 14,447,000  | 11,979,554  | 7,544,150  | 2,666,567  |
| Saskatchewan—        |             |             |             |            |            |
| Wheat.....           | 93,849,000  | 97,665,000  | 50,182,359  | 31,799,198 | 4,306,091  |
| Oats.....            | 105,115,000 | 97,962,000  | 41,899,257  | 25,623,849 | 2,270,657  |
| Barley.....          | 5,926,000   | 5,445,000   | 2,828,587   | 1,196,419  | 187,211    |
| Alberta—             |             |             |             |            |            |
| Wheat.....           | 30,574,000  | 36,143,000  | 5,932,267   | 3,035,843  | 797,839    |
| Oats.....            | 62,936,000  | 56,964,000  | 24,027,071  | 11,728,314 | 3,791,259  |
| Barley.....          | 5,780,000   | 4,151,000   | 3,876,468   | 2,231,186  | 287,343    |

## VINTAGE OF ONTARIO, 1912.

The Fruit Division of the Dairy and Cold Storage Branch of the Department of Agriculture reports that the production of grapes, the growth of which for commercial purposes is limited to Ontario, amounted in 1912 to about 40,700 short tons from 11,634 acres, an average of about  $3\frac{1}{4}$  tons per acre. In the counties of Wentworth, Welland and Lincoln there are 5,685 acres of vineyard, and it is usually estimated that about one-third of the product of these vineyards is made into wine; but no official statistics are available. The season of 1912 was favourable for the growth of grapes, though the quality for wine purposes was not quite up to the standard, the season being too cold and moist.

## WINTER FEED FOR LIVE STOCK.

Correspondents were requested to answer "yes" or "no" in each case to the question as to whether the supplies of hay, straw, ensilage, grain and roots were expected to suffice for the needs of live stock during winter. The percentage of the affirmative replies is given in the following table :

**Winter Feed for Live Stock.**

| Provinces             | Hay   | Straw | Ensilage | Grain | Roots |
|-----------------------|-------|-------|----------|-------|-------|
|                       | p. c. | p. c. | p. c.    | p. c. | p. c. |
| Canada—               |       |       |          |       |       |
| P. E. Island.....     | 83    | 100   | 64       | 100   | 90    |
| Nova Scotia.....      | 75    | 87    | 46       | 47    | 57    |
| New Brunswick.....    | 82    | 91    | 36       | 57    | 58    |
| Quebec.....           | 80    | 84    | 32       | 66    | 45    |
| Ontario.....          | 95    | 85    | 65       | 84    | 73    |
| Manitoba.....         | 72    | 99    | 72       | 95    | 63    |
| Saskatchewan.....     | 59    | 99    | 12       | 99    | 47    |
| Alberta.....          | 84    | 100   | 53       | 100   | 90    |
| British Columbia..... | 85    | 75    | 33       | 45    | 91    |

## YIELDS OF GRAIN IN NORTHWEST PROVINCES.

With a view to obtain an additional source of information respecting the average estimated yields per acre of wheat, rye, barley, oats and flax in the three Northwest provinces a circular letter was addressed on November 15 to the postmasters in Manitoba, Saskatchewan and Alberta, asking them to give their estimates of the yield per acre for each crop in the district served by their office. In preparing these estimates it was suggested that each postmaster should avail himself of reports from individual farmers and also from the owners of threshing machines. The number of circulars issued was about 2,800 and of these about 1,300, or 46 p.c., replied. The following statement shows for each province and crop the average yields per acre as reported by the postmasters who replied :

| Crop              | Manitoba          | Saskatchewan      | Alberta           | Northwest<br>Provinces |
|-------------------|-------------------|-------------------|-------------------|------------------------|
|                   | bush. per<br>acre | bush. per<br>acre | bush. per<br>acre | bush. per<br>acre      |
| Fall wheat.....   | 22·36             | 22·88             | 24·96             | 24·24                  |
| Spring wheat..... | 19·58             | 22·25             | 23·28             | 21·82                  |
| All wheat.....    | 19·79             | 22·30             | 23·81             | 22·19                  |
| Rye.....          | 21·91             | 20·76             | 25·75             | 24·96                  |
| Barley.....       | 33·81             | 35·11             | 34·11             | 34·43                  |
| Oats.....         | 44·82             | 50·11             | 48·31             | 48·11                  |
| Flaxseed.....     | 13·66             | 14·62             | 13·97             | 14·25                  |

It will be noticed from this statement that the average yields, while in some cases similar to those in Table 1, are in general higher. They are

based however upon estimates made a month earlier and upon fewer returns than those received from our usual crop reporting correspondents. Upon the whole therefore it was thought better to use the estimates of our regular correspondents for the calculation of total yields and values, the error, if any, in doing so being in the direction rather of under than of over-estimation.

### QUALITY OF GRAIN CROPS.

The total yields, the yields per acre and the average price, as recorded in Table 1, relate to bushels of the Canadian legal weight for each grain, viz., 60 lb. per bushel for wheat, peas and beans, 56 lb. for corn, rye and flaxseed, 48 lb. for barley and buckwheat and 34 lb. for oats. The weight per measured imperial bushel is recorded in column 5 of Table 1. It represents the natural weight of the grain and is an indication of its quality due to the character of the season. In the following table the quality of the grain crops for 1912 is compared with that of the four previous years:

Quality of Grain Crops as indicated by weight per measured bushel,  
1912-11-10-09-08.

| Crop                  | 1912  | 1911  | 1910  | 1909  | 1908  |
|-----------------------|-------|-------|-------|-------|-------|
|                       | lb.   | lb.   | lb.   | lb.   | lb.   |
| Fall wheat.....       | 60.21 | 61.12 | 60.11 | 60.41 | 60.30 |
| Spring wheat.....     | 58.90 | 59.21 | 59.71 | 59.50 | 58.51 |
| Oats.....             | 35.40 | 34.65 | 36.08 | 35.65 | 35.47 |
| Barley.....           | 47.59 | 46.97 | 47.69 | 47.09 | 42.02 |
| Rye.....              | 54.84 | 55.11 | 55.72 | 54.53 | 55.58 |
| Peas.....             | 56.88 | 59.58 | 58.73 | 60.92 | 57.25 |
| Buckwheat.....        | 47.62 | 47.32 | 47.83 | 47.73 | 47.49 |
| Mixed grains.....     | 44.48 | 45.10 | 45.45 | 44.39 | 45.25 |
| Flax.....             | 54.88 | 58.29 | 54.96 | 55.56 | 54.23 |
| Beans.....            | 59.05 | 58.30 | 59.81 | 60.23 | 59.18 |
| Corn for husking..... | 55.67 | 50.31 | 57.14 | 57.80 | 59.59 |

### NOTES OF REPORTS FROM THE PROVINCES.

**Maritime Provinces.** Up to the end of the year the winter was mild, and cattle have been housed in good condition. In Prince Edward Island winter feed is abundant, and the fine fall enabled farmers to save about three weeks' supplies of fodder. In parts of Nova Scotia the farmers do not raise enough grain to carry their stock through the winter, and as hay this season is scarce many are selling off their cattle. A correspondent reports losses from ragwort, and states that the deaths of cattle caused by the eating of this weed are on the increase. In New Brunswick the supply of fodder is abundant and live stock are in good condition.

**Quebec and Ontario.** In Quebec the supplies of silage, grain and roots are low. The mild fall however enabled live stock to be kept out late, and this economised supplies. There appears to be a general absence of silos, and the excessive wet caused spoilage of corn where grown. Corn for fodder might be more extensively cultivated in this province to advantage. In Ontario live stock entered the stables in good shape. Feed is plentiful,

though mostly of the rougher varieties. Corn is reported as poor, while roots are fairly good. Dairy cattle are scarce and dear. A correspondent in northern Ontario reports the destruction of 75 sheep by wolves. The want of sufficient farm help is a general source of complaint.

**Northwest Provinces.** The mild fall and early winter have been most favourable for live stock, which have been maintained in good condition at comparatively little expense. In Alberta live stock were still grazing on the ranges on December 24, and almost no winter feeding had then been necessary. In Manitoba the yields were reduced by high wind storms at harvest time, which shelled much grain. Grain prices have fallen while the price of cattle remains high, and in Saskatchewan farmers are contemplating more devotion to cattle raising. One correspondent in this province reports a drop of 20 cents per bushel in the prices of wheat and flax after close of navigation. The fine fall was favourable for threshing.

**British Columbia.** So much land being devoted to fruit and vegetable growing winter feed is brought largely from Alberta and the United States. Silage corn and root acreages are on the increase owing to the extension of the live stock and dairying industries. The mild fall and winter have meant a great saving in winter feed.

## PRODUCTION OF BEET ROOT SUGAR, 1911-12.

The total quantity of raw sugar manufactured from Canadian-grown sugar beet during the campaign of 1911-12 is returned as 24,877,857 lb. Of this quantity 12,693,359 lb. was manufactured at Wallaceburg and 9,979,432 lb. at Berlin in Ontario. At Wallaceburg the acreage planted to sugar beets was 6,314, the quantity received was 61,226 short tons, the total price paid to growers was \$318,446, the average price per ton was \$5.20, and the sugar content was 13.16. At Berlin the acreage planted was 4,450, the quantity received was 37,866 short tons, the total price paid to growers was \$232,975, the average price was \$6.15 per ton and the sugar content was 15.48.

## NOTICE TO CROP REPORTING CORRESPONDENTS.

The work of crop reporting will be resumed in the spring with the usual inquiry as to the amount of grain in farmers' hands at March 31 1913 and as to the proportion of the harvest of 1912 that proved to be of merchantable quality. This opportunity is taken of expressing cordial thanks to the crop-reporting correspondents of the Census and Statistics Office for their careful and painstaking work during the year 1912.

## DEPARTMENTAL NOTES.

**Experimental Farms and Stations.** At the Central Farm, Ottawa the temperatures recorded during November range slightly higher than for the corresponding month in 1911—the highest being 58.4, the lowest 5.2, and the mean 34.42, compared with extremes of 60 and 5.8 and a mean of 30.43, last year. The precipitation, made up of 2.59 inches of rain and 23 inches of snow, totals 4.89 inches, as against only 2.93 inches in this month a year ago. The bright sunshine averages 2.79 hours per day, while in November, 1911, the daily average was 2.7 hours.



Up to the occurrence of the heavy snow storm of the 24th-25th, conditions were quite favourable for the winding up of outside work on the Farm for the season. The work of ploughing the land and the pulling of the root crop was completed early in the month, and the new drain tiles were put in in some places and repairs made to some of the old ones. The live stock have all been brought into winter quarters in good condition.

J. A. Clark, Superintendent of the Station at Charlottetown, P.E.I., reports: "The first ten days of November were mild and pleasant, with a fair amount of sunshine. The remainder of the month was dull and cold, with scarcely any sunshine. On the 29th there was a heavy snowfall, which made fair sleighing. The turnip crop was heavy; it was saved before the middle of the month. Fall work on the land, including the ridging up of the land, has been completed. Pens have been erected and ninety lambs purchased for experimental feeding. The hardy annual and perennial flowers continued blooming until the 12th."

Robert Robertson, Superintendent of the Farm at Nappan, N.S., reports: "November has been favourable for outside work, the first snow of consequence being a fall of five inches on the 29th. The pulling of the turnips was finished during the early days of the month. Ploughing was nearly all done by the 15th, while the threshing was completed about a week later. Steers and lambs have been bought for feeding. The steers have been dehorned and the herd of cattle on the Experimental Farm tested with tuberculin."

G. A. Langelier, Superintendent of the Station at Cap Rouge, Quebec, reports: "The bright sunshine during November aggregates only 26.2 hours. The roads were good for sleighing on the 14th; but wheels had to be returned to on the 22nd, sleighing being resorted to again on the 26th. It is to be regretted that the first snow did not remain, as if hard frosts are experienced before another snowfall it is feared the meadows will suffer greatly. At the Experimental Station the work during the month consisted mainly in taking care of the live stock and getting firewood. At the Station there are now seven registered French Canadian mares and fillies, five of which are in foal, having been bred to a thoroughbred stallion of the same breed. With two or three more mares to be bought next year this will constitute without doubt the best stud of French Canadian horses in Canada."

W. C. McKillican, Superintendent of the Farm at Brandon, Man., reports: "November has been an exceptionally fine month; there has been no rain, practically no snow, and no zero weather. It has given the farmers of Manitoba a great opportunity to finish up work. Threshing, which was so badly delayed in the early fall, is now fairly well finished up all over the province. In this neighbourhood ploughing was possible until the 21st. Excellent roads have prevailed for the shipping of grain, which has been delivered so rapidly as to cause congestion at the lake front. Work on the Experimental Farm has consisted chiefly in ploughing, spreading manure, and the care of the stock. A carload of steers and a hundred lambs have been bought in for feeding experiments."

Angus Mackay, Superintendent of the Farm at Indian Head, Sask., reports: "November has been very favourable for all outside farm work. Ploughing has been possible up to nearly the end of the month, while for

the threshing and teaming of grain conditions could hardly have been more favourable. On three occasions there have been light falls of snow, but the snow in each instance passed away nearly as fast as it fell. Work on the Experimental Farm included the preparing and shipping of a carload of seed grain to Ottawa, ploughing and disking the land, drawing gravel for the roads, cleaning seed grain for sale and caring for live stock. Work on the new horse stable was carried on during the month, but the building is not yet completed."

Wm. A. Munro, Superintendent of the Station at Rosthern, Sask., reports: "The weather during November has been remarkably mild for the season. A little snow fell in the early part of the month, but not sufficient for sleighing. It left the roads however in excellent condition for wheels. As a consequence farmers throughout the district have been busy hauling grain when they could get accommodation for shipping at the railway yards; but unfortunately there has been such a congestion of traffic that upwards of two hundred cars have been on the order book ahead of the supply. Stockmen in the country feel very much favoured by having such an open and mild winter as this has been so far, as under such conditions only a comparatively small amount of store feed is required to carry their animals through. At the Experimental Station the manure that had accumulated last winter was put on the land, mostly on summer fallow. The results from the application of manure in this manner in previous years have been very satisfactory."

R. E. Everest, Superintendent of the Station at Scott, Sask., reports: "November has given good, steady, fall weather. In the beginning the atmosphere was moist, resulting in hoar frosts. These conditions, coupled with a light fall of snow, retarded threshing somewhat. Later the air became more dry, and threshing continued under favourable auspices for the remainder of the month. In this immediate neighbourhood threshing is almost completed. At the Station here the principal work has been the construction of an implement shed. This building, which has been well put up, is 70 by 25 feet in size, with a gable roof having a 20 ft. and an 11 ft. run of rafters. In the front of it there are three pairs of sliding doors."

G. H. Hutton, Superintendent of the Station at Lacombe, Alta., reports: "November has been characterised by exceptionally fine weather throughout. While there has been sufficient frost in the ground to prevent ploughing it has not been so cold as to interfere with other outside work incidental to the fall season, which has been carried on satisfactorily. There have been two or three light snowfalls; but the snow has remained on the ground only for a day or two. The roads have continued to be good, and hauling operations have been conducted without inconvenience. At the Station threshing has been finished, the green feed stacked and stored in the barn, and the buildings prepared for the housing of the stock. The steers for winter feeding have been brought in and divided into three groups: one of them, stabled in the new beef barn, for a trial of inside feed; another lot to be fed in the brush and watered at a lake; and the third group to be fed in a corral (sheltered by buildings) and watered, as in former years, from a water tank warmed with a tank heater. Building operations at the Station have been going ahead rapidly, the beef and dairy barns have been finished and occupied, while the dairy remains to be completed on the inside only."

W. H. Fairfield, Superintendent of the Station at Lethbridge, Alta., reports: "November as a whole has been favourable for threshing, and in the southern end of the province from 90 to 95 per cent. of it has been done, while in many communities it has been completed. Snow fell on the 9th and on the 14th, but this dried up rapidly. Much more ploughing has been done in the district than was the case at this time a year ago. At the Experimental Station practically all the fall ploughing has been completed. Two hundred and fifty yearling wethers and fifty lambs have been purchased for feeding tests this winter. From a field of  $4\frac{1}{2}$  acres 171 lb. per acre of Grim alfalfa seed has been threshed, and this, when re-cleaned, will probably yield 150 lb. per acre of saleable seed."

P. H. Moore, Superintendent of the Farm at Agassiz, B.C., reports: "Although the rainfall during November totals 13.82 inches the weather has been much more favourable for fall work than the corresponding period of last year, as there has been only a touch of frost and no snow whatever has been experienced. In spite of the rain the roots have been harvested in fair condition, and, the crop being more than the cellar could hold, two large pits were made outside. During the wetter days attention was given to threshing, cutting straw, and grinding grain. All three operations were carried on at once, thus economising in labour and gasoline, this being possible as a result of the installation of a line of shafting in the barn. All the summer's manure has been put out in a pile close to next season's root field. A small ice-house has been about completed, while fair progress has been made with the new building to be used as a boarding house for the men. All the stock on the Experimental Farm are in excellent condition. There have been added to the dairy herd a young bull calf of excellent breeding and to the poultry a pen of S. C. Rhode Island Reds from an excellent egg-laying strain."

The records of temperature, precipitation and sunshine at the several Experimental Farms and Stations for the month of November are given in the following table:

**Meteorological Record for November, 1912.**

| Experimental Farm<br>or Station at— | Degrees of temperature, F. |        |       | Precipitation<br>in<br>inches | Hours of sunshine |        |
|-------------------------------------|----------------------------|--------|-------|-------------------------------|-------------------|--------|
|                                     | highest                    | lowest | mean  |                               | possible          | actual |
| Ottawa, Ont. ....                   | 58.4                       | 5.2    | 34.42 | 4.89                          | 285               | 83.8   |
| Charlottetown, P.E.I. ....          | 65.0                       | 27.0   | 37.01 | 4.24                          | 281               | 51.7   |
| Nappan, N.S. ....                   | 66.0                       | 14.0   | 36.82 | 3.70                          | 285               | 77.4   |
| Cap Rouge, Que. ....                | 59.0                       | 10.2   | 30.92 | 4.97                          | 240               | 26.2   |
| Brandon, Man. ....                  | 52.9                       | 5.0    | 29.20 | .10                           | 272               | 85.1   |
| Indian Head, Sask. ....             | 61.0                       | 8.0    | 29.40 | .35                           | 270               | 84.3   |
| Rosthern, Sask. ....                | 41.0                       | 0.0    | 23.99 | .82                           | 253               | 61.2   |
| Scott, Sask. ....                   | 47.0                       | 8.2    | 27.00 | .20                           | 261               | 84.9   |
| Lacombe, Alta. ....                 | 58.3                       | 2.9    | 20.90 | .93                           | 263               | 88.5   |
| Lethbridge, Alta. ....              | 55.7                       | 10.1   | 39.51 | .99                           | 273               | 129.3  |
| Agassiz, B.C. ....                  | 55.0                       | 31.0   | 42.37 | 13.82                         | 274               | 27.0   |

J. H. GRISDALE, Director Experimental Farms.

Ottawa, December 14.

**Dairy and Cold Storage Branch.** For several years past the Dairy Division of this Branch has been actively engaged in a campaign for the improvement of our dairy herds with the "performance of the individual cow" as the point of attack. As a result of this movement many cow testing associations have been organised and maintained in the various provinces and careful records of milk production compiled. The farmers who took up this work in a systematic manner soon found that it enabled them to increase the average yield of milk per herd, through the elimination of the unprofitable cows, and in the last two years especially very gratifying progress has been made. In 1911 a further step was taken through the establishment of dairy record centres in the principal milk producing sections with an expert in charge of each. Last year the number of these centres was considerably augmented, and in order to bring the men in charge together a conference was held in the Dairy School, Kingston, on January 7, which was attended by the officers of the dairy staff, Ottawa, and by all the men in charge of the dairy record centres.

Encouraging reports of the past season's work were presented and plans for the coming year discussed. The recorders stated that the farmers in their various districts were manifesting much interest in the testing of their cows and the building up of paying herds.

After the conference closed the members attended the Annual Convention of the Eastern Ontario Dairymen's Association which was in session in Kingston that week.

The annual meeting of the Western Ontario Dairymen's Association was held in Woodstock on January 15 and 16, and both these conventions were addressed by the undersigned and by officers of the Dairy Division.

Mr. P. J. Carey, the Department's apple packing expert, is at present engaged in demonstration work for the benefit of students attending the Agricultural College at Truro, N. S., and he will shortly proceed to the Annapolis Valley and thence to Prince Edward Island to give instruction in box packing at various fruit growing centres.

Since the publication of the November Census Monthly the following have been convicted and fined for the improper packing and marking of apples:

#### NOVA SCOTIA.

C. E. Palmer, Tremont.  
J. Bowly, South Tremont.  
W. Frank, Falmouth.  
H. Gormley, Windsor.  
H. Burke, Windsor.  
Carl Church, Falmouth.  
Rooney Bros, Windsor.  
B. O. Rockwell, Lakeville.  
E. T. Rockwell, "

E. B. Woodward, Lakeville.  
C. S. Fitch, Wolfville.  
J. H. Bowles, Brooklyn.  
H. N. Rockwell, Lakeville.  
R. Bligh, Lakeville.  
E. R. Laun, Falmouth.  
John Frasher, Centre Granville.  
W. T. Borden, Tupperville.

#### ONTARIO.

Oshawa Fruit Growers' Assn., Oshawa.  
Durham " " " " " "  
R. Collacott, Bowmanville.  
Foster & Cole, Bowmanville.  
Thos. Skinner, Mitchell.  
D. Cantelon, Clinton.  
Wilbert Davey, Precious Corners.  
J. C. Norworthy, Ingersoll.  
J. N. Clendinning, Murray.

Hermion Weese, Rednersville.  
Port Hope J. P. Hughes, Picton.  
W. W. Peck, Albury.  
Wm. Peck, Murray.  
French & Steen, Chatham.  
Baker & Campbell, Embro.  
Marchen & Badgely, Tweed.  
H. Maloof & Co., Ottawa.  
J. A. Brouse, Ottawa.



## QUEBEC.

W. E. Lefevre, Starnesborough,  
Delphis Daignault, Henrysburg Centre.

Geo. R. Clark, Roxham

## BRITISH COLUMBIA.

Vernon Fruit Co., Vernon.

J. A. RUDDICK, Dairy and Cold Storage Commissioner.

Ottawa, January 16.

**Seed Branch.** In November a conference was held with representatives of the wholesale seed trade at which samples were prepared and agreed upon to represent the minimum standard of general quality, apart from weed seed content, that would be recognised in official grading for Nos. 1 and 2 timothy, red clover, alsike and alfalfa seed during the season of 1912-13. On the whole the standards are somewhat lower than last season, with more spread between No. 1 and No. 2. The grade No. 1 American standard for timothy seed, which was recognised last season owing to the unusual circumstances, has been eliminated and the standard for No. 1 lowered to allow a larger proportion of hulled seed than last year; while grade No. 2 has been raised to prevent too wide a spread. With the clovers the standards for No. 1 are nearly as high as last season, but the No. 2 standards are considerably lower, especially for red clover. Samples of the standard grades have been distributed to the leading seed merchants.

Owing to the very light crop of red clover, alsike and alfalfa seed in Canada and the United States and its low average quality, it is exceedingly difficult for seed merchants to secure sufficient good Canadian and United States grown seed to meet their requirements. Canadian grown alsike and clover seed that will grade No. 1 is extremely scarce, while No. 1 Canadian alfalfa seed is almost non-existent and there is very little of the lower grades available. American grown Mammoth clover seed that will grade No. 1 is practically impossible to obtain in quantity and the supply of No. 2 is extremely limited. The fact that there is such a small amount of Canadian and United States grown clover seed has produced some unusual features of the trade that farmers and retail dealers would do well to consider. During the last few years the demand for No. 1 seed has greatly increased, and now, when locally grown supplies cannot be had, the wholesale seedsmen are forced to depend largely on foreign seed for their No. 1 stocks. Red clover seed is being brought in from Chili and Europe to make up the No. 1 grade. The same applies to alfalfa seed in even a more marked degree, as practically all that grades No. 1 is being imported from the United States or Europe. The preponderance of foreign seed in the No. 1 grade this year is sufficient reason for the farmers and retail dealers to look more favourably on the lower grades, provided the seed is not graded down for weed seed content. It is well known that foreign grown seed is not so suitable for Canada as home-grown acclimatised seed; and it is quite possible that No. 2 Canadian grown seed would be really more valuable than No. 1 seed of foreign origin, provided that the weed seed content is the same.

When pure Canadian grown seed can be secured, although it grades No. 2 or even No. 3 on account of general quality, it would be advisable

to use it, applying more to the acre to make up for the poor seed that will not grow. This is especially true of alfalfa, as with it the origin of the seed is of even greater importance than with red clover or alsike.

The scarcity of high grade clover seed is reflected by the number and character of the samples received at the seed laboratory. During December there was a decrease of about 40 p.c. in the number of samples of red clover and alsike received for test compared with the same month last year, and the proportion of No. 1 seed was much lower. During the month 697 samples were received at the Ottawa seed laboratory for purity or germination test. Those graded under the Seed Control Act standards were :

| Description      | Extra No. 1 | No. 1 | No. 2 | No. 3 | Rejected | Total |
|------------------|-------------|-------|-------|-------|----------|-------|
| Red clover. .... | —           | 16    | 60    | 44    | 24       | 144   |
| Alsike. ....     | 1           | 3     | 43    | 45    | 34       | 126   |
| Alfalfa. ....    | 1           | 16    | 13    | 1     | —        | 31    |
| Timothy. ....    | 2           | 16    | 73    | 37    | 30       | 158   |

NOTE. Of these seeds only 19 were received from farmers.

Although there was much less damage from frost to the cereal crop in the west last fall than a year ago, and there will probably be no difficulty in securing plenty of good seed in all districts, the work of seed testing in the Calgary laboratory has materially increased. During November and December 1,302 samples were received, compared with 914 during the same period in the previous year. About 95 p.c. of the samples were for germination test.

GEO. H. CLARK, Seed Commissioner.

Ottawa, January 13.

**Tobacco Division.** It cannot be said that the year 1912 has been very favourable to the growth of tobacco in Canada and especially in the province of Quebec. We may indeed recall the fact that as regards the usual succession of seasons the year 1912 has been altogether extraordinary. First a very late and rainy spring greatly hindered the progress of seeding; then at the time of planting, that is to say, the end of May and beginning of June, 17 days of consecutive rain totally prevented field work. I know of plantations in Quebec which were only finished in July. Necessarily, in the majority of cases, the plants were of bad quality, either too long or too sickly and often both. The rains continued all the summer, and therefore it is easy to imagine what the plantations were like: difficult recovery, great damage caused by insects, much disease and bad colour due to excessive wet.

The gathering took place under unfavourable conditions and it was often between two showers that the tobacco was carried into the barn. A more favourable autumn allowed of normal curing; but unfortunately the product to be dried was in general of bad quality, much tobacco having dried green.

Some growers, more fortunate, succeeded well in spite of the bad atmospheric conditions of 1912: and I know of harvests of Comstock Spanish (cigar tobacco) that sold at 18 cents per lb., which is a good price.

The total area planted in tobacco was larger than that of 1911. This is the reason why the production of 1911 and 1912 is about the same, for the average yields last year were inferior to those of the previous year.

We may estimate at 7,500,000 lb. the total production of Ontario (the majority being Burleys) and at 5,500,000 lb. that of Quebec (the majority being cigar tobaccos). This makes for all Canada a total production in 1912 of about 13,000,000 lb.

A beginning has been made with the cultivation of tobacco in the West, especially in British Columbia, but not yet upon a scale sufficient to modify seriously the figures above quoted. Next season doubtless it will be different, for a strong company at Kelowna intends to put 500 acres into tobacco.

It is very regrettable that the year 1912 should have been so unfavourable to the growth of tobacco, for we had been in hopes of obtaining a total yield very much higher when it is considered that our Tobacco Division had distributed not less than 2,800 packets of seed of different varieties.

O. CHEVALIER.

Ottawa, January 16.

## EMIGRATION FROM SWEDEN.

A report for the year 1911 of the Royal Central Statistical Bureau of Sweden shows that Swedish emigration became most active during the years 1868-73 and 1879-93. The average yearly emigration between 1861 and 1870 was 12,245, between 1871 and 1880 15,027, between 1881 and 1890 37,640, between 1891 and 1900 24,677, and between 1901 and 1910 25,767. For the year 1911 the number of emigrants from Sweden was 19,997 compared with 27,816 in 1910. But there is set against these figures an annual immigration of from nearly eight to nearly ten thousand. The number of immigrants in 1911 was 7,752 and in 1910 8,142 making the net emigration 12,245 compared with 19,674. Of the emigrants in 1911 3,227 entered European, mostly neighbouring, countries, 15,571 departed for the United States, 669 for Canada and 530 for other non-European countries. Of the immigrants 3,194 were from European, mostly neighbouring, countries, 4,411 were from the United States, 48 from Canada and 99 from other non-European countries. Of those emigrating in 1912 11,065, or 55.33 p.c., were males and 8,932, or 44.67 p.c., were females, 12,600, or 63 p.c. were between the ages of 15 and 30 and 2,969, or 14.85 p.c., were under 15; 13,296, or 66.49 p.c., were single persons above 15 years, 3,320, or 16.60 p.c. were married and 412, or 2.06 p.c., were widowers, widows or divorced; 14,263 or 71.33 p.c., were country people and 5,734, or 28.67 p.c., were from towns. Distributed by professions 31.74 p.c. belonged to the agricultural class, 35.31 p.c. to industrial and mining occupations, 10.71 p.c. were casual labourers, 9.25 p.c. domestics, 6.13 p.c. commerce and navigation and 6.86 p.c. were classed as "others and without occupation specified." Of the 7,752 immigrants in 1911 5,569 were of Swedish nationality, 524 were Finns, 432 Germans, 325 United States citizens, 324 Danes and 252 Norwegians.

## CROP REPORTS FROM OTHER COUNTRIES.

**England and Wales.** The crop report for December 1 of the English Board of Agriculture states that November on the whole proved rather unfavourable to autumn work, especially on heavy lands. Until the end of the month the weather was fairly mild, but there was generally a good deal of rain; in some districts this proved a serious hindrance, but in others good progress was made. At the end of the month the weather was much more inclement, and field work was to a large extent stopped. On the whole autumn work is still rather behind-hand, but progress has varied a good deal in different districts. The reporters estimate that about 75 p.c. of the land to be devoted to wheat had been sown by the end of the month, this being considerably less than had been sown at the corresponding date in 1911. The appearance of the winter crops was quite satisfactory, particularly that sown early; that which went in late is more backward and much of it is not yet above ground.

The total production of potatoes in England and Wales is estimated at nearly 2,244,000 tons, which represents, on an area of 463,000 acres, a yield of 4·8 5long tons (181 bushels) per acre, the lowest since the returns of produce were first collected in 1884.

**Ireland.** The Irish Department of Agriculture reports the following as the yields of the principal cereals and of potatoes in 1912 compared with 1911 :

| Crops       | 1912      | 1911      | 1912       | 1911        | 1912              | 1911              | Average<br>10 years<br>1902-11 |
|-------------|-----------|-----------|------------|-------------|-------------------|-------------------|--------------------------------|
|             | acres     | acres     | bush.      | bush.       | bush.<br>per acre | bush.<br>per acre | bush.<br>per acre              |
| Wheat....   | 44,855    | 45,056    | 1,558,356  | 1,650,170   | 34.8              | 36.7              | 35.9                           |
| Oats ....   | 1,046,000 | 1,040,185 | 62,934,035 | 55,724,664  | 60.3              | 53.7              | 55.0                           |
| Barley ...  | 165,367   | 158,180   | 7,258,823  | 7,098,555   | 43.8              | 44.8              | 43.4                           |
| Potatoes .. | 595,184   | 591,259   | 95,077,173 | 137,941,201 | 160.5             | 231.5             | 179.2                          |

The lack of heat and the excessive rains in 1912 were unfavourable to the wheat crop, which has turned out under average in yield. Oats, on the other hand, cut a heavy crop and threshed out very satisfactorily, the yield being well over the return of last season and the best for a number of years. Barley-yields varied considerably in different counties, but the average is somewhat below that of last season. Threshing of the three crops was done under fairly favourable conditions; the yield of straw is large and of good quality. The average yield of the potato crop in Ireland in 1912 is estimated at 4·3 long tons per statute acre as against 6·2 tons in 1911 and 4·8 tons for the ten year period 1902-11. The abnormally heavy rainfall, low temperature and lack of sunshine caused the crop to be considerably below average, both in regard to yield and the quality of the tubers. The proportion of those unsound was also much larger than in other seasons. Best yields were obtained on light, dry, sandy soils, which were less affected by the heavy rainfall. The estimates in the table represent sound tubers only.



**France.** The Journal Officiel of November 21 gives the final results of the French harvest of 1911, as published by the Department of Agriculture. The following statement shows the area, yield and value of the cereal and potato crops, expressed in Canadian equivalents of the metric weights and measures :

| Crops          | Area       | Yield per acre | Total yield | Value per bush. | Total value |
|----------------|------------|----------------|-------------|-----------------|-------------|
|                | acres      | bush.          | bush.       | \$ cts.         | \$          |
| Wheat.....     | 15,897,000 | 20·27          | 322,343,000 | 1 35            | 434,637,000 |
| Maslin.....    | 314,000    | -              | 5,870,000   | 1 00            | 5,856,000   |
| Rye.....       | 2,902,000  | 16·11          | 46,750,000  | 0 95            | 44,278,000  |
| Barley.....    | 1,907,000  | 26·13          | 49,864,000  | 0 82            | 41,002,000  |
| Buckwheat..... | 1,139,000  | 8·70           | 9,922,000   | 0 87            | 8,670,000   |
| Oats.....      | 9,865,000  | 33·33          | 328,706,000 | 0 61            | 201,197,000 |
| Corn.....      | 1,049,000  | 16·06          | 16,860,000  | 1 02            | 17,181,000  |
| Millet.....    | 53,000     | 10·84          | 574,000     | -               | -           |
| Potatoes.....  | 3,853,000  | 121·83         | 469,391,000 | 0 46            | 218,215,000 |

The various descriptions of grass and clover crops, comprising pastures, meadows, seeds, clover, alfalfa, sainfoin, etc., occupied a total area of 35,094,000 acres, gave a total yield of 53,116,000 short tons and were of the total value of \$584,853,000. The total of all the crops in France in 1911 is given as about \$2,176,821,000 as compared with \$1,706,166,000 in 1910

**Germany.** On December 4 the Imperial Statistical Bureau issued a statement of the acreage and yield of the principal field crops in Germany for 1912, compared with 1911, as follows :

| Crops               | 1912       | 1911       | 1912          | 1911          | 1912              | 1911              |
|---------------------|------------|------------|---------------|---------------|-------------------|-------------------|
|                     | acres      | acres      | bush.         | bush.         | bush.<br>per acre | bush.<br>per acre |
| Fall wheat.....     | 4,276,000  | 4,327,000  | 143,602,000   | 133,755,000   | 33·6              | 30·9              |
| Spring wheat.....   | 483,000    | 551,000    | 16,623,000    | 15,657,000    | 34·4              | 28·4              |
| All wheats.....     | 4,759,000  | 4,878,000  | 160,225,000   | 149,412,000   | 33·6              | 30·6              |
| Fall rye.....       | 15,224,000 | 14,866,000 | 431,259,000   | 422,305,000   | 29·6              | 28·4              |
| Spring rye.....     | 265,000    | 296,000    | 5,345,000     | 5,474,000     | 20·0              | 18·5              |
| All rye.....        | 15,489,000 | 15,162,000 | 436,604,000   | 427,779,000   | 27·6              | 28·2              |
| Spring barley.....  | 3,928,000  | 3,917,000  | 159,926,000   | 145,134,000   | 40·7              | 37·0              |
| Oats.....           | 10,841,000 | 10,694,000 | 552,464,000   | 499,548,000   | 50·9              | 46·7              |
| Potatoes.....       | 8,257,000  | 8,208,000  | 1,844,881,000 | 1,263,036,000 | 223·5             | 153·9             |
|                     |            |            | short tons    | short tons    | short tons        | short tons        |
| Hay and clover..... | 4,269,000  | 4,969,000  | 8,762,000     | 7,794,000     | 2·0               | 1·6               |
| Alfalfa hay.....    | 608,000    | 599,000    | 1,643,000     | 1,204,000     | 2·7               | 2·0               |
| Water meadows.....  | 1,135,000  | 1,207,000  | 2,804,000     | 2,419,000     | 2·8               | 2·0               |
| Other meadows.....  | 13,495,000 | 13,451,000 | 27,710,000    | 19,600,000    | 2·0               | 1·5               |

Of the yield of potatoes 76,493,000 bushels, or 4·1 p.c., were diseased, as compared with 16,169,000 bushels, or 1·3 p.c., the proportion diseased in 1911.

The Bureau on December 7 published a statement as to the condition at the beginning of the month of autumn sown crops. This shows that in consequence of the late cultivation and great wet, sowing, especially of wheat, was not nearly finished. The later sown crops were almost everywhere in arrear, some only just germinating and others still not visible. It was feared that the crops would enter the winter in a feeble condition. Upon the average the condition was expressed as 2.8 (2.9) for wheat, 2.9 (2.9) for spelt and 2.8 (2.9) for rye. The figures within parentheses are those of November 1912 (Scale 1 = very good, 2 = good, 3 = average).

**Russia.** H. M. Consul at Odessa reports (November 28) that in 1912 the general climatic conditions were unfavourable to the growth of potatoes. First, it was too cold in most parts of Russia and too dry in others, especially on light, sandy soil. Then matters improved and a good crop was expected. During the last part of the season however it was too cold and in many parts too wet, and unusually early and sharp night frosts brought the development of the potatoes to an early and abrupt close. The potato crop is therefore on the whole barely average in quantity and decidedly below the average in quality, and much of the crop will keep badly. The south of Russia was less troubled than other parts, and on the whole the potato crop in the south can be said to be satisfactory. The great bulk of the crop in this district is used for food and for fodder, and but little in the industries. The total crop in the 63 governments of European Russia is placed by the St. Petersburg Commercial Gazette of November 3/16 at 2,277,300,000 poods (1,370,662,000 bushels) and in the 73 governments at 2,324,300,000 poods (1,398,950,000 bushels).

The Commercial Gazette of November 2/15 states that the hopes maintained in the summer of the flax crop have not been fully realised, the present crop in quantity being no better than last year's while in quality it yields to the average level of late years. With regard to hemp it is reported from the same source, but under date of November 23, December 5, that in the first half of the season the weather was favourable. But the cold weather, which set in with August, impaired the good prospect. Still the crop of hemp, both of fibre and of seed, is stated to be above that for 1911. In part, it is claimed that this year's crop is from 25 p.e. to 50 p.e. more than last year, and in certain instances it is double the preceding one. The abundant rains helped the retting, whether done, as in parts of Volhynia, Poltava, etc., by spreading the hemp plants over meadows and fallow fields, leaving rain and fog to corrode the woody parts of the stems or whether by soaking and subsequent drying in wind and sunshine. The retting by soaking becomes in many places annually more difficult, as it is alleged that the waste waters find their way into rivers and small lakes and kill the fish. It is also pointed out that these waste waters, if allowed to flow slowly over fields or meadows and pastures, and prevented from getting into rivers, are valuable as fertilisers. Anyhow a new process whereby retting could be done quickly and without complaint would be hailed with joy. As regards the quality of this year's hemp crop, the seed is near the average, but the fibre is of varied quality. This is plainly shown by the great range in price, which runs from 7s. 10d. per cwt. up to 39s. 6d. per cwt. Great good to Russia would result from a possible further development of hemp growing, since the oil is valuable for food and the fibre is used in many industries.

H. M. Consul at Odessa reports (December 11) that autumn sowings in southwest Russia have been very short: for example in the Kherson government only about one seventh of the usual area has been sown. The little that has been sown is doing well. Practically none of the small holders have done any sowing this autumn. The larger landowners have sown very little, in some cases only two or three hundred dessatines, and only a small proportion of the usual area. The reason for this is the very late harvest, some crops not being gathered at all. The land too was in such a heavy condition owing to rain that ploughing operations were retarded and had to be postponed, in some cases indefinitely. The time for autumn sowing operations was thus cut very short, a fact which told more hardly on the smaller owners, with their old fashioned methods and scarcity of helpers, than on the large owners, who can afford expensive machinery and can hire more labour.

**Argentina.** H. M. Minister at Buenos Aires (Sir Reginald Tower) reported (November 12) that there was every prospect of an excellent harvest of the wheat, flax and oat crops during the present season. The areas of wheat, flax and oats sown are 16,971,000, 4,312,000 and 2,941,000 acres respectively, as compared with 17,013,000, 4,028,000 and 2,548,000 acres sown in 1911. In 1911 167,000 acres of barley were sown, but no official figures for this cereal are available for this year. Dr. Lahitte, the Director General of Agricultural Statistics and Rural Economy, states that this crop is only in its trial stage in the Republic, but so far excellent results have been obtained. The area of corn sown last year was 8,456,000 acres, and will certainly not be less this year. The sowing of corn had not been commenced in the southern districts, so that it was impossible to give exact figures.

**United States.** The Crop Reporting Board of the U. S. Department of Agriculture have issued their final estimates of the acreage and production of the principal farm crops in 1912, compared with 1911 and 1910. The results are given in thousands of acres and bushels or tons as follows

("000" omitted)

| Crops             | 1912    | 1911    | 1910    | 1912           | 1911           | 1910             |
|-------------------|---------|---------|---------|----------------|----------------|------------------|
|                   | acres   | acres   | acres   | bush.          | bush.          | bush.            |
| Corn.....         | 107,083 | 105,825 | 104,035 | 3,124,746      | 2,531,488      | 2,886,260        |
| Winter wheat..... | 26,571  | 29,162  | 27,329  | 399,919        | 430,656        | 434,142          |
| Spring wheat..... | 19,243  | 20,381  | 18,352  | 330,348        | 190,682        | 200,979          |
| All wheat.....    | 45,814  | 49,543  | 45,681  | 730,267        | 621,338        | 635,121          |
| Oats.....         | 37,917  | 37,763  | 37,548  | 1,418,337      | 922,298        | 1,186,341        |
| Barley.....       | 7,530   | 7,627   | 7,743   | 223,824        | 160,240        | 173,832          |
| Rye.....          | 2,117   | 2,127   | 2,185   | 35,664         | 33,119         | 34,897           |
| Buckwheat.....    | 841     | 833     | 860     | 19,249         | 17,549         | 17,598           |
| Flaxseed.....     | 2,851   | 2,757   | 2,467   | 28,073         | 19,370         | 12,718           |
| Potatoes.....     | 3,711   | 3,619   | 3,720   | 420,647        | 292,737        | 340,032          |
| Hay.....          | 49,530  | 48,240  | 51,015  | tons<br>72,691 | tons<br>54,916 | tons<br>69,738   |
| Tobacco.....      | 1,226   | 1,013   | 1,366   | lb.<br>962,855 | lb.<br>905,109 | lb.<br>1,103,415 |

The Board also reports that the area sown to fall wheat is 2.5 p.c. less than the revised estimated area sown in the fall of 1911, which is equivalent to a decrease of 828,000 acres, the indicated total area being 32,387,000 acres. Condition on December 1 was 93.2 against 86.6 and 82.5 on December 1, 1911 and 1910 respectively and 89.9 the ten-year average. Rye sown in the fall of 1912 is 1.4 p.c. less than the revised estimated area sown in the fall of 1911, which is equivalent to a decrease of 35,000 acres, the indicated total area being 2,443,000 acres. Condition on December 1 was 93.5 against 93.3 and 92.6 on December 1, 1911 and 1910 respectively and 93.2 the ten year average.

## INTERNATIONAL INSTITUTE OF AGRICULTURE.

The November and December issues of the Bulletin of agricultural statistics bring up to December 20 the data concerning the production of cereals for 1912 in the northern hemisphere. The revised totals include figures from additional countries, viz. Germany, Austria and Scotland. New estimates from Russia show considerable increases, especially for rye and oats. The estimate of the production of corn in the United States, previously given as 3,105,604,000 bushels, is now calculated to be 3,169,140,000 bushels. The following table gives the areas and yields of wheat, rye, barley, oats and corn for all the countries that have reported :

**1. Area and yield of Wheat, Rye, Barley, Oats and Corn in 1912 compared with 1911.**

| Crops                     | Harvest area |           |                  | Total production |           |                  | Yield per acre |       |
|---------------------------|--------------|-----------|------------------|------------------|-----------|------------------|----------------|-------|
|                           | 1911         | 1912      | per cent of 1911 | 1911             | 1912      | per cent of 1911 | 1911           | 1912  |
|                           | 000 acres    | 000 acres | p. c.            | 000 bush.        | 000 bush. | p. c.            | bush.          | bush. |
| Wheat (24 countries) ...  | 236,086      | 229,518   | 97.2             | 3,153,019        | 3,370,148 | 106.9            | 13.38          | 14.72 |
| Rye (20 countries)....    | 106,664      | 106,727   | 100.1            | 1,547,853        | 1,864,680 | 120.5            | 14.50          | 17.52 |
| Barley (23 countries).... | 66,109       | 65,533    | 99.1             | 1,367,824        | 1,451,327 | 106.1            | 20.63          | 22.12 |
| Oats (22 countries)....   | 133,760      | 131,941   | 98.6             | 3,535,580        | 4,257,334 | 120.4            | 26.50          | 32.28 |
| Corn (15 countries)....   | 131,939      | 134,329   | 101.8            | 3,149,329        | 3,835,909 | 121.8            | 23.90          | 28.52 |

In European Russia two authorities publish statistics of the grain harvest, viz., the "Direction Générale de l'Organisation Agricole et de l'Agriculture" and the "Comité Central de Statistique". The estimates



of the latter are included in Table 1, and the two are placed side by side in the following statement :

## II. Production of Grain in European Russia, 1912.

| Crop            | Comité Central | Direction Générale | Crop           | Comité Central | Direction Générale |
|-----------------|----------------|--------------------|----------------|----------------|--------------------|
|                 | "000" bush.    | "000" bush.        |                | "000" bush.    | "000" bush.        |
| Winter wheat... | 244,011        | 237,200            | Winter barley. | 4,078          | -                  |
| Spring wheat... | 379,762        | 403,680            | Spring barley. | 451,837        | -                  |
| All wheat.....  | 623,773        | 640,880            | All barley...  | 455,915        | 467,660            |
| Winter rye..... | 1,006,431      | -                  | Oats.....      | 914,893        | 923,742            |
| Spring rye..... | 4,553          | -                  |                |                |                    |
| All rye.....    | 1,010,984      | 987,230            |                |                |                    |

**SUGAR BEET.** The total production of sugar beet in 12 countries in 1912 is given as 43,636,000 short tons, compared with 32,114,000 tons in 1911, an increase of close upon 36 p.c.

**SOUTHERN HEMISPHERE 1912-13.** The acreage sown to wheat, oats and flax in Argentina for the season of 1912-13 is estimated as follows : Wheat 16,971,000, compared with 17,043,000 in 1911-12, or 0.4 p.c. less ; oats 2,940,000, compared with 2,548,000, or 15.4 p.c. more ; and flax 4,312,000 compared with 4,028,000, or 7.1 p.c. more. In Australia the area sown to wheat in 1912-13 is 7,695,000 acres, compared with 7,428,000 acres in 1911-12, an increase of 3.5 p.c. On November 1 the condition was average. In New Zealand weather conditions are in general bad and have retarded field work, sowing and vegetation. On November 1 the condition of the wheat, barley and oat crops was equal to 100 expressed according to the system of the Institute.

## REPORT OF DEPARTMENTAL COMMISSION ON THE OFFICIAL STATISTICS OF CANADA.

As stated in the Census Monthly for May and June last (p. 125) the Minister of Trade and Commerce (the Hon. George E. Foster) appointed on May 30 1912 a Departmental Commission of six members "to inquire into the statistical work now being carried on in the various Departments, as to its scope, method, reliability, whether and to what extent duplication occurs and to report a comprehensive system of general statistics adequate to the necessities of the country and in keeping with the demands of the time". The Report of the Commission has now been published under date of November 30 1912, and it is signed by all the Commissioners, viz. Mr. Richard Grigg, (Chairman), Professor Adam Shortt, and Messrs. Ernest H. Godfrey, W. A. Warne, R. H. Coats and J. R. K. Bristol. It consists of a report proper of 25 pages, an appendix of 50 pages, and a frontispiece in the form of a diagram. We give as a matter of general interest to our

readers, especially those accustomed to co-operate with the Census and Statistics Office, a brief digest of the report and a summary of the specific recommendations made by the Commissioners.

The terms of the reference contemplated conferences between the Dominion and Provincial Governments for securing statistical co-operation and the avoidance of duplication and waste of effort. After giving the full text of this reference and explaining procedure the report presents certain general observations in which emphasis is laid upon the lack of coherence and common purpose now apparent in the body of Canadian statistics considered as a whole, a fundamental defect which, it is stated, is traceable to imperfect appreciation in the past of the fact that the statistics of the country, whether the product of one agency or several agencies, should constitute a single harmonious system with all divisions in due correlation. It is shown that under existing conditions the scope of Canadian statistics has been restricted; that duplication is inevitable; that the statistics published are unequal in quality and value; that restriction of outlook has impaired promptitude in the issue of reports; and that the lack of unity and co-ordination prevents true comparisons between Canada and other countries.

With a view to bringing about the remedies desired the Commission present three important recommendations: (1) That there be created a Central Statistical Office to organise, in co-operation with the several Departments concerned, the strictly statistical work undertaken by the Dominion Government. (2) That an Inter-departmental Statistical Committee be formed to consist of representatives selected from the Central Statistical Office and from other Departments engaged in the collection of statistics. (3) That the provincial Governments be consulted with a view to the establishment of an Interprovincial Conference on Statistics.

The proposed Central Statistical Office would, it is expected, collaborate with two series of authorities: (1) the Departments of the Dominion Government and (2) the Departments of the Provincial Governments. Under the former arrangement would be included statistics of trade, transportation, labour, immigration and certain branches of production, while under the latter would fall agriculture, education, health, finance, industrial accidents, public lands, vital statistics, etc.

It is proposed that the duties of the Inter-departmental Committee should be deliberative and advisory rather than executive and that they should include the making of recommendations to the following ends: (a) the prevention of duplication and of conflicting results; (b) the better adaptation of statistical material obtained in one branch to the needs of another; (c) the establishment of uniformity of definitions and methods; (d) the insuring of expansion and development along proper lines, including the suggesting of new work and the apportionment of such work among the branches best equipped to carry it out and (e) the supervision of the various statistical publications with a view to the proper distribution of statistical information and in particular the exercise of supervision over the scope and arrangement of the Canada Year Book.

These are the major recommendations of the Commission intended to effect a general and permanent improvement in the collection and presenta-

tion of Canadian official statistics. In addition however the Commission make a number of specific recommendations or suggestions with regard to different branches of statistical inquiry. In connection with the Census the Commissioners express the opinion that the *de jure* system, under which the enumeration of the people has been effected decennially since Confederation, is not the system best calculated to ensure accurate statistics of population, especially when the duty of recording entries is thrust entirely upon enumerators instead of upon householders or heads of families. They recommend that the question of adopting the *de facto* system, which restricts the count to the persons actually present in a given place on a given date, or possibly some combination of it with the *de jure* system, should be considered in connection with the arrangements for any future census. Subject to other than statistical considerations, such as cost, the Commission also recommend that the census of population be taken quinquennially in future for the whole Dominion, particularly having regard to the increased importance of immigration and the internal movement of population. Attention is directed to the present complexity of the decennial census, and the Commission recommend that in future the census be limited to the enumeration of the people and of certain property, such as lands and buildings, and that statistics of production, including agriculture, manufactures, forestry, fisheries and mines, be collected annually. With regard to agriculture it is stated that the evidence shows that statistical reform is urgently called for, and the method at present employed for the annual estimation of crop areas and the numbers of farm animals is subjected to criticism. The Commissioners state that they regard that method as unreliable because it is based largely upon conjecture and because errors tend annually to become cumulative.

The following are the recommendations affecting agriculture :

- (1) That arrangements should be entered into by the Dominion and provincial authorities to secure by co-operation —
  - (a) The collection at a given date of annual statistics of areas under the principal field crops and the numbers of farm live stock.
  - (b) The adoption throughout Canada of uniform methods for the classification, collection and compilation of agricultural statistical data.
  - (c) That for special crops such as fruit and tobacco the co-operation should be obtained of the Fruit and Tobacco Divisions of the Department of Agriculture, both with regard to statistics and monthly crop reports.
- (2) That the collection from reliable sources of the market prices of agricultural produce be undertaken with a view to the regular publication of records of prices on a comparative basis.

To questions of trade and transportation the Commission devoted much attention, and in particular to the possibility of obtaining interprovincial statistics showing the internal trade movement of the country, which formed an important part of the reference from the Minister. The conclusions arrived at are rather of negative character, and the Commissioners, after a discussion of the difficulties, limit themselves to the suggestion that valuable information as to the internal trade movement of goods in Canada could be obtained by selecting a list of the more important articles of interprovincial trade and obtaining statistics as to their movement from producers, transportation companies and such other authorities as might be able to furnish them.

Not the least important part of the Report is the diagram forming the frontispiece. This is presented as offering a suggestion in response to that item of the reference which requires the Commission to report a comprehensive system of general statistics. It consists of a classification of the official statistics of Canada arranged in diagrammatic form somewhat after the fashion of a genealogical tree. The statistics are divided into "primary" and "derivative", the former relating to population, property, etc., and the latter covering statistics of social and industrial activities, these being further divided into statistics of private and of public activities. The general construction of the report and appendix follows the classification adopted in the diagram.

A summary of the recommendations of the Commission is given at the end of the report as follows :

#### SUMMARY OF RECOMMENDATIONS.

I. The organisation of a Central Statistical Office for the co-ordination, unification, extension and general improvement of statistics, involving—

- (1) The creation of a Dominion Inter-departmental Statistical Committee.
- (2) The creation of an Interprovincial Conference on Statistics.

II. The following reforms in existing statistics :

##### (1) DOMINION.

- (a) *The Census.* The taking of a quinquennial Census and the limitation of the field of the Census proper to the enumeration of population and property, with a thorough re-examination of the methods at present in use in collecting and compiling data and in publishing results.
- (b) *Production.* The institution of an annual census of production, embracing the chief products of agriculture, forestry, fisheries, mining and manufactures.
- (c) *Trade.* The co-ordination of the work of the statistical branches of the Departments of Customs and Trade and Commerce, with improvement in the classification scheme and in other details.
- (d) *Transportation.* The re-organisation of canal statistics. The creation of statistics of coastal trade.
- (e) *Labour.* The creation of wages and consumption statistics.
- (f) *Emigration.* The perfecting of methods of recording departures.
- (g) *Miscellaneous.* Improvements in statistics of Insurance and the development of price statistics.
- (h) *Publications.* The enlargement of the Canada Year Book. The co-ordination of other publications.

##### (2) PROVINCIAL.

The co-ordination of statistics on the following subjects in the light of matter set forth in the Report : births, marriages and deaths ; public health ; education ; agriculture ; local and municipal governments ; industrial accidents ; various phases of production ; finance ; public lands ; public works ; and hospitals and charities.

III. The appointment of all officials engaged in statistical work on grounds of character and capacity.

## REFRIGERATION AND COLD STORAGE.

In the Census Monthly for March last (p. 67) appeared a note on the refrigeration of perishable products, with special reference to the treatment of poultry and eggs. We return to the general subject for the purpose of drawing attention to the November issue of the American Journal of Public Health,<sup>1</sup> which contains a series of articles by medical and other experts, including Prof. W. T. Sedgwick, of Boston, on cold storage and

<sup>1</sup> Organ of the American Public Health Association, 289 Fourth Avenue, New York.



public health; Dr. P. H. Bryce, of Ottawa, on the physics of refrigeration; S. C. Prescott, of Boston, on the bacteriology of fermentation; M. E. Pennington, of Washington, on the refrigeration of poultry and eggs; Dr. H. D. Pease, of New York, on the refrigeration of fish and mollusks and H. E. Barnard, of Indianapolis, on cold storage in relation to the food supply, the whole being dignified with the classic title of "symposium".

The successful application of the principles upon which cold storage and mechanical refrigeration depend have effected during the last quarter of a century an economic revolution of world-wide importance. In the great British market the importation of frozen or chilled meat from Australasia and Argentina has cheapened the meat supplies of the people, stimulated meat consumption and, if affecting adversely the interests of home graziers, has created fresh demands for pure-bred breeding stock, which now forms so important an element in British pastoral production. Up to the present Canada has taken but partial advantage of the increased facilities of access to British markets which mechanical refrigeration affords. It is true that under the fostering influence of the Department of Agriculture good results have been achieved in the exportation to Britain of Canadian dairy products and fruits; but the field is practically still open for the shipment across the Atlantic of large supplies of Canadian meats, poultry, eggs and butter.

Another aspect of the subject is the possibility of cheapening the supplies of food to the home population. If the present high prices of food products are of any advantage to the producer there are certainly descriptions of food, such for instance as poultry and eggs, the cheapening of which through cold storage or other means would increase the demand to the benefit alike of producer and consumer.

The papers under notice deal however rather with the public health as affected by refrigeration and cold storage processes; and it is shown from a variety of points of view that cold storage, provided it be rationally managed, affords not only great economic advantages but also tends to improve the public health by cheapening food and by maintaining it in a wholesome condition.

## CANADA FROM A GERMAN POINT OF VIEW.<sup>1</sup>

In a work on the Economic Foundations and International Relations of Canada, which forms one of a series of studies entitled *International Problems* (*Probleme der Weltwirtschaft*) Dr. Anton Fleck of the Kiel University has given what is probably one of the most complete descriptions of Canada in the German language. Dr. Fleck visited this country last year, and the list of authorities cited shows with what industry he consulted the different sources of information, official and other, open to the student of Canadian affairs.

The book is a large quarto of 367 pages and contains the map of the Dominion on the scale of 100 miles to an inch, prepared by the Geographical Branch of the Department of the Interior. It is divided into three

<sup>1</sup> *Kanada: Volkswirtschaftliche Grundlagen und Weltwirtschaftliche Beziehungen.* Von Dr. Anton A. Fleck, Direktorassistent am Institut für Seeverkehr und Weltwirtschaft in Kiel. Jena: Gustav Fischer, 1912.

parts dealing (1) with the geographical and social structure of Canada ; (2) with Canadian economics (agriculture, forestry, game, fisheries, manufactures, minerals and trade) and (3) international relations, including the commercial and tariff policy and Canada's position in the world's markets.

In a historical sketch of Canadian political development the author divides his periods into (a) before 1763, (b) between 1763 and 1840, (c) from 1840 to 1867 and (d) from 1867 to the present date.

The work should be of special interest to Canadian settlers of German origin and language, whilst we cannot but be glad that the resources of Canada should be so effectively presented to the German speaking races of Europe. We regret however that so many of the figures quoted, especially those of the census of 1901,—whilst doubtless in most cases the latest available, — should be out of date. Canada has made such immense progress during the last decade that the census figures of 1901 are useless for the purpose of giving any true idea of present resources. For this reason we wish that Dr. Fleck's work could have been postponed until after the publication of the census results of 1911. In dealing with immigration it is not clear why in a work published in 1912 the latest immigration figures should be only those of 1909-10, giving the total number of immigrants into Canada as 208,794, whereas the figures for 1911-12 were available giving a total of 354,237. It is to be hoped that the demand for Dr. Fleck's work may soon necessitate a new edition revised and brought up to date by the inclusion of the latest census figures. An index to the work would be a useful addition.

## POTATO GROWING CONTEST FOR BOYS.

A movement that promises to have important results was set on foot last year by a small Committee, consisting of Mr. R. B. Whyte of Ottawa (Chairman), Mr. W. D. Jackson, Agricultural Representative for Carleton County of the Ontario Department of Agriculture, Mr. W. T. Macoun, Horticulturist of the Central Experimental Farm and Mr. L. H. Newnan, Secretary of the Canadian Seed Growers' Association, who also acted as secretary for the competition. By Mr. Whyte's generosity substantial prizes were offered for a potato growing contest open to boys in Carleton County, Ontario, of between 12 and 18 years of age, who live on farms of not less than 50 acres in extent. With certain exceptions in the case of the younger boys all the work was to be done by the competitors themselves. Each competitor had to keep an accurate account of expenses and profits, a record of date of planting, variety planted, etc., and he was encouraged to send in a short history of the work for which credit was given in the making of the awards. Each plot occupied one-tenth of an acre, and instructions were given to the boys by Mr. Jackson, who also inspected and reported upon the field work. The scale of charges allowed to be charged in the account by each competitor was \$3 per acre for rent, 10c. per hour for each horse, 20c. per hour for each man, \$1 per ton for stable manure, seed at the market price per bushel, and spraying material at current prices. The prizes were awarded upon the following scale of points: (a) thoroughness of field culture 100; (b) report of yield 100; (c)

award of judge on exhibit of one bushel sent to Richmond Fair 100; (d) written report of competition 100. Total 100.

Entries were made by 35 boys, of whom 22 carried out the work in all its details. Amongst the first six prize winners the total cost per acre ranged from \$60 to \$133.50 and the net profit per acre from \$102.20 to \$179.00, the last named sum being the profit gained by the second prize winner. The average yield of the first six prize winners was 388 bushels per acre, that of the first 13 competitors 343 bushels and that of all competitors 285; so that even in the case of the less fortunate competitors the average yield obtained was more than double the average of the province of Ontario in 1912, viz. 134 bushels, as estimated by the Ontario Department of Agriculture.

The prizes were presented to the successful candidates at a public meeting held at Ottawa on November 30. On this occasion Dr. J. W. Robertson delivered an address in the course of which he said that the contest pointed the way for extending and enlarging the practical education of farm boys who have left school. It became an educational farming project, combining productive work and systematic study. It trained the boys into observing, thinking, learning, judging, doing and recording. Out of this came most creditable results in the products. The "left-overs" in material things were clean land, good potatoes, and very handsome profits. The "left-overs"—the evidence and substance of real culture in the boys themselves—were increased intelligence, enlarged activity and quickened capacity and desire to work with others for a good purpose. In brief the contest had its first product in the development of knowledge, power and good will.

It is proposed to repeat the prizes in 1913, and it is hoped that ultimately a potato growers' association or club for the county of Carleton will be organised.

## INSPECTION AND SHIPMENTS OF GRAIN.

According to the Department's Weekly Report for December 16 1912 the number of cars and total quantities in bushels of grain inspected at Winnipeg and other points in the western division for the three months ended November 30 1912, compared with the corresponding period of each of the two previous years, were as follows:

| Grain         | Three months ended Nov. 30 1912 |            | Three months ended Nov. 30 1911 |            | Three months ended Nov. 30 1910 |            |
|---------------|---------------------------------|------------|---------------------------------|------------|---------------------------------|------------|
|               | cars                            | bush.      | cars                            | bush.      | cars                            | bush.      |
| Wheat.....    | 56,690                          | 60,951,750 | 51,329                          | 55,178,675 | 43,972                          | 46,830,180 |
| Oats.....     | 8,745                           | 16,615,500 | 5,866                           | 11,145,400 | 3,814                           | 7,246,600  |
| Barley.....   | 4,703                           | 5,643,600  | 2,300                           | 2,760,000  | 893                             | 1,071,600  |
| Flaxseed..... | 5,195                           | 5,195,000  | 1,367                           | 1,367,000  | 2,474                           | 2,474,000  |
| Rye.....      | 2                               | 2,400      | 2                               | 2,400      | 4                               | 4,800      |
| Corn.....     | 1                               | 1,200      | -                               | -          | -                               | -          |

The shipments of grain from Fort William and Port Arthur for the three months ended November 30 1912 were in bushels as follows, the figures

within parentheses being those of the corresponding period of 1911 : Wheat 50,073,155 (41,456,247), oats 9,599,513 (7,302,759), barley 3,254,162 (1,519,252), flaxseed 3,774,932 (623,064).

## THE WEATHER DURING NOVEMBER AND DECEMBER.<sup>1</sup>

**November.** The mean temperature was above the average over the greater part of the Dominion, northern British Columbia and northern New Brunswick alone showing subnormal values. In the western provinces, the excess above average ranged between 5° and 10°; in Ontario between 1° and 3° and in Quebec and Nova Scotia between 1° and 2°. Precipitation was decidedly deficient in the western provinces and in New Ontario and in excess of the average over a portion of Ontario lying between Lake Huron and the Ottawa valley and also throughout the province of Quebec; elsewhere departures from average were not pronounced. Snow occurred in all the provinces, but was not heavy except in eastern Ontario and in Quebec. At the close of the month snow to a greater or lesser depth was on the ground in many parts of Canada. In northern districts of the West the depth was over 10 inches, this being also the depth in the Ottawa valley and the Gaspé peninsula. In southern districts of the western provinces, the ground was nearly bare of snow, a trace being reported from most localities. Nova Scotia and Prince Edward Island were snow covered to a depth of 3 to 7 inches.

**December.** The mean temperature was above the average throughout the Dominion, exclusive of Vancouver Island and northern British Columbia. The largest positive departures—from 5° to 8°—occurred in eastern and southern Ontario, diminishing to between 3° and 2° in other parts of the province. In the western provinces the departure ranged between 8° and 2°, the largest excess being in northwestern Saskatchewan, and the least in western Manitoba. East of Montreal the excess ranged between 4° in western New Brunswick and 1° in southern Nova Scotia. The negative departures were from 1° to 2° in western British Columbia. Precipitation was considerably in excess of the average over the greater part of Saskatchewan, Manitoba, the Rainy River and Thunder Bay districts and counties contiguous to the western shores of the Georgian Bay and Lake Erie in Ontario, and throughout the Maritime provinces; in other parts of Canada the total fall was deficient. Snow fell in most localities on several occasions, and to some considerable depth in some districts. The distribution of the snow covering on the last day of the month was very similar to conditions prevailing at the same time in the preceding year; but the depth was somewhat less in all districts. A considerable depth of snow was deposited on the higher levels in British Columbia, but on most of the lower levels the covering was inconsiderable except in the Cariboo district where over three feet was on the ground in most localities. A depth of nearly two feet was on the ground in northern districts of Saskatchewan, Manitoba, and upper Ontario, and about fifteen inches in the

<sup>1</sup> From the Weather Map of the Dominion Meteorological Service.



Gaspé peninsula of Quebec; elsewhere where snow existed the covering was just sufficient for sleighing. In southern parts of the Maritime provinces and Ontario, southwestern Saskatchewan, and in Alberta there was practically no snow present.

## COLONIAL AND FOREIGN PRODUCE IN BRITISH MARKETS.

**Wheat, Oats and Flaxseed.** On November 25 the following prices were quoted at Mark Lane per quarter of 496 lb.: Manitoba best 39s-40s, good 38s-39s, No. 6 33s-34s, feed 30s-32s, American best spring 40s-41s, ordinary 39s-40s, red winter 38s-39s, hard winter 37s 6d-38s 6d, Australian 41s 6d-42s, New Zealand 40s-41s, Russian finest 41s-42s, good 40s-41s, com. 39s-40s, Californian 41s-41s 6d, Blue Stem 41s-41s 3d, white Walla 40s 6d-40s 9d, red Walla 40s-40s 3d, white Bombay 40s 6d-41s, white Calcutta 40s 3d-40s 6d, white Karachi 40s-40s 3d, red Karachi 39s 6d-39s 9d, Argentine 39s-40s. Oats per 320 lb. Canadian, 22s 23s, American 21s-22s. Buenos Aires per 304 lb. 18s 6d-18s 9d. Flaxseed per 416 lb Canadian 51s-52s, American 50s-51s, Argentine 51s-52s, Russian 50s-61s, Indian 54s-55s, Dutch 64s-65s.

**Flour.** On November 25 the prices at Mark Lane for imported flour per sack of 280 lb. were: Hungarian 37s 6d-38s 6d, American finest 29s 6d-30s 6d; 1st pat. 29s-29s 6d, 2nd pat. 28s-28s 6d, 1st bak. 27s-27s 3d, 2nd bak. 25s 6d-25s 9d, low grade 20s 6d-21s, Manitoba pat. 29s-29s 3d, straight 28s 3d-28s 6d, Kansas best 27s-28s, firsts 26s-27s, seconds 25s-26s, Californian 31s-32s, Australian 29s 29s 6d, French fine 33s-33s 6d, Belgian fine 31s-32s, Galatz fine 34s-34s 6d.

**Fresh Meats.** No port-killed beef from the North American continent was quoted at Smithfield during October. For Argentine frozen hind quarters the average prices in October were: London, Birmingham and Glasgow 35s; Liverpool and Manchester 35s 6d; Edinburgh 37s 6d; fore quarters, London 27s; Birmingham 26s 6d; Liverpool and Manchester 27s 6d; Edinburgh and Glasgow 28s; Argentine chilled hind quarters, London 45s 6d; Birmingham 45s; Liverpool and Manchester 42s; Edinburgh 47s 6d; Glasgow 44s 6d; fore quarters, London and Glasgow 31s 6d; Birmingham 30s 6d; Liverpool and Manchester 29s; Edinburgh 33s; Australian frozen hind quarters, London 34s; Birmingham 34s 6d; Liverpool and Manchester 33s; Glasgow 35s; fore quarters London 25s 6d; Birmingham 28s 6d; Liverpool and Manchester 26s 6d; Glasgow 28s. For the week ended November 27 the prices were: Argentine frozen hind quarters, London, Birmingham and Dundee 33s 10d; Leeds, Liverpool and Manchester 32s 8d; Edinburgh and Glasgow 35s; Argentine chilled hind quarters, London, Dundee and Edinburgh 44s 4d; Birmingham 43s 2d; Leeds, Liverpool, Manchester and Glasgow 42s; Australian frozen hind quarters, London, Birmingham and Glasgow 32s 8d; Leeds 29s 2d; Liverpool and Manchester 35s.

**Bacon and Hams.** The average prices in October for Canadian bacon per 112 lb. were : London and Bristol 75s and 73s ; Liverpool 74s and 72s ; Glasgow 75s 6d and 73s 6d. For the week ended November 27 the prices were : Canadian sides, London 69s and 67s ; Bristol 69s and 68s ; Liverpool 68s and 65s ; Glasgow 68s and 66s ; Canadian Cumberland cuts Liverpool 72s and 67s ; Glasgow 68s and 66s. Danish sides, London 70s and 68s ; Bristol 72s and 70s ; Liverpool 69s and 66s. Canadian long cut green hams, London 75s and 73s ; Bristol 76s and 72s ; Liverpool 74s and 69s ; Glasgow 72s and 70s. American long cut green hams, London 72s and 70s ; Bristol 72s and 68s ; Liverpool 68s 6d and 65s 6d ; Glasgow 68s (1st quality). American short cut green hams, London 73s and 70s ; Bristol 72s and 66s ; Liverpool 70s and 65s 6d ; Glasgow 68s (1st quality).

**Cheese.** The monthly average prices in October for Canadian cheese per 112 lb. were : London 66s and 65s ; Bristol 66s and 64s ; Liverpool 66s 6d and 64s ; Glasgow 66s 6d and 66s. For the week ended November 27 the prices of Canadian cheese were : London 64s and 63s ; Bristol 65s and 62s ; Liverpool 64s 6d and 61s 6d ; Glasgow 64s (1st quality). New Zealand cheese, London 62s and 61s ; Bristol 63s and 61s ; Glasgow 64s (1st quality).

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## PUBLICATIONS OF THE CENSUS AND STATISTICS OFFICE.

THE CANADA YEAR BOOK. Second Series, 1905-1911.

FIFTH CENSUS OF CANADA 1911. Vol. I Areas and Population. 1912.

FIFTH CENSUS OF CANADA 1911. Bulletin I Manufactures. Bulletin II Dairy Industries. Bulletin III Agriculture of Prince Edward Island 1910. Bulletin IV Agriculture of Nova Scotia 1910.

THE BEET SUGAR INDUSTRY. Bulletin IX.

# CENSUS AND STATISTICS MONTHLY

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PUBLISHED BY AUTHORITY OF HONOURABLE GEORGE E. FOSTER, MINISTER OF TRADE AND COMMERCE. CORRESPONDENCE RELATING TO THE CENSUS AND STATISTICS MONTHLY SHOULD BE ADDRESSED TO ARCHIBALD BLUE, CHIEF OFFICER OF THE CENSUS AND STATISTICS OFFICE, DEPARTMENT OF TRADE AND COMMERCE, OTTAWA, CANADA.

## SCHEME OF CROP-REPORTING FOR 1913.

**March.** Farm products on hand or needed for home use. Condition of live stock.

**April.** Areas winter killed of fall wheat, hay and clover. Condition of the growing crops of fall wheat and of hay and clover. Progress of seeding operations (spring wheat, oats and barley). Condition of live stock.

**May.** Acreage compared with last year of spring wheat, oats, barley, rye, peas, mixed grains, hay and clover, alfalfa and pastures. Condition of these crops and also of fall wheat.

**June.** Condition of fall wheat, spring wheat, oats, barley, rye, peas, mixed grains, hay and clover, alfalfa and pastures. Areas of late-sown cereals and hoed crops, including buckwheat, flax, corn for husking, beans, potatoes, turnips, sugar beets, mangolds, carrots, etc., corn for fodder, green forage and tobacco. Numbers and condition of live stock.

**July.** Preliminary estimate of the yield per acre of fall wheat, hay and clover and alfalfa. Condition of spring wheat, oats, barley, rye, spelt, peas, beans, buckwheat, mixed grains, flax, corn for husking, potatoes, turnips, mangolds, carrots, etc., hay and clover, alfalfa, corn for fodder, sugar beets, tobacco and pasture.

**August.** Estimate of the yield per acre of spring wheat, rye, oats, barley and flaxseed. Estimate of areas sown to these cereals that from any cause will not produce a crop. Condition of spring wheat, oats, barley, rye, spelt, peas, beans, buckwheat, mixed grains, flaxseed, corn for husking, potatoes, turnips, mangolds, carrots, etc., hay and clover, alfalfa, corn for fodder, sugar beets, tobacco and pasture. Condition of live stock.

**September.** Estimate of the yield per acre of fall wheat, spring wheat, oats, barley, rye, spelt, peas, beans, buckwheat, mixed grains, flaxseed, corn for husking and tobacco. Quality of these crops when harvested. Percentage of areas under these crops destroyed from any cause. Condition of potatoes, turnips, mangolds, carrots, etc., sugar beets, corn for fodder and alfalfa.

**October.** Yield per acre, quality and average price of potatoes, sugar beets, turnips, corn for husking, other roots (mangolds, carrots, etc.), hay and clover, foddercorn and alfalfa. Acreage sown to fall wheat. Condition of fall wheat. Per cent of fall ploughing completed. Acreage summer fallowed in percentage of previous year.

**November.** Per cent number and condition of live stock. Winter supplies for farm live stock.

**December.** Final estimates of yields per acre based upon reports of threshing results. Average market prices and weight per measured bushel of cereals. Yield per acre and price of clover, alsike and alfalfa seed.

## DEPARTMENT OF AGRICULTURE.

**Experimental Farms and Stations (December).** At the Central Farm, Ottawa, temperatures during December ranged a little lower than for the closing month of 1911, the highest being 50, the lowest  $-4.8$ , and the mean  $22.65$ , compared with extremes of  $51.6$  and  $-3.6$  and a mean temperature of  $26.24$  in the corresponding period a year ago. The precipitation aggregated  $2.17$  inches comprising  $1.17$  inch of rain and  $10$  inches of snow, compared with  $2.68$  inches in 1911, made up of  $1.31$  inch of rain and  $13.75$  inches of snow. The bright sunshine recorded during the month averaged  $2.13$  hours per day as against  $2.33$  hours daily in the previous December.

The very wet weather which was experienced during July, August and September seriously interfered with the test plots of grain at the Ottawa Farm and made the harvesting of the same exceptionally difficult and unsatisfactory. Most of the grain was discoloured and some of it sprouted in the stooks or was seriously lowered in vitality by the repeated showers. However, by the use of special precautions and much extra labour, the crops from the majority of the plots were saved in about an average condition as to vitality. Under the circumstances very high yields could scarcely be expected, but some of the plots gave excellent returns, though the variations between similar varieties are in some instances very great. On the whole wheat and oats gave perhaps the best yields and peas the poorest. Some of the early maturing wheats produced well and were saved in very fair condition. One of these, the new variety known as Prelude, which was sown on May 1, was fully ripe on August 1, requiring only 92 days to mature. This wheat could have been cut several days earlier, and the period would have been still shorter if the weather in July had been normal. The grain is plump, hard, and of good appearance in spite of the adverse conditions, thus demonstrating the excellent qualities of this variety in addition to its extraordinary earliness.

J. A. Clark, Superintendent of the Station at Charlottetown, P. E. I., reports: "December has been a month of sudden changes and high winds. On the 1st and again on the 25th enough snow fell for sleighing, but rain following the next day in each instance the snow disappeared. The thermometer registered two degrees below zero on the 13th, the high winds causing the cold to be very penetrating. Feeding experiments have been started with seven pens of lambs and three pens of steers. The steers have been dehorned and are being fed loose in pens. The plough was used in ribbing up soft land during the first week of the month. In the eastern section of the province ploughing was continued during the second week, and a much larger area of land has been fall-ploughed this season than usual."

Robert Robertson, Superintendent of the Farm at Nappan, N.S., reports: "December has been rather mild as a whole and very changeable, the temperature running from zero on the 13th to  $51^{\circ}$  on the 19th. Very little snow fell, and in each instance it melted soon after falling. There is hardly any frost in the ground, although the fields are completely bare. Feeding experiments with steers and wether lambs are being carried on. Both lots,



which were rather slow in commencing to show gains, are now doing well. The cows in the dairy test have been freshening during the month and are in good condition. Roots in this section are unusually scarce, while hay is poor and very high in price."

G. A. Langelier, Superintendent of the Station at Cap Rouge, Que., reports: "December has been comparatively mild. The roads have been splendid and farmers have taken advantage of this to haul fuel, also hay and straw, to Quebec. As a result of the rain on the 20th followed immediately by cold, a lot of ice adhered to the branches of the trees, breaking numerous limbs of those in orchards. Many big apple and plum trees were split, and the damage has been considerable. At the Experimental Station all the wood for fuel was hauled, also a great many loads of shale for the ornamental grounds. The grain for the trial plots of cereals is being hand-picked, and all implements will be gone over to have them in first class shape when spring comes."

W. C. McKillican, Superintendent of the Farm at Brandon, Man., reports: "December has been a fine month, there being very little severe weather and no bad storms. There has been a light snowfall and sleighs are in use, but the sleighing is not very good. A noteworthy event has been the winning of the Grand Championship at the International Live Stock Show at Chicago by a steer owned by J. D. McGregor of Brandon. This steer was bred and raised in Manitoba and fed only on hay and grains such as are raised on every farm in the province. This should do much to stimulate stock raising in Manitoba. Farmers are engaged chiefly in marketing their grain, and a good deal of disappointment, on account of not getting higher prices, has been felt. The principal work on the Experimental Farm just now is the feeding and care of stock; about 275 head of the various kinds of stock are being wintered."

Angus Mackay, Superintendent of the Farm at Indian Head, Sask., reports: "December has been exceedingly fine with a few cold dips of short duration and two small snowstorms. Very few Decembers in the past thirty years have been so favourable for outdoor work and the running out of cattle. The principal work on the Experimental Farm has consisted in the cleaning of seed grain and attending to the stock. During the month the contractor had the horse stable far enough advanced to permit of its being occupied and now both horses and cattle are in comfortable quarters, the cattle being moved to where the horses had been kept since the fire last January. A good number of applications for seed grain, chiefly Marquis wheat, have been received during the month, and a great many for trees and potatoes."

Wm. A. Munro, Superintendent of the Station at Rosthern, Sask., reports: "December has been exceedingly mild, with just sufficient snow for good sleighing. Much wheat has been marketed during the month, but there has been a good deal of complaint due to lack of cars for shipping. Considerable disappointment has been felt at the price of wheat, the price offered being the lowest for a number of years. The farmers who have been accumulating live stock are this year in a much better position than those who have staked their efforts on wheat raising alone. All classes of live stock are selling at a high figure, and at the same time the prices of feed

stuffs are low. Early in the month hog cholera was discovered in a herd of swine in this district; but the owner took prompt measures to conform to the regulations concerning this disease and no further cases have been reported up to date."

R. E. Everest, Superintendent of the Station at Scott, Sask., reports: "In the early part of December low temperatures were recorded, which were followed by sudden changes to higher readings, the air at times becoming even balmy. Throughout the remainder of the month the temperatures have been fairly even, the weather continuing to be remarkably fine. There being very little snow, wheels have still been in use for heavy traffic, only some of the lighter travel going on runners, but since towards the close of the month wheels have been general. Grain has been moving to the elevators all through December, the quantity hauled gradually decreasing until the close of the month, when receipts were light. Work on the Experimental Station has included the cleaning of grain for seed purposes in 1913."

G. H. Hutton, Superintendent of the Station at Lacombe, Alta., reports: "It has been comparatively mild in central Alberta during December, the mean temperature for the month being 21.98°. This moderate weather permitted the finishing of the concrete floors in the barns at this Station, and the doing of the outside finishing work on the dairy building without discomfort. The feeding of the steers on a grain ration of two-fifths oats, two-fifths barley and one-fifth wheat, was commenced in December. At the start 3 lb. per head per day was fed, this being gradually increased to the end of the month, when each steer is receiving 6 lb. per day. The animals have been divided into three groups as follows: one lot is being fed outside in the brush, with also a run of over half a section of stubble land; another lot is being fed in the corrals, with only a limited run about the buildings; and the third lot is being fed in box stalls in the new bean barn. Each group is receiving the same grain ration and the same kind of rough fodder, a record being kept of the quantities of the latter each lot eats up clean, as well as of the labour required in each case."

W. H. Fairfield, Superintendent of the Station at Lethbridge, Alta., reports: "The weather during December has been rather marked in two ways: first by the high mean temperature of 27.16°, as compared with 22.93° for the corresponding month of 1911; secondly on account of the unusually large amount of wind that has prevailed. As there has been no snow on the ground the frost drew out more or less during the warmer days; and the soil from summer-fallow drifted, doing, it is reported, damage to the winter wheat in certain sections. At this Station feeding experiments with cattle as well as with sheep have been started."

P. H. Moore, Superintendent of the Farm at Agassiz, B. C., reports: "December this year, as compared with the corresponding period of 1911, has been much more favourable to the farmer and the stock raiser. Although somewhat wet it has never been very cold, only freezing to any extent on two nights. Pastures at the end of the month are exceptionally green; consequently sheep and young stock have managed outside with very little or no help in the feed line. On two different mornings there was snow on the ground, but as it was mild in each instance the snow all melted before.

noon. The live stock generally on the Experimental Farm are in excellent shape, but the horses have been working hard and are not carrying any extra flesh. Three of the cows freshened at the end of the month, each of them making a fine showing. As compared with the showing they made last year when they first came to these parts, they certainly show improvement on becoming acclimatised. The chief work engaging attention on this Farm has been chopping, burning and stumping, hauling gravel to the yards and roads, and the building of a boarding house for the men; and at odd times there have been opportunities to attend to many little things which should help out in the spring."

The records of temperature, precipitation and sunshine at the several Experimental Farms and Stations for the month of December are given in the following table:

**Meteorological Record for December, 1912.**

| Experimental Farm<br>or Station at— | Degrees of temperature, F. |        |       | Precipitation<br>in<br>inches | Hours of sunshine |        |
|-------------------------------------|----------------------------|--------|-------|-------------------------------|-------------------|--------|
|                                     | highest                    | lowest | mean  |                               | possible          | actual |
| Ottawa, Ont. ....                   | 50.0                       | 4.8    | 22.65 | 2.17                          | 272               | 66.2   |
| Charlottetown, P.E.I. ....          | 50.0                       | 2.0    | 26.60 | 6.45                          | 269               | 68.7   |
| Napan, N.S. ....                    | 51.0                       | 0      | 26.33 | 5.62                          | 271               | 81.5   |
| Cap Rouge, Que. ....                | 47.0                       | 13.2   | 16.83 | 3.06                          | 264               | 39.6   |
| Brandon, Man. ....                  | 39.9                       | 27.2   | 9.30  | 1.00                          | 254               | 61.1   |
| Indian Head, Sask. ....             | 39.0                       | 19.0   | 13.15 | 1.23                          | 248               | 53.2   |
| Rosthern, Sask. ....                | 38.8                       | 23.2   | 8.15  | .50                           | 233               | 62.4   |
| Scott, Sask. ....                   | 44.1                       | 19.8   | 16.86 | .27                           | 238               | 91.3   |
| Lacombe, Alta. ....                 | 58.6                       | 10.6   | 21.98 | .03                           | 238               | 74.2   |
| Lethbridge, Alta. ....              | 50.1                       | 0.9    | 27.16 | .23                           | 254               | 102.3  |
| Agassiz, B.C. ....                  | 49.0                       | 25.0   | 39.45 | 10.09                         | 256               | 28.3   |

J. H. GRIDDALE, Director, Experimental Farms.

Ottawa, January 11.

**Experimental Farms and Stations (January).** At the Central Farm, Ottawa, the temperatures recorded during January have been abnormally high, and the weather quite changeable—the highest temperature being 42, the lowest -16 and the mean 20.9, compared with extremes of 36.4 and -26.2 and a mean of 2.24 in the opening month of 1912. The precipitation amounts to 4.54 inches, made up of 2.17 inches of rain and 2.37 inches of snow, while in January a year ago the total was 2.6 inches, of which only 0.11 of an inch was rain, the balance representing 25 inches of snow. The bright sunshine of the month averaged 3.04 hours a day, as against 3.84 hours daily in the corresponding period of the previous year.

In connection with the Division of Animal Husbandry a new dairy barn, which was erected on the Central Experimental Farm during the latter part of 1912, has been occupied since early in the year. This structure, while designed particularly for experimental work with cows,

includes many desirable features from the standpoint of the ordinary dairy farmer, having been constructed in accordance with the most modern building and sanitary principles. The new barn, which has accommodation for twenty-four cows, has been built with the view to carrying on experimental work to include the following: (1) The use of different feeds and of rations of varying nutritive value; (2) the breeding of dairy cows; (3) the effect from all possible standpoints of the use of a high class, pure-bred sire on grade cows and their offspring; and (4) tests in regard to various details and methods of milking. Feeding experiments are at present under way, but conditions prevent the starting of breeding work for a time.

J. A. Clark, Superintendent of the Station at Charlottetown, P.E.I., reports: "January has been remarkably mild, with a very light snowfall, there being only five days on which a sleigh could be used with any comfort. The temperature has only fallen below zero twice, reaching  $-3$  degrees on both occasions. The work at this Station has largely consisted in caring for the stock and making preparations for the Prince Edward Island 'Short Course in Agriculture,' at which more than four hundred students are in attendance."

Robert Robertson, Superintendent of the Farm at Nappan, N.S., reports: "January has been an unusually mild month, the thermometer reaching zero or below on only three different dates, the lowest being  $-4^{\circ}$  on the 10th. In all only five inches of snow have fallen resulting in sleighing for two days, but the balance of the time the roads have been practically bare. The lack of snow has greatly hindered lumbering operations. At the Experimental Farm the work carried on, in addition to looking after the stock, has consisted of the usual winter operations, such as the cleaning of seed grain, the cutting and hauling of wood, the cutting of straw and the hauling of manure."

G. A. Langelier, Superintendent of the Station at Cap Rouge, Que., reports: "January was comparatively mild up to the 19th, and the rain of the 17th brought the snow down to ten inches on the level. This abnormally high temperature will be very costly to the lumber industry, as the roads in the woods are not fit for hauling. A great many farmers earn goodly sums each winter, making logs, and it will result in loss to them also. The care of the live stock, the drawing of shale for the ornamental grounds, repairing implements and vehicles, hand-picking of grain and the hauling of manure have been the principal occupations of the men at the Experimental Station during the month."

W. C. McKillican, Superintendent of the Farm at Brandon, Man., reports: "January has been about normal in regard to temperature; the lowest point reached has been  $37.6$  below zero as compared with  $45$  degrees below in the corresponding month of last year. There has been a good deal of wind, which has resulted in much drifting of snow and consequently in bad roads. The work on the Experimental Farm has consisted chiefly in caring for the stock and cleaning seed grain. The steers being wintered out of doors are showing good gains, but have suffered somewhat from the cold during the continued windy spells, which have prevailed with low temperatures."



Angus Mackay, Superintendent of the Farm at Indian Head, Sask. reports: "January has been a cold month, with a few mild days. Although there have been no severe storms a considerable amount of snow has fallen and there has been good sleighing. The principal work on the Experimental Farm, in addition to attending to the live stock, has been preparing seed grain for sale and for use on the Farm in the spring. All live stock at present are healthy and in thriving condition. During the month a Dominion veterinary inspector tested the cattle at this Farm for tuberculosis, and it is gratifying to report that none of the animals reacted under the tuberculin test."

Wm. A. Munro, Superintendent of the Station at Rosthern, Sask., reports: "The weather during January has been extremely cold, the temperature dropping to 49.5 below zero on the 20th. With one exception, namely 54 degrees below, recorded a year ago, this is the lowest temperature reached since records have been taken at this office. There is a marked change in the attitude of the farmers of the district with respect to the system of farming to be followed. Less than average crops, prices far below the average, and the increasing prevalence of noxious weeds are having the effect of turning their attention to mixed farming instead of all grain growing, with the result that many are seeking information on kinds of cattle, methods of stabling and methods of growing fodder crops."

R. E. Everest, Superintendent of the Station at Scott, Sask., reports: "January, 1913, up to the 25th, was very similar to the first month of 1912, the lowest temperature being -48.8 and the mean for the first twenty-four days -14.8, compared with a lowest of -48.3 and a mean for the whole month a year ago of -15.3. Commencing on the 25th, and continuing until the 29th, the weather was quite mild, and, at times, soft—so much so that the water ran from the roof. The month closed decidedly colder. Enough snow has fallen throughout January to keep sleighs in use and at the end of the month the ground has a sufficient covering for convenience in travel. The winter thus far has been good for trail traffic, and, in spite of low temperatures, driving has been continued. At the Experimental Farm the work has consisted mainly in preparing grain for seed in bulk and in plot quantities."

G. H. Hutton, Superintendent of the Station at Lacombe, Alta., reports: "The early part of January was exceptionally cold, but the weather has moderated considerably since towards the close of the month. There is not yet sufficient snow for good sleighing. The steers on feed have been making fairly satisfactory gains during the month, particularly those in the corrals. They are now receiving thirteen pounds of chop daily. The cattle in this district are wintering well, as there is an abundance of feed; and prices for all live stock promise to be high this winter."

W. H. Fairfield, Superintendent of the Station at Lethbridge, Alta., reports: "From January 3rd to 24th there was sleighing, and during this period it was cold, but the remainder of the month has been mild. The sheep and cattle in the feeding experiments have made satisfactory gains. The summer supply of ice for the Experimental Station has been hauled and packed in the ice-house, while some time has been devoted to the cleaning of grain for seed."

"P. H. Moore, Superintendent of the Farm at Agassiz, B.C., reports: "The weather during January has been quite wintry, with a great deal of snow, which fortunately did not drift as badly as usual for this district, although it piled high in some exposed places. Having a whole month of good sledding is so rare here that the people generally were not prepared for it, but those who were turned the snow to good account, as much hauling has been done. At the Experimental Farm a lot of wood has been hauled from the bush and considerable manure has been piled in the far-away fields. The stock stood the short cold spell very well, there being only a week during which the animals could not be turned out for a short time each day. Several litters of spring pigs have come and are in good shape. The sheep are just starting to year and the lambs should all be here before the middle of February. During the month the cows in the new herd at the Experimental Farm commenced to calve for the first time here, the calves being fairly uniform and a good strong lot. The cold weather affected the light breeds of poultry more than anything else on the farm, while the heavy breeds, such as the Plymouth Rocks, did not seem to mind the change at all. There is an abundance of roughage to carry the stock through till the grass is available and this would also seem to be the case with farmers generally in the district. All classes of stock are scarce and high priced."

The records of temperature, precipitation and sunshine at the several Experimental Farms and Stations for the month of January are given in the following table:

**Meteorological Record for January, 1913.**

| Experimental Farm<br>or Station at— | Degrees of temperature, F. |        |       | Precipitation<br>in<br>inches | Hours of sunshine |        |
|-------------------------------------|----------------------------|--------|-------|-------------------------------|-------------------|--------|
|                                     | highest                    | lowest | mean  |                               | possible          | actual |
| Ottawa, Ont.,.....                  | 42·0                       | -16·0  | 20·50 | 4·54                          | 285               | 94·4   |
| Charlottetown, P.E.I. . .           | 50·0                       | -3·0   | 24·17 | 3·58                          | 281               | 82·6   |
| Nappan, N.S. ....                   | 52·0                       | -4·0   | 23·96 | 2·92                          | 285               | 86·7   |
| Cap Rouge, Que. ....                | 43·0                       | -22·2  | 39·30 | 6·96                          | 278               | 47·8   |
| Brandon, Man. ....                  | 36·9                       | -37·6  | 24·60 | ·11                           | 268               | 73·6   |
| Indian Head, Sask. ....             | 40·0                       | -45·0  | -6·51 | ·80                           | 266               | 57·9   |
| Rosthern, Sask. ....                | 38·6                       | -49·5  | 13·30 | ·55                           | 252               | 73·9   |
| Scott, Sask. ....                   | 38·8                       | -48·8  | -9·47 | ·59                           | 255               | 83·9   |
| Lacombe, Alta. ....                 | 45·3                       | -35·6  | 6·7   | ·93                           | 257               | 63·3   |
| Lethbridge, Alta. ....              | 47·0                       | -30·0  | 7·49  | ·80                           | 269               | 91·9   |
| Agassiz, B.C. ....                  | 47·0                       | 4·0    | 28·45 | 11·83                         | 271               | 25·6   |

J. H. GRISDALE, Director, Experimental Farms.

Ottawa, February 14.

**Live Stock Branch.** During the past year the Live Stock Branch of the Department of Agriculture has been engaged in a preliminary investigation of the Canadian egg trade. Certain facts relating to the enormous loss that is charged back against the farmer and the unsatisfactory status

of the trade as a whole have been collected and presented in Bulletin No. 16, entitled "The Care of Market Eggs." Realising however the necessity of securing more detailed information the Minister of Agriculture has authorised the appointment of J. H. Hare, B.S.A., of Whitby, Ont., to undertake the necessary investigation. Mr. Hare, who will be located at Ottawa, will first be concerned with the collection of all available data on the grading of eggs as received at wholesale produce houses of Canada during the past two years. The information thus obtained will form a basis for action by the Government in initiating a movement to improve and properly regulate the trade.

By an Order in Council, dated February 17 1913, a change has been made in the Customs Regulations governing the importation into Canada free of duty of animals for the improvement of live stock. In section 1 of the Regulations the words "resident in the British Empire" have been substituted for the words "resident in Canada." It is also provided that a statutory declaration must be made that the owner is a British subject resident in the British Empire and that the animal imported is the identical animal described in the import certificate. The Order will take effect from April 1 1913.

JOHN BRIGHT, Live Stock Commissioner.

Ottawa, February 28.

**Dairy and Cold Storage Branch.** In the December Census Monthly reference was made to the establishment of dairy record centres under the direction of the Dairy Division of this Branch. This movement was started in 1911 when three centres were formed in Ontario, two in Quebec and one in Prince Edward Island, or six in all. In 1912 six additional centres were established in Ontario and two in Quebec, making a total at the end of the year of fourteen centres. Since the beginning of the year three new centres have been formed, one at Shawville, Quebec, one at Alexandria, Ontario, and one serving the Scotsburn and River Hebert districts in Nova Scotia. This was the first centre to be established in Nova Scotia. It is probable that three or four more will be established in the near future, mainly in the province of Quebec.

Plans and specifications are now being prepared in this office for a new skimming station at Brome Centre, Quebec. This station, which will replace a private plant destroyed by fire last fall, will be tributary to the Brome Creamery which is operated by the Dairy Division.

In the past this Branch has paid a bonus of \$100 for creamery cold storages constructed on either the circulation or the cylinder systems, but in future it will be paid only for cold storages constructed on the circulation system, the plans and specifications for which are contained in Bulletin 36 of the Dairy and Cold Storage series. Blue prints of these plans on a working scale will be furnished on application. Applications for bonuses must be made before May 1 in order to secure payment that year.

The Markets Division has received a report from the Canadian Trade Commissioner at Buenos Aires on the sample shipment of apples that was forwarded from Nova Scotia last fall, which states that the consignment was landed in good order and condition although it missed the steamer at Liverpool and was held there for two weeks. The varieties comprised Kings, Ben Davis, Baldwins and Starks, but the Kings were the most popular and this is the variety best suited to that market, owing principally to its size and fine colour. The Ben Davis was given second place, but the Baldwins were said to be rather small for that market. The Stark was not liked because of its unattractive appearance.

In the Argentine the season for Canadian apples lasts from early autumn until about the end of the year, or perhaps a little later, when the local fruit reaches the market and apples from Tasmania also begin to arrive. If choice fruit, well packed in boxes, is shipped Canadian exporters should be able practically to control that market for two or three months in the year. The market of course is a limited one, but it should be capable of absorbing from forty to eighty thousand boxes each season. The present consumption ranges from eighty to one hundred thousand boxes a year.

The freight rate on apples shipped in cold storage from Liverpool to Buenos Aires is very high, particularly for small consignments. In the case of the sample shipment in question the freight rate from Halifax to Liverpool worked out at about 60 cents per barrel and from Liverpool to Buenos Aires at about \$6 per barrel. Retail prices in Buenos Aires range from 42 cents to \$2.15 per dozen in our currency. There is direct steamship connection between New York and Buenos Aires, but it is very difficult to get cold storage space during October, November and December, as all the accommodation is usually booked long in advance. In addition to the lines between Liverpool and Buenos Aires steamers also sail regularly from the port of Southampton.

Since the publication of the December Census Monthly the following have been convicted and fined for the improper packing and marking of apples :

#### NOVA SCOTIA.

Brooklyn Fruit Co., Brooklyn.  
Central Fruit Co., Central Clarence.

Paradise Fruit Co., Paradise.  
Clarence Fruit Co., Clarence.

#### ONTARIO.

J. W. Wilson, Ingersoll.  
B. Cheer, Toronto.  
Watford F. G. A., Watford.

Kidd & Sinclair, Mount Brydges.  
Ira Collins, London.  
Jas. Hart, Seaforth,

Convictions have also been secured against the following for failure to mark imported fruit in accordance with the Fruit Marks Act :

Acme Fruit Co., Calgary, Alta.  
Plunkett & Savage, Calgary, Alta.

The Scott Fruit Co., Lacombe, Alta.

J. A. RUDDICK, Commissioner.

Ottawa, February 28.



**Seed Branch.** The seed inspection work necessary for the enforcement of the Seed Control Act will be conducted more thoroughly this season than ever before. Twenty-five or more seed inspectors are being employed with instructions to see that the Act is observed in the trade throughout Canada. The prairie provinces will be given greater attention this season, with the object of restricting as much as possible the sale of seed grain and flax containing noxious weed seeds. Investigation shows that a great deal of new land is badly contaminated with weeds through sowing impure seed at the start. This is particularly true when flax is sown on breaking. It is difficult to secure flax for seed free from weed seeds and many settlers get their land contaminated unknowingly through this cause. The same applies to grain to a less extent; and while many farmers are apparently not sufficiently alive to the danger of sowing weed seeds, much of the contamination of new land would be prevented if all of the grain and flax offered for seed were labelled, showing the noxious weed seeds present, as required by the Act. The inspectors will see that this provision is enforced as strictly as possible, both in western Canada and in Quebec and the Maritime provinces where a considerable proportion of the oats used for seed is brought in from other provinces.

The regulations requiring all timothy, red clover, alsike and alfalfa seed to be graded and marked Extra No. 1, No. 1, No. 2 or No. 3, according to quality, will be strictly enforced this season. The inspection work so far conducted indicates that the wholesale dealers are sending out their seed properly graded, with perhaps very few exceptions, and many of the retailers are also strictly complying with the provisions, although in some of the seed producing districts there is still some ungraded seed being offered. Special efforts will be made this season to apply the Act to farmers and prevent them trading among themselves with seed that will not grade No. 3. Samples received at the seed laboratory indicate that there is a large amount of timothy seed in eastern Ontario and Quebec that will not grade on account of weed seeds. Much of this could be cleaned, with proper machinery, to grade at least No. 2, but there is danger of its being offered through the retail trade, or by farmers themselves, in an uncleaned condition, as very few farmers have equipment for cleaning small seeds.

During January 1,460 samples were received at the Ottawa seed laboratory for germination or purity test, a slight increase over the same month last year. The increase in the number of samples of red clover seed received was nearly 200, while there was a slight decrease in timothy seed. The samples graded under the Seed Control Act were as follows :

| Name of seed    | Extra No. 1 | No. 1 | No. 2 | No. 3 | Rejected | Total |
|-----------------|-------------|-------|-------|-------|----------|-------|
| Red clover..... | -           | 23    | 113   | 128   | 71       | 335   |
| Alsike.....     | -           | 20    | 60    | 88    | 57       | 225   |
| Timothy.....    | 1           | 49    | 56    | 67    | 33       | 206   |
| Alfalfa ...     | 1           | 23    | 21    | 10    | 1        | 56    |

As usual a very small proportion of the samples came from farmers.

Work in the Calgary laboratory is about as heavy as last year, although the frost injury in Alberta is not nearly so widespread. During January about 1,400 samples were received, mostly for germination test.

GEO. H. CLARK, Seed Commissioner,

per E. D. F.

Ottawa, February 26.

## CROP REPORTS FROM OTHER COUNTRIES.

**England and Wales.** The Board of Agriculture reported on January 1 that the exceptionally mild and generally wet December allowed of comparatively little progress being made with farming operations during the month. As usual in such cases light soils or high-lying lands suffered comparatively little, and fair progress was made; but on low or heavy land work was nearly at a standstill throughout the greater part of the month. The area under wheat is some 5 per cent less than at the end of 1911, although in the southern counties at least as much has been sown as a year ago. On February, the Board reported that the wet weather, which very generally prevailed over the whole of England and Wales during January, considerably interfered with farm work. Low-lying and heavy lands are everywhere sodden, while in the midlands and north there were some heavy falls of snow. Wheat is generally healthy and promising on the light and drier lands, but on low ground it is suffering from the wet, and is often weak and turning yellow. Where healthy it is in many parts considered to be too forward for the season. Generally speaking the early sown wheat is better than that sown late. Seeds are very flourishing. Very little preparation of the land for the spring crops has been done, except on the lightest soils, and such field-work is in most districts considerably in arrear.

**Ireland.** The Irish flax crop is returned by the Department of Agriculture as 2,067,527 stones of 14 lb. from 54,931 acres, compared with 1,798,481 stones from 66,818 acres in 1911. Turnips yielded 141,240,000 bushels from 271,771 acres compared with 196,865,000 bushels from 270,805 acres in 1911. Mangolds yielded 48,572,000 bushels from 81,700 acres compared with 64,756,000 bushels from 77,857 acres and cabbage 508,000 short tons from 37,950 acres, compared with 553,000 tons from 37,281 acres in 1911.

**British India.** According to the first general memorandum of the Commercial Intelligence Department of the Indian Government returns representing about 86 p.c. of the area ordinarily devoted to wheat show a total under wheat for 1912-13 of 24,634,000 acres compared with 24,031,000, the revised figure for the same date last year, an increase of 2.5 p.c. The sowing season has on the whole been fairly favourable, and the condition of the crop is reported to be generally from fair to good; but rain

was wanted (January 2) in many places in western and northwestern India. The total acreage under rape and mustard is reported as 3,690,200 acres compared with 3,564,900 acres last year, an increase of 3.5 p.c. The total area under linseed is reported as 3,600,000 acres as against 4,265,000 acres last year, a decrease of 15.6 p.c.

**New Zealand.** The Government Statistician reported (December 10) the following as the acreages sown or intended to be sown for the season of 1912-13. For threshing only, wheat 189,869, oats 386,786, barley 37,486, maize 4,683, peas 19,649. Intended to be cut for seed, rye grass 63,031, cocksfoot 34,007, clover 13,035. Sown or intended to be sown this season, potatoes 23,480, turnips 439,740, mangolds, 19,326, rape 257,155.

**New South Wales.** The Acting Government Statistician reports (December 18) that the total area under wheat for 1912-13 is estimated at 2,911,940 acres, a decrease of 152,810 acres as compared with the previous year. The average yield per acre is estimated at slightly over 10.9 bushels as against 10.5 bushels the previous year and 11 bushels the average of the preceding ten years. The probable wheat production is placed at 24,365,000 bushels as compared with 25,088,000 bushels the year before.

**France.** The Journal Officiel of January 23 gives the estimates of the areas sown to winter crops for 1913 and their condition on January 1. The department of the Landes is not included owing to defective returns. The following is a statement of the areas sown and their condition as compared with the previous year :

| Crops       | 1913       | 1912       | Condition   |             | Difference<br>plus (+) or<br>minus (-) |
|-------------|------------|------------|-------------|-------------|--|
|             |            |            | Jan. 1 1913 | Jan. 1 1912 |  |
|             | acres      | acres      |             |             |  |
| Wheat.....  | 15,568,000 | 15,603,000 | 71          | 79          | - 35,000                               |
| Maslin..... | 311,000    | 321,000    | 74          | 80          | - 10,000                               |
| Rye.....    | 2,856,000  | 3,022,000  | 71          | 80          | - 166,000                              |
| Oats.....   | 2,037,000  | 1,980,000  | 73          | 79          | + 57,000                               |
| Barley..... | 381,000    | 401,000    | 73          | 77          | + 20,000                               |

Scale for condition : 100 = very good, 80 = good, 60 = fairly good, 50 = fair, 30 = poor, 20 = bad.

It will be seen that in each case except oats there is a small diminution in the acreage sown to winter crops. This decrease was due to the extremely wet weather of last autumn which hindered sowing.

**Russia.** H. M. Consul at Odessa reports (February 1) that recent severe frosts, without equally widespread snowfall, will, it is feared, have done considerable harm to the winter crops. Owing to previous mild weather

the wheat was more advanced than usual; so that it would be more likely to be harmed by the weather conditions. However, only a small part of the usual area was sown last autumn in south Russia; so that the failure of the winter wheat would be a less severe blow to farmers than under normal conditions. On the other hand the prospects for spring sowings are most favourable. The land has been so thoroughly saturated by rain that, given favourable weather at sowing time, there is every reason to hope for a good harvest, even if the summer months be dry and rainless. An early spring is also to be hoped for, as there is much more work than usual to be done in the fields.

**United States.** The Crop Reporting Board of the U. S. Department of Agriculture estimates the numbers and values of farm animals on farms and ranges in the United States on January 1 1913, compared with January 1 1912, as follows:

| Farm animals       | Total number |             | Value per head |             | Total value   |               |
|--------------------|--------------|-------------|----------------|-------------|---------------|---------------|
|                    | Jan. 1 1912  | Jan. 1 1913 | Jan. 1 1912    | Jan. 1 1913 | Jan. 1 1912   | Jan. 1 1913   |
|                    | no.          | no.         | \$ c           | \$ c        | \$            | \$            |
| Horses .....       | 20,509,000   | 20,567,000  | 105.94         | 110.77      | 2,172,694,000 | 2,278,222,000 |
| Mules .....        | 4,362,000    | 4,386,000   | 120.51         | 124.31      | 525,657,000   | 545,245,000   |
| Milch cows .....   | 20,699,000   | 20,497,000  | 39.39          | 45.02       | 815,414,000   | 922,783,000   |
| Other cattle ..... | 37,260,000   | 36,030,000  | 21.20          | 26.36       | 790,064,000   | 949,645,000   |
| Sheep .....        | 52,362,000   | 51,482,000  | 3.46           | 3.94        | 181,170,000   | 202,775,000   |
| Swine .....        | 65,410,000   | 61,178,000  | 8.00           | 9.86        | 523,328,000   | 603,109,000   |

The total value of all animals enumerated above was on January 1 1913 \$5,501,783,000 as compared with \$5,008,327,000 on January 1 1912, an increase of \$493,456,000, or 9.9 p.c.

## INTERNATIONAL INSTITUTE OF AGRICULTURE.

The Bulletin of agricultural statistics for January 1913 reports on cereal crops in the southern hemisphere and on the sowing of winter cereals in the northern hemisphere. It contains also supplementary notices on the harvest of 1911-12 and live stock statistics of Argentina.

**CEREAL CROPS IN SOUTHERN HEMISPHERE.** The following table shows the area and production of wheat, oats, barley, and flaxseed in each of the countries named for the year 1912-13 compared with 1911-12:



**I. Area and Production of Wheat, Oats, Barley and Flaxseed, 1912-13, compared with 1911-12.**

| Countries             | Harvested area |           |                 | Production |           |                 | Yield per acre |         |
|-----------------------|----------------|-----------|-----------------|------------|-----------|-----------------|----------------|---------|
|                       | 1912-13        | 1911-12   | p.c. of 1911-12 | 1912-13    | 1911-12   | p.c. of 1911-12 | 1912-13        | 1911-12 |
|                       | 000 acres      | 000 acres | p.c.            | 000 bush.  | 000 bush. | p.c.            | bush.          | bush.   |
| Wheat—                |                |           |                 |            |           |                 |                |         |
| Argentina.....        | 17,096         | 17,043    | 100.3           | 235,160    | 166,192   | 141.5           | 13.83          | 9.81    |
| Australia.....        | 7,500          | 7,426     | 101.0           | 79,080     | 71,867    | 110.0           | 10.56          | 9.67    |
| New Zealand.....      | 190            | 215       | 88.2            | 7,237      | 7,908     | 91.5            | 38.07          | 36.73   |
| Totals and averages.. | 24,786         | 24,684    | 100.4           | 321,477    | 245,967   | 130.7           | 12.94          | 9.96    |
| Oats—                 |                |           |                 |            |           |                 |                |         |
| Argentina.....        | 2,947          | 2,548     | 115.7           | 109,064    | 65,101    | 167.5           | 37.00          | 25.45   |
| New Zealand.....      | 386            | 403       | 95.9            | 16,623     | 22,554    | 73.7            | 43.03          | 55.89   |
| Totals and averages.. | 3,333          | 2,951     | 113.0           | 125,687    | 87,655    | 143.4           | 37.79          | 29.65   |
| Barley—               |                |           |                 |            |           |                 |                |         |
| New Zealand.....      | 37             | 32        | 116.9           | 1,186      | 1,307     | 90.8            | 32.16          | 41.26   |
| Flaxseed—             |                |           |                 |            |           |                 |                |         |
| Argentina.....        | 4,283          | 4,028     | 106.3           | 51,179     | 22,534    | 227.1           | 11.95          | 5.58    |

WINTER CEREALS, 1912-13. The following statement shows the areas sown to winter cereals during the fall and winter up to December 31, 1912:

**II. Areas sown to Winter Cereals in 1912 compared with 1911.**

| Countries            | Winter wheat |                  | Winter rye |                  | Winter barley |                  |
|----------------------|--------------|------------------|------------|------------------|---------------|------------------|
|                      | area 1912    | per cent of 1911 | area 1912  | per cent of 1911 | area 1912     | per cent of 1911 |
|                      | acres        | p. c.            | acres      | p. c.            | acres         | p. c.            |
| Belgium.....         | 395,000      | 97.0             | 642,000    | 100.0            | 74,000        | 93.7             |
| Denmark.....         | 100,000      | 100.0            | 682,000    | 100.0            | —             | —                |
| Spain.....           | 8,571,000    | 93.0             | 1,826,000  | 91.0             | 3,098,000     | 98.0             |
| England & Wales..... | —            | 95.0             | —          | —                | —             | —                |
| Luxemburg.....       | 27,000       | 100.0            | 26,000     | 135.1            | 124           | 135.1            |
| Switzerland.....     | 94,000       | 100.0            | 54,000     | 100.0            | 3,200         | 100.0            |
| Canada.....          | 1,087,000    | 93.9             | —          | —                | —             | —                |
| United States.....   | 32,387,000   | 97.5             | 2,443,000  | —                | —             | —                |
| India.....           | 24,634,000   | 102.5            | —          | —                | —             | —                |
| Japan.....           | 1,159,000    | 99.7             | —          | —                | —             | —                |
| Tunis.....           | —            | 100.0            | —          | —                | —             | 100.0            |

In Spain the area sown to winter oats is 907,000 acres, or 17 p.c. less than last year. In Tunis the area under oats is the same as last year. Sowing in most European countries was effected under favourable conditions, the exceptions being Spain and Rumania. The condition in December of the Russian winter sown crops was not at all satisfactory.

**CEREAL HARVEST OF 1912.** The following are the latest data showing results of the cereal harvest of 1912 for the countries named :

**III. Area and Production of Cereals 1912 compared with 1911.**

| Countries and crops      | Area      |           |              | Production |           |              | Yield per acre |       |
|--------------------------|-----------|-----------|--------------|------------|-----------|--------------|----------------|-------|
|                          | 1912      | 1911      | p.c. of 1911 | 1912       | 1911      | p.c. of 1911 | 1912           | 1911  |
|                          | 000 acres | 000 acres | p.c.         | 000 bush.  | 000 bush. | p.c.         | bush.          | bush. |
| <b>Wheat—</b>            |           |           |              |            |           |              |                |       |
| United Kingdom.....      | 1,971     | 1,951     | 101·0        | 57,403     | 64,313    | 89·3         | 29·14          | 33·00 |
| Norway .....             | 12        | 12        | 100·0        | 302        | 270       | 111·9        | 24·39          | 21·71 |
| Sweden.....              | —         | —         | —            | 7,797      | 8,235     | 94·7         | —              | —     |
| Russia in Europe.....    | —         | —         | —            | 623,523    | 447,038   | 139·5        | —              | —     |
| Russia in Asia .....     | —         | —         | —            | 137,737    | 88,020    | 156·5        | —              | —     |
| Japan .....              | 1,216     | 1,223     | 99·4         | 25,692     | 24,851    | 103·4        | 21·11          | 20·37 |
| Egypt.....               | 1,332     | 1,285     | 103·6        | 30,900     | 38,046    | 81·2         | 23·20          | 29·59 |
| <b>Rye—</b>              |           |           |              |            |           |              |                |       |
| Norway .....             | 37        | 37        | 100·0        | 866        | 947       | 91·4         | 23·26          | 25·49 |
| Sweden.....              | —         | —         | —            | 23,076     | 24,685    | 93·5         | —              | —     |
| Russia in Europe.....    | —         | —         | —            | 1,011,194  | 742,362   | 136·2        | —              | —     |
| Russia in Asia .....     | —         | —         | —            | 34,802     | 20,604    | 168·9        | —              | —     |
| <b>Barley—</b>           |           |           |              |            |           |              |                |       |
| United Kingdom.....      | 1,818     | 1,756     | 103·5        | 60,631     | 60,212    | 100·7        | 33·27          | 34·20 |
| Norway .....             | 89        | 89        | 100·0        | 3,005      | 2,682     | 114·3        | 34·57          | 30·30 |
| Sweden.....              | —         | —         | —            | 14,156     | 14,696    | 96·3         | —              | —     |
| Russia in Europe.....    | —         | —         | —            | 455,599    | 404,189   | 112·7        | —              | —     |
| Russia in Asia .....     | —         | —         | —            | 22,836     | 18,155    | 125·8        | —              | —     |
| Japan .....              | 3,132     | 3,102     | 101·0        | 99,574     | 95,037    | 104·8        | 31·78          | 30·67 |
| Egypt.....               | 378       | 381       | 98·4         | 11,337     | 11,710    | 96·8         | 29·93          | 30·48 |
| <b>Oats—</b>             |           |           |              |            |           |              |                |       |
| United Kingdom.....      | 4,068     | 4,051     | 100·4        | 188,675    | 186,894   | 101·0        | 46·45          | 46·18 |
| Norway .....             | 263       | 263       | 100·0        | 10,442     | 9,593     | 108·9        | 39·89          | 36·47 |
| Sweden.....              | —         | —         | —            | 82,604     | 71,493    | 115·5        | —              | —     |
| <b>Maize—</b>            |           |           |              |            |           |              |                |       |
| Italy <sup>1</sup> ..... | 3,938     | 4,066     | 96·8         | 98,669     | 93,681    | 105·3        | —              | —     |
| Egypt.....               | 21,903    | 21,840    | 103·4        | 73,642     | 67,903    | 108·5        | 38·71          | 36·96 |

<sup>1</sup> Early and late crops. <sup>2</sup> Including millet.

**LIVE STOCK STATISTICS OF ARGENTINA.** On December 31 1911 the number of horses in Argentina was 8,894,031 compared with 8,435,141 in 1910, and of cattle 28,786,168 compared with 28,827,900. At December 31 1911 mules numbered 534,813, donkeys 319,315, goats 4,301,955 and swine 2,900,000.

**Average Crop Yields per Acre in the United States.** The United States Crop Reporter for February 1913 contains a series of eight diagrams illustrating the average yield per acre of corn, wheat, oats, potatoes, barley, rye, buckwheat and hay during the past 37 years. The diagrams show that during the 'seventies and 'eighties there was a tendency towards lower average yields, but that during the last twenty years the trend in all cases has been upward. The tendency towards an enlarged production per acre is stated to be general throughout the United States and not to be due to a shifting of production from one section to another.

## THE WORLD'S FLAX PRODUCTION.

The annual plant known as flax or linseed (*Linum usitatissimum*, Linn.) has been cultivated from remote antiquity for its fibre which is spun into linen. De Candolle, in his *Origin of Cultivated Plants*, states that it has been grown for at least 4,000 or 5,000 years in Mesopotamia, Assyria and Egypt. In ancient Egypt linen garments were the prescribed dress of the priests, and linen wrappings were used for embalming the dead. When Joseph became governor of Egypt he was admitted into the priestly caste to which the Pharaohs themselves belonged; and as one of the first marks of the royal favour he was "arrayed in vestures of fine linen." The cultivation of flax in Egypt is referred to in connection with the plague of hail, which smote the flax and the barley, "for the barley was in the ear and the flax was balled." At the present time flax is grown either for its fibre or for its seed, the oil of the latter being applied to numerous industrial purposes. These include the manufacture of oil paints, varnishes and printing inks. The residue of the seed, after expression of the oil, is made into feeding cakes for cattle and sheep; and the resulting manure is a rich fertiliser.

The following tables show, so far as official data are available, for each of the five years 1908 to 1912 or 1908 09 to 1912-13 in the case of countries in the southern hemisphere, the areas under flax and the production of fibre or seed in the principal flax-growing countries of the world, the figures being compiled chiefly from the publications of the International Agricultural Institute:

Areas ("000" omitted).

| Country               | 1908   | 1909   | 1910   | 1911            | 1912             |
|-----------------------|--------|--------|--------|-----------------|------------------|
|                       | acres  | acres  | acres  | acres           | acres            |
| Russia in Europe..... | 3,402  | 3,274  | 3,216  | 3,429           | 3,467            |
| Russia in Asia.....   | 295    | 328    | 349    | 289             | 228              |
| British India.....    | 2,099  | 2,997  | 3,188  | 3,721           | 4,946            |
| United States.....    | 2,679  | 2,083  | 2,467  | 2,757           | 2,992            |
| Canada.....           | 139    | 138    | 477    | 683             | 1,678            |
| Argentina.....        | 3,791  | 3,597  | 3,716  | 4,028           | 4,283            |
| Uruguay.....          | 45     | —      | 95     | 95              | —                |
| Ireland.....          | 47     | 38     | 46     | 67              | 55               |
| France.....           | 71     | 51     | 54     | 59              | 55               |
| Belgium.....          | 51     | 39     | —      | 47              | 52               |
| Holland.....          | 36     | 25     | 29     | 39              | 37               |
| Italy.....            | —      | 22     | 22     | 37              | 44               |
| Austria.....          | 124    | 111    | 96     | 95              | 91               |
| Hungary.....          | 45     | 41     | 39     | —               | 25               |
| Romania.....          | 45     | 30     | 33     | 52              | 78               |
| Other countries.....  | 43     | 23     | 34     | 32 <sup>1</sup> | 129 <sup>1</sup> |
| Totals .....          | 12,912 | 12,797 | 13,861 | 15,421          | 18,190           |

<sup>1</sup> Estimated.  
37015-2

**Total yields of Seed ("000" omitted).**

| Country               | 1908   | 1909   | 1910   | 1911   | 1912   |
|-----------------------|--------|--------|--------|--------|--------|
|                       | bush.  | bush.  | bush.  | bush.  | bush.  |
| Russia in Europe..... | 18,639 | 21,362 | 18,149 | 20,544 | -      |
| Russia in Asia.....   | 2,009  | 1,844  | 2,030  | 887    | -      |
| British India.....    | 6,544  | 11,908 | 17,112 | 22,544 | 25,648 |
| United States.....    | 25,805 | 19,513 | 12,718 | 19,370 | 28,073 |
| Canada.....           | 1,499  | 2,213  | 3,802  | 7,867  | 21,682 |
| Argentina.....        | 41,291 | 28,212 | 23,424 | 22,534 | 51,179 |
| Uruguay.....          | 522    | -      | 660    | -      | -      |
| France.....           | 722    | 436    | 416    | 496    | -      |
| Belgium.....          | -      | -      | -      | -      | 498    |
| Holland.....          | 331    | 213    | 307    | 561    | -      |
| Italy.....            | -      | -      | -      | 341    | 343    |
| Austria.....          | 932    | 852    | 663    | 697    | 650    |
| Hungary.....          | 220    | 205    | 185    | -      | 380    |
| Rumania.....          | 168    | 191    | 337    | 560    | 718    |
| Other countries.....  | 122    | 71     | 42     | 81     | 20     |
| Totals.....           | 98,804 | 87,020 | 79,845 | 96,482 | -      |

**Total yields of Fibre ("000" omitted).**

|                       | cwt.   | cwt.   | cwt.   | cwt.   | cwt. |
|-----------------------|--------|--------|--------|--------|------|
| Russia in Europe..... | 16,200 | 10,910 | 9,418  | 10,336 | -    |
| Russia in Asia.....   | 1,145  | 964    | 1,077  | 486    | -    |
| Belgium.....          | -      | -      | -      | -      | 372  |
| France.....           | 479    | 305    | 331    | 450    | -    |
| Ireland.....          | 177    | 161    | 199    | 252    | -    |
| Hungary.....          | 288    | 279    | 266    | -      | -    |
| Italy.....            | -      | 72     | 69     | 61     | 55   |
| Austria.....          | 741    | 681    | 502    | 466    | 515  |
| Holland.....          | 197    | 134    | 142    | 209    | 216  |
| Rumania.....          | 24     | 16     | 44     | -      | -    |
| Japan.....            | 437    | 297    | 189    | 248    | -    |
| Other countries.....  | 28     | 25     | 36     | 16     | 88   |
| Totals.....           | 19,716 | 13,844 | 12,273 | 12,524 | -    |

**Yields per acre of Seed.**

|                       | bush.              | bush.             | bush.             | bush. | bush. |
|-----------------------|--------------------|-------------------|-------------------|-------|-------|
| Russia in Europe..... | 5.42               | 6.53              | 5.58              | 6.05  | -     |
| Russia in Asia.....   | 6.85               | 4.94              | 5.58              | 3.66  | -     |
| British India.....    | 12.87 <sup>1</sup> | 3.50 <sup>1</sup> | 4.78 <sup>1</sup> | 6.05  | 5.26  |
|                       | 14.46 <sup>2</sup> | 6.21 <sup>2</sup> | 7.97 <sup>2</sup> | -     | -     |
| United States.....    | 9.56               | 9.40              | 5.10              | 7.00  | 9.88  |
| Canada.....           | 10.76              | 15.98             | 7.97              | 11.47 | 12.92 |
| Argentina.....        | 10.83              | 7.81              | 6.37              | 5.58  | 11.95 |
| Uruguay.....          | 11.47              | -                 | 7.00              | -     | -     |
| France.....           | 10.20              | 8.60              | 7.81              | 8.28  | -     |
| Belgium.....          | -                  | -                 | -                 | -     | 9.56  |
| Holland.....          | 9.24               | 8.60              | 10.51             | -     | -     |
| Italy.....            | -                  | -                 | -                 | 9.40  | 7.65  |
| Austria.....          | 7.49               | 7.65              | 6.85              | 7.32  | 7.17  |
| Hungary.....          | 4.94               | 4.94              | 4.78              | -     | -     |
| Rumania.....          | 3.66               | 6.37              | 10.20             | 10.67 | 9.08  |

<sup>1</sup> Pure culture.<sup>2</sup> Mixed culture.



Yields per acre of Fibre.

| Country               | 1908  | 1909  | 1910  | 1911  | 1912 |
|-----------------------|-------|-------|-------|-------|------|
|                       | cwt.  | cwt.  | cwt.  | cwt.  | cwt. |
| Russia in Europe..... | 4.73  | 3.30  | 2.94  | 3.03  | -    |
| Russia in Asia.....   | 3.93  | 5.70  | 4.90  | 1.70  | -    |
| Ireland.....          | 3.75  | 4.19  | 4.28  | 3.75  | -    |
| France.....           | 6.78  | 6.07  | 6.16  | 7.58  | -    |
| Holland.....          | 5.53  | 5.41  | 4.91  | 5.35  | 5.89 |
| Italy.....            | -     | 3.21  | 3.03  | 1.70  | 1.25 |
| Austria.....          | 5.98  | 6.16  | 5.26  | 5.70  | 4.90 |
| Hungary.....          | 6.42  | 6.87  | 6.87  | -     | -    |
| Rumania.....          | 53    | 53    | 1.34  | -     | -    |
| Japan.....            | 21.32 | 23.82 | 24.71 | 24.89 | -    |

NOTE. Bushel=56 lb. Cwt.=100 lb.

From this table it will be seen that the area under flax has been gradually expanding during the last three years. The world's acreage which was about 12,797,000 in 1909 was, as nearly as can be calculated, 18,160,000 in 1912. As has previously been noted in the Census Monthly the demand for flax fibre is greater than the supply, and the total production which was 19,716,000 cwt. in 1908 was little more than 12,500,000 cwt. in 1911.

The principal sources of supply for the fibre are Russia, Belgium, France, Ireland, Austria and Holland; but Russia produces something like 90 p. c. of the total. The principal flaxseed growing countries have hitherto been Argentina, the United States, British India and Russia. Of these India shows a steady increase of total production during the last five years, corresponding with the increase of area. In Argentina the area has increased since 1910, but the yield fluctuates greatly. The maximum acreage of the world under flax was reached in 1912, and the world's total production of flaxseed, when known, will greatly exceed the previous records. Without the Russian figures the production in 1912, as shown by the table, amounts to 129,191,000 bushels, and if the Russian figures should be anywhere near those of the previous year the total will exceed 150,000,000 bushels, or over 60 p. c. in excess of the crop of 1911.

It was not before the year 1908 that the growth of flax for seed in Canada assumed any considerable importance. In 1900 the production was only 172,222 bushels from an area of 23,086 acres. In 1912 the estimated total production was 21,682,000 bushels from an area of 1,678,000 acres.

In the fiscal year ended March 31 1909 the exports of flaxseed the produce of Canada rose to 693,779 bushels from 10,997 bushels in the previous year. Since this date the exports of flaxseed have continued to increase; they amounted to 1,997,648 bushels in 1910, to 2,696,119 bushels in 1911 and to 1,504,528 bushels in 1912. For the calendar year 1912 they were 8,180,594 bushels of the value of \$15,134,060. This is an average value per bushel of \$1.85, which may be compared with the average local market prices in 1911 and 1912 of \$1.50 and 91 cents respectively, as reported by the agricultural correspondents of the Census and Statistics Office. During the past three years these high prices have attracted special attention to flaxseed as an agricultural crop, and moreover flax is frequently the first crop sown by settlers upon new breaking in the Northwest provinces.

It may further be observed that Canada now stands fifth in order amongst flaxseed producing countries and that the total production is approaching that of the United States. In fact the production of 1912 was actually in excess of the United States production of 1911.

Another point worthy of notice, as showing the general suitability to flaxseed of Canadian soil and climate, is the high average rate of yield. A glance at the table shows Canada to have the highest yield per acre of flaxseed of any country in the world for the last two years and also in 1909, whilst in each of the other three years the Canadian average yield per acre is exceeded by only one or two countries.

Compared by provinces the largest area under flax in Canada is in Saskatchewan, and in 1912 this province accounted for 87 p. c. of the whole flaxseed area in the Dominion. In 1911 the provincial government of Saskatchewan issued a useful bulletin on the subject of flax growing<sup>1</sup>. There is every probability that the acreage under flax in Canada will continue to expand. At present the western crop is grown entirely for seed, the flax straw being usually burned. Efforts have been and are still being made to find some profitable means of extracting the flax fibre from this waste material. Their eventual success would have an important bearing upon the agricultural and manufacturing industries of Canada.

## THE BRITISH CENSUS OF PRODUCTION, 1907.

The Labour Department of the British Board of Trade has recently issued its final report on the first census of production of the United Kingdom which was taken in the year 1908 in respect of the year 1907. A number of preliminary reports appeared during the years 1909-11, but the final report now issued, which runs to 938 pages of foolscap size, brings together the whole of the results for the 13 groups into which for the purposes of the census the various trades of the United Kingdom were divided.

In the following statement are given for the whole of the United Kingdom and for each of the 13 groups (1) the gross output, i.e., the selling value or value of work done; (2) the cost of the materials used; (3) the amount paid to other firms for work given out; (4) the net output, or excess of (1) over (2) and (3); (5) the average number of persons employed, excluding outworkers and (6) the horse power of engines at mines, factories, etc. The values are expressed in thousands of dollars, converted from English pounds sterling at the rate of \$4.86 per £.

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<sup>1</sup> Hints for Flax Growers by A. F. Mantle, Department of Agriculture, Regina 1911.

| Groups of trades   | Gross out-put<br>("000"<br>omitted) | Cost of materials<br>("000"<br>omitted) | Cost of work<br>given out<br>("000"<br>omitted) | Net out-put<br>("000"<br>omitted) | Average no. of persons employed | Horse power of engines |
|--|-------------------------------------|---|---|-----------------------------------|---------------------------------|------------------------|
|  | \$                                  | \$                                      | \$  | \$                                | No.                             | H.P.                   |
| Mines and quarries, . . .                                  | 720,393                             | 138,575                                 | -   | 581,718                           | 965,230                         | 2,495,134              |
| Iron and steel, engineering and shipbuilding trades, . . . | 1,825,954                           | 1,032,823                               | 48,131  | 744,999                           | 1,539,415                       | 2,437,481              |
| Metal trades other than iron and steel, . . .              | 451,863                             | 395,800                                 | 1,124   | 57,879                            | 114,473                         | 83,974                 |
| Textile trades, . . .                                      | 1,623,330                           | 1,143,852                               | 20,386  | 459,092                           | 1,253,014                       | 1,987,765              |
| Clothing trades, . . .                                     | 525,517                             | 283,167                                 | 10,342  | 232,009                           | 756,466                         | 84,806                 |
| Food, drink and tobacco trades, . . .                      | 1,398,904                           | 962,105                                 | 964   | 435,635                           | 463,701                         | 380,171                |
| Chemical and allied trades, . . .                          | 355,156                             | 260,201                                 | 44  | 104,911                           | 127,842                         | 214,770                |
| Paper, printing, stationery and allied trades, . . .       | 298,366                             | 129,507                                 | 5,095   | 163,763                           | 325,475                         | 237,573                |
| Leather, canvas and india rubber trades, . . .             | 169,983                             | 127,648                                 | 394   | 41,941                            | 84,724                          | 54,891                 |
| Timber trades, . . .                                       | 225,765                             | 120,536                                 | 808   | 104,361                           | 239,195                         | 173,813                |
| Clay, stone, building and contracting trades, . . .        | 567,901                             | 241,771                                 | 31,911  | 294,219                           | 725,240                         | 433,279                |
| Miscellaneous trades, . . .                                | 40,335                              | 18,386                                  | 326   | 21,623                            | 46,874                          | 5,417                  |
| Public utility services, . . .                             | 374,982                             | 149,825                                 | 1,582   | 223,575                           | 342,491                         | 2,059,737              |
| Factory owners power only, . . .                           | -                                   | -                                       | -   | -                                 | 806                             | 102,198                |
| Total, . . .   | 8,591,449                           | 5,004,617                               | 121,107   | 3,465,725                         | 6,984,976                       | 10,755,009             |

The above figures do not include agriculture and fisheries, the inquiries as to which were conducted separately by other departments. The results of these inquiries showed that the value of the agricultural output of the United Kingdom in 1908 was \$955,686,000 (\$733,893,000 for Great Britain and \$221,793,000 for Ireland), and that the value of the fresh fish and shell-fish landed in the United Kingdom in 1907 was \$57,028,000. The number of persons permanently or temporarily employed in agricultural production was for Great Britain about 1,840,000 persons including 500,000 occupiers, 502,000 members of occupiers' families, 671,000 permanent employees and 167,000 temporary labourers, while for Ireland the agricultural output of \$221,793,000 afforded permanent or temporary employment to about 984,000 persons, this being an agricultural production per head of \$400 in Great Britain and \$225 in Ireland.

The aggregate value of the gross output as given in the table includes a large amount of duplication owing to inclusion of the same materials used in different stages of manufacture by different firms. Attempts are made in the report to eliminate this duplication. Its extent cannot be given with precision; but the report states that after making the best estimates available the value of the output of the United Kingdom at the point where final consumption or export begins amounts to between \$6,973,933,000 and \$7,046,933,000. Deducting exports there remain for consumption within the United Kingdom goods of a value between \$4,881,267,000 and \$5,051,600,000. Adding the value of imports, \$1,129,067,000, and allowing from

\$2,082,933,000 to \$2,739,933,000 to cover expenses and profits of distribution and transport, the total value of all the goods in 1907 in the United Kingdom is shown to lie between \$8,093,267,000 and \$8,920,600,000.

A first undertaking of such magnitude and complexity as a census of British production could not fail to encounter numerous and special difficulties, many of which will not recur in connection with any succeeding census of similar character. It is not surprising to find therefore that the conclusions arrived at are given with numerous qualifications and reservations, and that totals are expressed in the form of a range between limits rather than as exact figures. At the same time the report states that the "main conclusions are believed to lie within a range from which gross inaccuracy is excluded".

The initial organisation of the census was carried out by the late Mr. D. F. Schloss. Mr. H. Fountain was Director from 1908 to 1911 when he was succeeded by the present Director, Mr. A. W. Flux, formerly professor of political economy at McGill University.

Arrangements are now being made for the second British census of production, which will relate to the year 1912. The results will be interesting for comparison with those of 1907.

## DOMINION EXPERIMENTAL FARMS.

The report for the fiscal year ended March 31 1912 of the Dominion Experimental Farms, recently issued, contains the usual interesting record of the work carried on at Ottawa and at the branch farms and stations throughout Canada. New experimental stations are in course of establishment at Ste. Anne de la Pocatière, Quebec, Kentville, N.S., Invermere, B.C. and Sidney, Vancouver Island, B.C., and the progress of the preliminary operations is described.

The report of the Director (Mr. J. H. Grisdale) states that the important question of crop rotation has received considerable attention, both at Ottawa and at some of the branch farms. A number of different rotations are carefully described and the resulting profits are shown. At Ottawa a five year Rotation "A" consisting of (1) oats with clover; (2) corn with manure at the rate of 25 tons per acre; (3) grain seeded down with clover, alsike and timothy; (4) clover hay (two crops); (5) timothy hay, is stated to have given excellent results during a trial of 13 years. The average annual net profit is shown to work out for the past six years at about \$9 per acre.

The volume includes also the annual reports of the scientific officers. The Cerealists (Dr. C. E. Saunders) describes a new early ripening wheat to which the name "Prelude" has been given. It ripens earlier than the "Marquis" and is stated to possess a very high baking strength. The work of the Chemist (Mr. Frank T. Shutt) ranges over many subjects, not the least important being the experiments relating to the nitrogen enrichment of soils by the growth of clover. The increase in nitrogen due to ten years' growth of clover is shown to be over 500 lb. per acre, and it is stated that the use of legumes may in a single season enrich the soil with as much nitrogen as would be supplied by an application of



ten tons of farmyard manure. Clover moreover further enriches the soil by the addition of humus-forming material. The Entomologist (Dr. C. Gordon Hewitt) reports on the introduction of the Brown-tail Moth into New Brunswick from the State of Maine and describes the measures taken to control this pest. By co-operation with Dr. L. O. Howard, Entomologist of the U.S. Department of Agriculture, arrangements have been made for the introduction into New Brunswick of the moth's parasitic enemies which, imported from Europe, have already been established in the New England States. Part of the Report of the Botanist (Mr. H. T. Güssow) deals with potato diseases and in this connection emphasises the necessity for international agreement to prevent the exportation and distribution of diseases which each country at great annual expense endeavours to control. The reports of the Horticulturist (Mr. W. T. Macoun), Poultry Manager (Mr. A. G. Gilbert) and the Superintendents of the Branch Farms contain a great deal of information of special or local value.

The volume includes as usual some excellent half-tone illustrations. Two of these are effective as demonstrating the wasteful practice of straw burning in Alberta and the more profitable alternative of utilising the straw for the winter maintenance of farm live stock.

## PRICES OF COLONIAL AND FOREIGN PRODUCE IN BRITISH MARKETS, 1913.

WHEAT (per bushel of 60 lb.)

| Description               | Jan. 6 |         | Jan. 13 |         | Jan. 20 |         | Jan. 27 |         |
|---------------------------|--------|---------|---------|---------|---------|---------|---------|---------|
|                           | £      | s. d.   | £       | s. d.   | £       | s. d.   | £       | s. d.   |
| Manitoba best.....        | 1 10½  | - 1 13½ | 1 10½   | - 1 13½ | 1 13½   | - 1 16½ | 1 14½   | - 1 17½ |
| " good.....               | 1 07½  | - 1 10½ | 1 07½   | - 1 10½ | 1 10½   | - 1 13½ | 1 11½   | - 1 14½ |
| " No. 3.....              | 1 03½  | - 1 04½ | 1 03½   | - 1 04½ | 1 06½   | - 1 07½ | 1 08½   | - 1 08½ |
| " No. 4.....              | 1 01½  | - 1 03  | 1 01½   | - 1 03  | 1 04½   | - 1 06  | 1 05½   | - 1 07½ |
| " No. 6.....              | 0 92½  | - 0 95½ | 0 92½   | - 0 95½ | 0 95½   | - 0 98½ | 0 97½   | - 1 00½ |
| " feed.....               | 0 88½  | - 0 88½ | 0 82½   | - 0 88½ | 0 85½   | - 0 91½ | 0 85½   | - 0 88½ |
| American best spring..... | 1 03½  | - 1 13  | 1 10½   | - 1 13  | 1 13½   | - 1 16½ | 1 13½   | - 1 16½ |
| " ordinary spring.....    | 1 07½  | - 1 10½ | 1 07½   | - 1 10½ | 1 10½   | - 1 13½ | 1 10½   | - 1 13½ |
| " red winter.....         | 1 07½  | - 1 10½ | 1 07½   | - 1 10½ | 1 10½   | - 1 13½ | 1 10½   | - 1 13½ |
| " hard winter.....        | 1 06½  | - 1 07½ | 1 06½   | - 1 07½ | 1 08½   | - 1 10½ | 1 08½   | - 1 10½ |
| Australian.....           | 1 14½  | - 1 16½ | 1 14½   | - 1 16½ | 1 14½   | - 1 16½ | 1 14½   | - 1 16½ |
| New Zealand.....          | 1 10½  | - 1 11½ | 1 10½   | - 1 11½ | 1 11½   | - 1 14  | 1 11½   | - 1 14  |
| Russian finest.....       | 1 07½  | - 1 10½ | 1 07½   | - 1 10½ | 1 08½   | - 1 11½ | 1 08½   | - 1 11½ |
| " good.....               | 1 01½  | - 1 04½ | 1 01½   | - 1 04½ | 1 03    | - 1 05½ | 1 03    | - 1 05½ |
| " common.....             | 0 95½  | - 0 98½ | 0 95½   | - 0 98½ | 0 97½   | - 1 00½ | 0 97½   | - 1 00½ |
| Californian.....          | 1 13½  | - 1 16½ | 1 13½   | - 1 16½ | 1 13½   | - 1 16½ | 1 13½   | - 1 16½ |
| Blue Stem.....            | 1 12½  | - 1 14½ | 1 12½   | - 1 14½ | 1 12½   | - 1 14½ | 1 12½   | - 1 14½ |
| White Walla.....          | 1 11½  | - 1 13½ | 1 11½   | - 1 13½ | 1 11½   | - 1 13½ | 1 11½   | - 1 13½ |
| Red Walla.....            | 1 11   | - 1 13½ | 1 11    | - 1 11½ | 1 11    | - 1 11½ | 1 11½   | - 1 11½ |
| White Bombay.....         | 1 13½  | - 1 14½ | 1 13½   | - 1 14½ | 1 14½   | - 1 16½ | 1 16½   | - 1 17½ |
| " Calcutta.....           | 1 11   | - 1 11½ | 1 11    | - 1 11½ | 1 12½   | - 1 13½ | 1 14½   | - 1 14½ |
| " Karachi.....            | 1 10½  | - 1 11  | 1 10½   | - 1 11  | 1 11½   | - 1 12½ | 1 13½   | - 1 14½ |
| Red ".....                | 1 09½  | - 1 10½ | 1 09½   | - 1 10½ | 1 11½   | - 1 11½ | 1 12½   | - 1 13½ |

NOTE. The prices of grain are from the Market Supplements to the "Mark Lane Express." The prices of meat and dairy produce are from the British official returns.

## OATS (PER BUSHEL OF 34 LB.)

| Description        | Jan. 6             |                     | Jan. 13            |                     | Jan. 20            |                     | Jan. 27            |                     |
|--------------------|--------------------|---------------------|--------------------|---------------------|--------------------|---------------------|--------------------|---------------------|
|                    | \$                 | c.                  | \$                 | c.                  | \$                 | c.                  | \$                 | c.                  |
| Canadian .....     | 0.54 $\frac{1}{2}$ | -0.56 $\frac{7}{8}$ | 0.54 $\frac{1}{2}$ | -0.56 $\frac{7}{8}$ | 0.54 $\frac{1}{2}$ | -0.56 $\frac{7}{8}$ | 0.54 $\frac{1}{2}$ | -0.56 $\frac{7}{8}$ |
| American .....     | 0.49 $\frac{1}{2}$ | -0.50 $\frac{3}{4}$ | 0.49 $\frac{1}{2}$ | -0.50 $\frac{3}{4}$ | 0.50 $\frac{1}{2}$ | -0.51 $\frac{1}{2}$ | 0.50 $\frac{1}{2}$ | -0.51 $\frac{1}{2}$ |
| Chilian .....      | 0.62               | -0.63 $\frac{1}{2}$ | 0.62               | -0.63 $\frac{1}{2}$ | 0.62               | -0.63 $\frac{1}{2}$ | 0.62               | -0.63 $\frac{1}{2}$ |
| Bahia Blanca ..... | 0.49               | -0.50 $\frac{1}{2}$ | 0.49               | -0.50 $\frac{1}{2}$ | 0.50 $\frac{1}{2}$ | -0.51 $\frac{1}{2}$ | 0.50 $\frac{1}{2}$ | -0.51 $\frac{1}{2}$ |
| Buenos Aires ..... | 0.47 $\frac{1}{2}$ | -0.48 $\frac{1}{2}$ | 0.47 $\frac{1}{2}$ | -0.48 $\frac{1}{2}$ | 0.49               | -0.49 $\frac{1}{2}$ | 0.49               | -0.49 $\frac{1}{2}$ |
| Russian .....      | 0.57               | -0.64 $\frac{1}{2}$ | 0.51               | -0.64 $\frac{1}{2}$ | 0.51 $\frac{1}{2}$ | -0.64 $\frac{1}{2}$ | 0.51 $\frac{1}{2}$ | -0.64 $\frac{1}{2}$ |

## FLOUR (PER 280 LB.)

|                          |           |           |           |           |
|--------------------------|-----------|-----------|-----------|-----------|
| Hungarian .....          | 9.00-9.25 | 9.00-9.25 | 9.25-9.49 | 9.25-9.49 |
| American Duluth .....    | 6.93-7.18 | 6.93-7.18 | 7.06-7.30 | 7.06-7.30 |
| " Minneapolis best ..... | 7.18-7.42 | 7.18-7.42 | 7.30-7.54 | 7.30-7.54 |
| " " good .....           | 6.93-7.18 | 6.93-7.18 | 7.06-7.30 | 7.06-7.30 |
| " first pat. ....        | 6.93-7.18 | 6.93-7.06 | 7.06-7.18 | 7.06-7.18 |
| " second pat. ....       | 6.69-6.81 | 6.69-6.81 | 6.81-6.93 | 6.81-6.93 |
| " first bak. ....        | 6.45-6.51 | 6.45-6.51 | 6.57-6.63 | 6.57-6.63 |
| " second bak. ....       | 6.08-6.14 | 6.08-6.14 | 6.20-6.27 | 6.20-6.27 |
| " low grade .....        | 4.87-4.99 | 4.87-4.99 | 4.99-5.11 | 4.99-5.11 |
| Manitoba pat .....       | 6.93-7.00 | 6.93-7.00 | 7.06-7.12 | 7.06-7.18 |
| " straights .....        | 6.75-6.81 | 6.75-6.81 | 6.87-6.93 | 6.88-6.93 |
| Kansas best .....        | 6.45-6.69 | 6.57-6.81 | 6.69-6.93 | 6.70-6.93 |
| " firsts .....           | 6.20-6.45 | 6.33-6.57 | 6.45-6.69 | 6.45-6.69 |
| " seconds .....          | 5.96-6.20 | 6.08-6.33 | 6.20-6.45 | 6.20-6.45 |
| Californian .....        | 7.42-7.66 | 7.30-7.79 | 7.54-7.79 | 7.54-7.79 |
| Australian .....         | 7.06-7.18 | 6.93-7.06 | 6.93-7.06 | 6.93-7.06 |
| French fine .....        | 7.91-8.03 | 7.91-8.03 | 7.91-8.03 | 7.91-8.03 |
| Belgian fine .....       | 7.66-7.79 | 7.66-7.79 | 7.66-7.79 | 7.66-7.79 |
| Galatz " .....           | 8.15-8.27 | 8.15-8.27 | 8.15-8.27 | 8.15-8.27 |

## FRESH MEATS.

| Description and Market | Jan. 1           | Jan. 8      | Jan. 15     | Jan. 22     | Jan. 29 |
|------------------------|------------------|-------------|-------------|-------------|---------|
|                        | cwt.             | cwt.        | cwt.        | cwt.        | cwt.    |
|                        | \$               | \$          | \$          | \$          | \$      |
|                        | c.               | c.          | c.          | c.          | c.      |
| Argentine frozen—      |                  |             |             |             |         |
| Birmingham .....       | hind qrs... 7 60 | 7 60        | 7 35        | 7 35        | 7 35    |
| " .....                | fore qrs... —    | 6 59        | 6 59        | 6 59        | 6 59    |
| Leeds .....            | hind qrs... 7 60 | 7 60        | 7 60        | 7 35        | 7 35    |
| " .....                | fore qrs... —    | 6 34        | 6 34        | 6 34        | 6 53    |
| Liverpool .....        | hind qrs... 7 60 | 7 60        | 7 10        | 7 10        | 7 60    |
| " .....                | fore qrs... —    | 6 59        | 6 59        | 6 59        | 6 59    |
| London .....           | hind qrs... 7 35 | 7 35        | 7 35        | 7 10        | 7 35    |
| " .....                | fore qrs... —    | 6 34        | 6 34        | 6 34        | 6 34    |
| Manchester .....       | hind qrs... 7 60 | 7 60        | 7 10        | 7 10        | 7 60    |
| " .....                | fore qrs... —    | 6 59        | 6 59        | 6 59        | 6 59    |
| Dundee .....           | hind qrs... 8 11 | 8 11        | 8 11        | 7 60        | 7 60    |
| " .....                | fore qrs... —    | 7 60 & 7 10 | 6 85        | 6 59        | 6 85    |
| Edinburgh .....        | hind qrs... 7 60 | 6 85        | 7 35        | 7 10        | 7 35    |
| " .....                | fore qrs... —    | 6 59        | 6 59        | 6 37        | 6 85    |
| Glasgow .....          | hind qrs... 7 60 | 7 60 & 7 35 | 7 60 & 7 10 | 7 10 & 6 85 | 6 59    |
| " .....                | fore qrs... —    | 6 59 & 6 33 | 6 59 & 6 33 | 6 37 & 6 08 | 6 33    |

## FRESH MEATS—con.

| Description and Market  | Jan. 1 | Jan. 8      | Jan. 15     | Jan. 22     | Jan. 29     |
|-------------------------|--------|-------------|-------------|-------------|-------------|
|                         | cwt.   | cwt.        | cwt.        | cwt.        | cwt.        |
| Argentine chilled—      | \$ c.  | \$ c.       | \$ c.       | \$ c.       | \$ c.       |
| Birmingham... hind qrs. | 10 14  | 9 63        | 9 12        | 8 62        | 9 12        |
| Birmingham... fore qrs. | -      | 7 10        | 7 35        | 7 35        | 7 35        |
| Leeds... hind qrs.      | 9 12   | 8 62        | 8 11        | 8 11        | -           |
| Leeds... fore qrs.      | -      | 6 86        | 6 84        | 6 84        | 6 84        |
| Liverpool... hind qrs.  | 9 12   | 8 62        | 8 11        | 8 11        | 9 12        |
| Liverpool... fore qrs.  | -      | 6 59        | 7 04        | 7 04        | 7 10        |
| London... hind qrs.     | 8 62   | 9 12        | 8 62        | 8 36        | 9 63        |
| London... fore qrs.     | -      | 7 60        | 7 60        | 7 04        | 7 60        |
| Manchester... hind qrs. | 9 12   | 8 62        | 8 11        | 8 11        | 9 12        |
| Manchester... fore qrs. | -      | 6 59        | 7 04        | 7 04        | 7 10        |
| Dundee... hind qrs.     | 10 14  | 9 12        | 9 12        | 8 87        | 9 63        |
| Dundee... fore qrs.     | -      | 7 60 & 7 10 | 7 35        | 7 35        | 7 85        |
| Edinburgh... hind qrs.  | 10 14  | 9 12        | 8 87 & 8 36 | 8 62        | 9 63        |
| Edinburgh... fore qrs.  | -      | 7 10        | 7 10        | 7 35        | 7 85        |
| Glasgow... hind qrs.    | 10 14  | 9 12 & 8 62 | 9 12 & 8 11 | 8 36 & 7 85 | 9 63 & 9 12 |
| Glasgow... fore qrs.    | -      | 7 35 & 7 10 | 7 60 & 7 10 | 7 10 & 6 59 | 7 60 & 7 10 |
| Australian frozen—      |        |             |             |             |             |
| Birmingham... hind qrs. | 7 60   | 7 35        | 7 35        | 7 35        | 7 10        |
| Birmingham... fore qrs. | -      | 6 59        | 6 59        | 6 34        | 6 34        |
| Leeds... hind qrs.      | 7 35   | 7 35        | 7 35        | 7 35        | 7 35        |
| Leeds... fore qrs.      | 7 04   | 7 10        | 6 59        | 6 59        | 7 10        |
| Liverpool... hind qrs.  | -      | 6 08        | 6 08        | 6 08        | 6 08        |
| Liverpool... fore qrs.  | -      | 7 10        | 7 10        | 6 84        | 7 10        |
| London... hind qrs.     | 7 35   | 6 34        | 6 34        | 6 08        | 6 31        |
| London... fore qrs.     | -      | 7 10        | 6 59        | 6 59        | 7 10        |
| Manchester... hind qrs. | 7 04   | 6 59        | 6 08        | 6 08        | 6 08        |
| Manchester... fore qrs. | -      | 7 10 & 6 08 | 7 10 & 6 59 | 6 85 & 6 59 | 7 10 & 6 59 |
| Glasgow... hind qrs.    | 7 35   | 6 59 & 6 08 | 6 38 & 6 08 | 6 37 & 6 08 | 6 33 & 6 08 |
| Glasgow... fore qrs.    | -      | -           | -           | -           | -           |

## BACON (GREEN).

| Description            | Jan. 1 | Jan. 8 | Jan. 15 | Jan. 22 | Jan. 29 |
|------------------------|--------|--------|---------|---------|---------|
|                        | cwt.   | cwt.   | cwt.    | cwt.    | cwt.    |
| Canadian sides—        | \$ c.  | \$ c.  | \$ c.   | \$ c.   | \$ c.   |
| Bristol... hind qrs.   | 14.77  | 14.34  | 14.77   | 14.34   | 15.21   |
| Bristol... fore qrs.   | 14.77  | 14.34  | 14.77   | 14.34   | 15.21   |
| Liverpool... hind qrs. | 14.77  | 14.34  | 14.77   | 14.34   | 15.21   |
| Liverpool... fore qrs. | 14.77  | 14.34  | 14.77   | 14.34   | 15.21   |
| London... hind qrs.    | 15.21  | 14.77  | 15.21   | 14.77   | 15.21   |
| London... fore qrs.    | 15.21  | 14.77  | 15.21   | 14.77   | 15.21   |
| Glasgow... hind qrs.   | 14.55  | 14.12  | 15.21   | -       | 15.21   |
| Glasgow... fore qrs.   | -      | -      | -       | -       | -       |
| Can. Cumberland cuts—  |        |        |         |         |         |
| Liverpool... hind qrs. | 14.12  | 13.47  | 14.12   | 13.47   | 15.43   |
| Liverpool... fore qrs. | 14.12  | 13.47  | 14.12   | 13.47   | 15.43   |
| Glasgow... hind qrs.   | 14.34  | 13.90  | 15.21   | -       | 15.21   |
| Glasgow... fore qrs.   | -      | -      | -       | -       | -       |
| Danish sides—          |        |        |         |         |         |
| Bristol... hind qrs.   | 15.73  | 14.99  | 15.73   | 14.99   | 16.51   |
| Bristol... fore qrs.   | 15.73  | 14.99  | 15.73   | 14.99   | 16.51   |
| Liverpool... hind qrs. | 15.86  | 15.21  | 15.86   | 15.21   | 16.08   |
| Liverpool... fore qrs. | 15.86  | 15.21  | 15.86   | 15.21   | 16.08   |
| London... hind qrs.    | 16.08  | 15.73  | 16.08   | 15.73   | 16.73   |
| London... fore qrs.    | 16.08  | 15.73  | 16.08   | 15.73   | 16.73   |
| Glasgow... hind qrs.   | -      | 16.51  | -       | 16.51   | -       |
| Glasgow... fore qrs.   | -      | -      | -       | -       | -       |

## HAMS (GREEN).

| Description         | Jan. 1 |       | Jan. 8 |       | Jan. 15 |       | Jan. 22 |       | Jan. 29 |       |
|---------------------|--------|-------|--------|-------|---------|-------|---------|-------|---------|-------|
|                     | cwt.   |       | cwt.   |       | cwt.    |       | cwt.    |       | cwt.    |       |
|                     | \$     | c.    | \$     | c.    | \$      | c.    | \$      | c.    | \$      | c.    |
| Canadian long cut—  |        |       |        |       |         |       |         |       |         |       |
| Bristol .....       | 16.73  | 16.08 | 16.73  | 16.08 | 16.51   | 16.08 | 16.51   | 15.73 | 16.95   | 16.08 |
| Liverpool .....     | 15.86  | 15.21 | 15.86  | 15.21 | 15.86   | 14.99 | 16.51   | 15.73 | 16.51   | 15.73 |
| London .....        | 16.29  | 15.86 | 16.29  | 15.86 | 16.08   | 15.73 | -       | -     | 16.51   | 16.08 |
| Glasgow .....       | 16.08  | 15.73 | -      | -     | -       | -     | -       | -     | -       | -     |
| American long cut—  |        |       |        |       |         |       |         |       |         |       |
| Bristol .....       | 15.21  | 14.55 | 15.21  | 14.55 | 15.21   | 14.55 | 14.77   | 14.34 | 15.21   | 14.77 |
| Liverpool .....     | 14.67  | 14.23 | 14.67  | 13.79 | 14.67   | 13.90 | 14.88   | 14.43 | 15.54   | 15.10 |
| London .....        | 14.77  | 13.90 | 14.99  | 14.12 | 14.77   | 13.90 | 14.77   | 3.90  | 15.21   | 14.77 |
| Glasgow .....       | 14.77  | -     | 14.77  | -     | 14.77   | -     | -       | -     | 17.37   | -     |
| American short cut— |        |       |        |       |         |       |         |       |         |       |
| Bristol .....       | 15.43  | 14.55 | 15.43  | 14.55 | 15.73   | 14.55 | 15.43   | 14.55 | 15.43   | 14.55 |
| Liverpool .....     | 15.32  | 14.88 | 15.21  | 14.77 | 15.21   | 14.77 | 15.31   | 14.88 | 15.54   | 15.10 |
| London .....        | 15.43  | 14.77 | 15.21  | 14.77 | 15.21   | 14.77 | 15.21   | 14.77 | 15.21   | 14.77 |
| Glasgow .....       | 15.43  | -     | 15.21  | 14.99 | 15.21   | 14.99 | 16.95   | -     | 16.95   | -     |

## CHEESE.

|                 |       |       |       |       |       |       |       |       |       |       |
|-----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Canadian—       |       |       |       |       |       |       |       |       |       |       |
| Bristol .....   | 14.12 | 13.47 | 14.12 | 13.25 | 14.12 | 13.25 | 14.12 | 13.25 | 14.12 | 13.25 |
| Liverpool ..... | 14.02 | 13.37 | 14.02 | 13.37 | 14.02 | 13.37 | 14.02 | 13.37 | 14.02 | 13.37 |
| London .....    | 14.12 | 13.90 | 14.12 | 13.69 | 13.90 | 13.69 | 13.90 | 13.69 | 13.90 | 13.69 |
| Glasgow .....   | 13.90 | -     | 14.12 | -     | 14.12 | -     | 14.12 | 13.69 | 14.12 | 13.69 |
| New Zealand—    |       |       |       |       |       |       |       |       |       |       |
| Bristol .....   | 13.69 | 13.47 | 13.47 | 13.25 | 13.47 | 13.04 | 13.25 | 13.04 | 13.25 | 13.04 |
| London .....    | 13.47 | 13.25 | 13.25 | 13.04 | 13.04 | 12.81 | 13.04 | 12.81 | 13.25 | 13.04 |
| Glasgow .....   | 13.90 | -     | 13.90 | -     | 13.69 | -     | 13.69 | 13.25 | 13.69 | 13.25 |

NOTE. Rate of conversion from English currency: £ = \$4.86; cwt. = 100 lb.

## THE WEATHER DURING JANUARY.

The Dominion Meteorological Service reports that cold weather was almost continuous throughout January from the Pacific coast to the Thunder Bay district of Ontario, and the mean temperature in that region was considerably below normal, the departure being generally more than 3° and in the Caribou district of British Columbia exceeding 10°. In other parts of Canada exceptionally mild conditions prevailed, and the average mean temperature was exceeded by about 6° in most localities. Mean temperature values in this region closely approached or exceeded the highest on record. Conditions in British Columbia and the western provinces were colder in most districts than during the corresponding month of last year, while in the east considerably milder weather was experienced. Precipitation was deficient from eastern Saskatchewan to the highlands of Ontario, throughout the Maritime provinces, with the exception of the vicinity of Halifax, and also over the southern part of Vancouver Island. Elsewhere the amount recorded exceeded the average. The snowfall in British Columbia was phenomenal, especially in the coast districts. At Vancouver nearly five feet of snow fell during the month, and sleighing was general for three weeks.



# CENSUS AND STATISTICS MONTHLY

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PUBLISHED BY AUTHORITY OF HONOURABLE GEORGE E. FOSTER, MINISTER OF TRADE AND COMMERCE. CORRESPONDENCE RELATING TO THE CENSUS AND STATISTICS MONTHLY SHOULD BE ADDRESSED TO ARCHIBALD BLUE, CHIEF OFFICER OF THE CENSUS AND STATISTICS OFFICE, DEPARTMENT OF TRADE AND COMMERCE, OTTAWA, CANADA.

## AGRICULTURE IN THE MARITIME PROVINCES.

Census Bulletins III, IV and V, giving, subject to final revision, the results of the agricultural census of 1911 for the three Maritime provinces of Prince Edward Island, Nova Scotia and New Brunswick, provide data for a comprehensive survey of this part of Canada. The total land area of these three provinces is 32,744,928 acres, or 4,398,933 acres less than the land area of England and Wales. Of the total, Prince Edward Island comprises 1,397,991 acres, Nova Scotia 13,483,671 acres and New Brunswick 17,863,266 acres. According to the census returns 10,968,516 acres in the three provinces were under occupation, this being about one-third of the total land area. The proportions of land occupied to total land vary in the three provinces, being 86 p.c. in Prince Edward Island, 39 p.c. in Nova Scotia and 25 p.c. in New Brunswick. In each province the bulk of the land is owned by the occupiers. For all three provinces the total acreage of land owned is 10,591,227, as compared with 377,289 leased or rented; that is to say, of the total land occupied, 97 p.c. is owned and 3 p.c. is leased or rented.

The total number of holdings in the three provinces was 106,186 in 1911, as compared with 107,630 in 1901, and the average size per holding was consequently 103 acres in 1911 and 99 in 1901. The falling off in the total number of occupiers is due to migration to the western provinces, and the census shows that there were in Nova Scotia 992 and in New Brunswick 739 vacant holdings which produced no crops in 1910. The following statement shows the distribution of the holdings according to size:

| Group                   | Prince Edward Island |             | Nova Scotia |             | New Brunswick |             | Maritime provinces |             |
|-------------------------|----------------------|-------------|-------------|-------------|---------------|-------------|--------------------|-------------|
|                         | 1901<br>No.          | 1911<br>No. | 1901<br>No. | 1911<br>No. | 1901<br>No.   | 1911<br>No. | 1901<br>No.        | 1911<br>No. |
| Occupiers of—           |                      |             |             |             |               |             |                    |             |
| Under 1 acre.....       | 266                  | 256         | 1,555       | 1,141       | 577           | 455         | 2,398              | 1,852       |
| 1 to under 5 acres..... | 599                  | 606         | 6,981       | 6,212       | 1,955         | 1,761       | 9,535              | 8,579       |
| 5 to 10 acres.....      | 389                  | 422         | 4,460       | 4,761       | 1,403         | 1,658       | 6,252              | 6,841       |
| 11 to 50 acres.....     | 3,769                | 3,849       | 13,247      | 12,647      | 7,722         | 8,302       | 24,738             | 24,798      |
| 51 to 100 acres.....    | 5,380                | 5,495       | 14,234      | 13,277      | 12,894        | 12,815      | 32,508             | 31,587      |
| 101 to 200 acres.....   | 3,030                | 3,227       | 11,073      | 10,717      | 8,775         | 8,862       | 22,878             | 22,796      |
| 201 acres and over..... | 581                  | 514         | 4,483       | 4,851       | 4,257         | 4,368       | 9,321              | 9,733       |
| Total.....              | 14,014               | 14,369      | 56,033      | 53,606      | 37,583        | 38,211      | 107,630            | 106,186     |

Field crops in the three provinces occupied 2,169,234 acres in 1910, as compared with 2,065,300 acres in 1900. The following table shows the area, total yield and yield per acre of the principal field crops for each of the three provinces and for the three Maritime provinces taken together :

| Crop                   | Area    |         | Total yield            |                        | Yield per acre |             |
|------------------------|---------|---------|------------------------|------------------------|----------------|-------------|
|                        | 1900    | 1910    | 1900                   | 1910                   | 1900           | 1910        |
|                        | acres   | acres   | bush.                  | bush.                  | bush.          | bush.       |
| Prince Edward Island—  |         |         |                        |                        |                |             |
| Wheat .....            | 42,318  | 28,733  | 738,679                | 501,533                | 17.46          | 17.45       |
| Barley .....           | 4,563   | 4,878   | 105,625                | 114,430                | 23.15          | 23.46       |
| Oats .....             | 164,472 | 181,636 | 4,561,097              | 5,211,388              | 27.73          | 28.69       |
| Buckwheat .....        | 2,993   | 2,436   | 49,685                 | 43,600                 | 16.60          | 17.89       |
| Beans .....            | 33      | 32      | 496                    | 468                    | 15.03          | 14.63       |
| Peas .....             | 148     | 35      | 2,245                  | 647                    | 15.17          | 18.49       |
| Mixed grains .....     | 6,788   | 6,559   | 227,146                | 227,374                | 34.46          | 34.66       |
| Potatoes .....         | 33,405  | 30,607  | 4,986,633              | 4,292,525              | 149.28         | 137.30      |
| Turnips, mangolds, etc | 8,905   | 6,536   | 3,932,591              | 2,984,307              | 441.62         | 456.59      |
| Hay .....              | 181,996 | 215,083 | tons<br>168,326<br>lb. | tons<br>260,294<br>lb. | ton<br>6.93    | ton<br>1.21 |
| Grass seeds .....      | —       | —       | 401,376                | 583,243                | —              | —           |
| Clover seeds .....     | —       | —       | 85,140                 | 41,678                 | —              | —           |
| Nova Scotia—           |         |         | bush.                  | bush.                  | bush.          | bush.       |
| Wheat .....            | 16,334  | 12,187  | 248,485                | 223,033                | 15.21          | 18.30       |
| Barley .....           | 7,710   | 5,348   | 181,085                | 142,223                | 23.49          | 26.59       |
| Oats .....             | 91,087  | 96,177  | 2,347,598              | 2,973,769              | 25.77          | 30.92       |
| Buckwheat .....        | 9,371   | 9,536   | 196,498                | 206,005                | 20.97          | 21.60       |
| Beans .....            | 824     | 730     | 16,084                 | 12,251                 | 19.52          | 16.78       |
| Peas .....             | 156     | 100     | 3,067                  | 1,873                  | 19.66          | 17.66       |
| Mixed grains .....     | 2,900   | 2,420   | 90,869                 | 78,369                 | 31.33          | 32.38       |
| Potatoes .....         | 37,459  | 30,802  | 4,394,413              | 3,581,757              | 117.31         | 116.30      |
| Turnips, mangolds, etc | 6,557   | 9,615   | 2,074,806              | 3,360,321              | 315.77         | 349.49      |
| Hay .....              | 554,371 | 542,007 | tons<br>658,330<br>lb. | tons<br>724,393<br>lb. | ton<br>1.19    | ton<br>1.34 |
| Grass seeds .....      | —       | —       | 26,304                 | 36,315                 | —              | —           |
| Clover seeds .....     | —       | —       | 420                    | 1,245                  | —              | —           |
| New Brunswick—         |         |         | bush.                  | bush.                  | bush.          | bush.       |
| Wheat .....            | 26,990  | 13,421  | 381,699                | 204,085                | 14.14          | 15.27       |
| Barley .....           | 4,581   | 2,603   | 99,050                 | 56,758                 | 21.62          | 21.80       |
| Oats .....             | 186,932 | 201,140 | 4,816,173              | 5,538,796              | 25.76          | 27.51       |
| Buckwheat .....        | 73,521  | 58,366  | 1,390,885              | 1,149,984              | 18.92          | 19.70       |
| Beans .....            | 709     | 250     | 13,573                 | 4,511                  | 19.14          | 18.05       |
| Peas .....             | 1,707   | 429     | 16,808                 | 6,569                  | 9.85           | 15.31       |
| Mixed grains .....     | 1,230   | 724     | 27,760                 | 20,426                 | 22.57          | 28.21       |
| Potatoes .....         | 40,330  | 40,319  | 4,649,059              | 6,228,269              | 115.28         | 129.67      |
| Turnips, mangolds, etc | 7,119   | 8,611   | 2,070,486              | 2,527,357              | 290.84         | 293.50      |
| Hay .....              | 549,538 | 625,911 | tons<br>512,584<br>lb. | tons<br>669,528<br>lb. | ton<br>0.93    | ton<br>1.07 |
| Grass seeds .....      | —       | —       | 114,048                | 86,421                 | —              | —           |
| Clover seeds .....     | —       | —       | 43,200                 | 3,573                  | —              | —           |
| Maritime provinces—    |         |         | bush.                  | bush.                  | bush.          | bush.       |
| Wheat .....            | 85,642  | 54,341  | 1,368,863              | 928,651                | 15.98          | 17.09       |
| Barley .....           | 16,854  | 12,829  | 385,760                | 313,411                | 22.89          | 24.43       |
| Oats .....             | 442,491 | 478,953 | 11,724,868             | 13,724,153             | 26.50          | 28.35       |

| Crop                         | Area      |           | Total yield       |                   | Yield per acre |        |
|------------------------------|-----------|-----------|-------------------|-------------------|----------------|--------|
|                              | 1900      | 1910      | 1900              | 1910              | 1900           | 1910   |
| Maritime provinces —<br>con. | acres     | acres     | bush.             | bush.             | bush.          | bush.  |
| Buckwheat .....              | 85,885    | 70,338    | 1,637,072         | 1,399,589         | 19.06          | 19.89  |
| Beans .....                  | 1,566     | 1,912     | 30,153            | 17,233            | 19.25          | 17.03  |
| Peas .....                   | 2,011     | 570       | 22,120            | 9,089             | 11.00          | 15.95  |
| Mixed grains .....           | 10,918    | 9,703     | 345,775           | 326,169           | 31.67          | 33.62  |
| Potatoes .....               | 111,194   | 101,728   | 14,039,105        | 13,015,551        | 126.18         | 127.94 |
| Turnips, mangolds, etc       | 22,581    | 24,762    | 8,077,883         | 8,871,985         | 357.73         | 358.29 |
| Hay .....                    | 1,285,905 | 1,383,001 | 1,339,240<br>tons | 1,654,215<br>tons | 1.04           | 1.20   |
| Grass seeds .....            | -         | -         | 541,728<br>lb.    | 705,979           | -              | -      |
| Clover seeds .....           | -         | -         | 128,760           | 46,496            | -              | -      |

In the next statement are given the numbers and values of the principal descriptions of farm live stock and poultry for 1901 and 1911 in each province, with totals for the three provinces :

| Description             | 1901      | 1911      | 1901       | 1911       |
|-------------------------|-----------|-----------|------------|------------|
| Prince Edward Island—   | No.       | No.       | \$         | \$         |
| Horses .....            | 33,731    | 35,935    | 2,147,935  | 4,270,372  |
| Milch cows .....        | 56,437    | 52,109    | 1,244,291  | 1,526,596  |
| Other cattle .....      | 56,342    | 68,287    | 598,906    | 720,324    |
| Sheep .....             | 125,546   | 91,232    | 384,790    | 364,576    |
| Swine .....             | 48,007    | 56,377    | 355,373    | 330,918    |
| Turkeys .....           | 15,509    | 9,852     |            |            |
| Geese .....             | 36,826    | 42,752    |            |            |
| Ducks .....             | 13,436    | 11,040    | 147,159    | 269,998    |
| Hens and chickens ..... | 515,399   | 697,292   |            |            |
| Nova Scotia—            |           |           |            |            |
| Horses .....            | 62,508    | 61,355    | 3,854,382  | 7,066,274  |
| Milch cows .....        | 138,817   | 129,302   | 2,990,959  | 4,198,881  |
| Other cattle .....      | 177,357   | 158,122   | 2,390,965  | 3,039,909  |
| Sheep .....             | 285,244   | 220,907   | 757,278    | 870,569    |
| Swine .....             | 45,405    | 63,322    | 387,380    | 539,969    |
| Turkeys .....           | 23,564    | 11,945    |            |            |
| Geese .....             | 22,189    | 18,782    |            |            |
| Ducks .....             | 12,891    | 10,848    | 218,223    | 325,232    |
| Hens and chickens ..... | 738,125   | 910,408   |            |            |
| New Brunswick—          |           |           |            |            |
| Horses .....            | 61,789    | 65,458    | 4,312,286  | 7,969,899  |
| Milch cows .....        | 111,084   | 108,532   | 2,317,049  | 3,451,546  |
| Other cattle .....      | 116,112   | 113,659   | 1,170,327  | 1,400,670  |
| Sheep .....             | 182,524   | 158,216   | 538,682    | 529,112    |
| Swine .....             | 51,763    | 87,391    | 401,965    | 651,913    |
| Turkeys .....           | 30,532    | 30,276    |            |            |
| Geese .....             | 21,192    | 23,303    |            |            |
| Ducks .....             | 11,963    | 14,196    | 213,319    | 348,133    |
| Hens and chickens ..... | 648,893   | 914,868   |            |            |
| Maritime provinces—     |           |           |            |            |
| Horses .....            | 158,018   | 162,748   | 10,314,603 | 19,306,545 |
| Milch cows .....        | 306,338   | 289,943   | 6,552,299  | 9,177,023  |
| Other cattle .....      | 349,811   | 340,068   | 4,160,098  | 5,160,903  |
| Sheep .....             | 593,314   | 470,355   | 1,680,750  | 1,764,257  |
| Swine .....             | 145,175   | 207,090   | 1,144,718  | 1,528,800  |
| Turkeys .....           | 69,605    | 52,073    |            |            |
| Geese .....             | 80,207    | 84,837    |            |            |
| Ducks .....             | 38,200    | 36,084    | 578,701    | 943,363    |
| Hens and chickens ..... | 1,902,417 | 2,522,568 |            |            |

An examination of these tables shows that the principal agricultural changes during the past decade in the Maritime provinces relate to a substantial decrease in the area under wheat, to a decrease in the numbers and an increase in the values of farm live stock and a development of the poultry industry, especially in respect of fowls. The decrease in wheat is common to all three provinces, but is most marked in Prince Edward Island, where the area under this crop, which was 42,318 acres in 1900, was only 28,733 acres in 1910. The cause of the decrease is due to the development of wheat growing in the west, but also in Prince Edward Island to the ravages of the joint worm. It will be noticed however that the decrease in wheat is more than offset by the increase in the acreage under oats, whilst there is also a substantial increase of nearly 100,000 acres in hay.

With regard to live stock horses show a total increase for the three provinces of nearly 5,000 in number, and of not less than \$8,991,942 in value. The number of horses is less in Nova Scotia, but each of the other two provinces shows an increase. The numbers of cattle and sheep show a decline in all three provinces and a great increase in value. Swine show an increase. The average value per head is for horses \$118.62 in 1911 against \$65.27 in 1901, milch cows \$31.65 against \$21.39, other cattle \$15.17 against \$11.89, sheep \$3.75 against \$2.83 and swine \$7.38 against \$7.88. The development of the poultry industry during the ten years is remarkable. Turkeys and ducks are fewer in number and there is a small increase in geese; but fowls (described as hens and chickens) have grown from 1,902,417 in 1901 to 2,522,568. The value of all descriptions of poultry is \$943,373 as compared with \$578,701, an increase of 63 p.c.

## DEPARTMENT OF AGRICULTURE.

**Experimental Farms and Stations.** At the Central Experimental Farm, Ottawa, the temperatures recorded during February are much lower than those of the two previous months of the present winter, nor are they quite as high as the readings of February, 1912—the highest being 37·8, the lowest -18 and the mean 10·6, as compared with extremes of 35·4 and -24 and a mean temperature of 12·04 a year ago. The precipitation amounts to 2·35 inches, consisting entirely of snow (there having been only a trace of rain) as against a total of 1·42 inch in the previous February, made up of 0·02 of an inch of rain and 14 inches of snow. The bright sunshine of the month averages 4·43 hours a day, while for the corresponding period of 1912 the figures were 4·86 hours daily.

In the Division of Animal Husbandry an experiment completed during February indicates that feed flour may be given to swine as a substitute for oats and barley, with good results. During the month there have been eight litters of pigs among the three breeds kept at the Farm and in each case the young have all come strong, again demonstrating the advantage of the open air method of wintering brood sows.

In connection with the dairy cattle a test is in progress as to the value of molasses to supplement the meal ration. A trial is also being given to



several different types of milk pail to determine their relative merits from the standpoint of the purity of the milk. In another experiment, now being conducted, a comparison is being made of milking by hand and by machine, both as regards economy and purity of the milk.

J. A. Clark, Superintendent of the Station at Charlottetown, P.E.I., reports: "The first few days of February were very mild. Then the weather changed, and there were heavy gales and extreme temperatures, the thermometer falling to  $-17.5$  on the 7th. There was not enough snow for sleighing until after the 12th of the month. The low temperatures which were experienced from the 5th to the 11th made good ice for storing and also for hauling. All classes of live stock at the Experimental Station are healthy and thrifty, and the animals under feeding tests are making very satisfactory gains in weight."

Robert Robertson, Superintendent of the Experimental Farm, Nappan, N.S., reports: "February has been a normal winter month, with steady cold weather and an average amount of sunshine. Snow has fallen on six different dates, 17 inches in all, resulting in sleighing during the latter part of the month. Lumbering operations in this section, which during January were rather dull, have become active again on account of the presence of snow on the surface. Work engaging attention at this Farm has included the drawing of manure and wood and the cleaning of seed grain. The beef cattle and wether lambs under experiment are still making good gains, and a satisfactory sale has been made for Easter delivery."

G. A. Langelier, Superintendent of the Station at Cap Rouge, Que., reports: "February has been colder than last year, and there have been two bad snow-storms, one on the 15th and the other on the 22nd. Up to the 15th the winter had been one of the most favourable for years. The poultry show, held at Quebec during the last week of the month, brought out only a medium entry as regards number and quality of birds displayed; this is rather surprising, as aviculture should be one of the best paying side lines of the farmers. Perhaps these exhibitions will be more of a success when greater attention is paid to the utility end of the business. At the Experimental Station over two hundred loads of shale have been hauled for the extension of the ornamental grounds, and a start has been made in blasting a big rocky knoll, the stone from which will be utilised to fill a large ditch which is to be tiled. The live stock are all in good shape."

W. C. McKillican, Superintendent of the Farm at Brandon, Man., reports: "February has been a cold month, the average temperature being lower than that of the corresponding period of the two previous years. There has been a good deal of wind and snow, with bad roads as a consequence. Work on the Experimental Farm has been chiefly of a routine character, including the care of the stock and the cleaning of seed grain."

Angus Mackay, Superintendent of the Farm at Indian Head, Sask., reports: "From the 1st to the 8th of February the weather was very cold, also from the 22nd to the 27th. Heavy snow fell on the 18th, and there has been considerable drifting. With the exception of a few days, outside operations could be carried on all through the month. At the Experimental Farm the work, in addition to attending to the stock, has included the cleaning and shipping of seed grain sold and the preparing of seed for this

year's crop on the Farm. There is an abundance of feed, and all animals on this farm are in good condition."

Wm. A. Munro, Superintendent of the Station at Rosthern, Sask., reports: "The weather both at the beginning and towards the end of February has been cold, but an unusually mild spell characterised the middle of the month. The roads were particularly good until about the 15th, when a series of storms appeared, accompanied by wind, which blocked railway traffic for several days and spoiled good sleighing for the rest of the season. Much wheat is still in the country, being held because of the prevailing low prices."

R. E. Everest, Superintendent of the Station at Scott, Sask., reports: "February opened and has also closed with low temperatures, while the middle of the month was fine and at times even became quite mild. At the Experimental Station the principal work has consisted of preparing seed grain for the variety tests of 1913. The horses are wintering well, six of them making a gain in weight of 140 lb. during the month. Local conditions are comparatively quiet. Some driving is being done on the trails, which at present are well supplied with snow."

G. H. Hutton, Superintendent of the Station at Lacombe, Alta., reports: "The weather during February has been mild as a whole, with numerous snow flurries, but not sufficient snow for satisfactory sleighing. The cattle, which have gained on an average 51.5 lb. per animal during the past four weeks, are now being fed 13 lb. of chop per head daily, together with green feed and straw. A number of the pure-bred Holstein heifers have freshened during the month and are giving indication of being heavy producers. The February correspondence of the Experimental Station has been quite heavy, 576 letters being received and 639 despatched."

W. H. Fairfield, Superintendent of the Station at Lethbridge, Alta., reports: "On the whole, the weather during February has been cold; but a Chinook wind between the 13th and the 21st was responsible for a mild spell, which brought up the mean temperature of the month very considerably. The feeding tests being carried on at this Station with six lots of sheep and one lot of steers are progressing satisfactorily."

P. H. Moore, Superintendent of the Farm at Agassiz, B.C., reports: "Although there has been more bright sunshine, February has been cold and backward as compared with this period in 1912. The snow, which has been leaving quite slowly, is still very much in evidence. However it has been a fairly satisfactory month for getting work done. All classes of live stock on the Experimental Farm are in excellent condition, and there is a generous crop of lambs and spring pigs. The milk from the dairy herd has been increasing, and the condition of the cows has much improved, since it has been possible for them to be outdoors much more than in January. Building operations have been resumed, and some of the things left unfinished at the commencement of the cold weather are now being completed."

The records of temperature, precipitation and sunshine at the several Experimental Farms and Stations for the month of February are given in the following table:

## Meteorological Record for February, 1913.

| Experimental Farm<br>or Station at— | Degrees of temperature, F. |        |       | Precipitation<br>in<br>inches | Hours of sunshine |        |
|-------------------------------------|----------------------------|--------|-------|-------------------------------|-------------------|--------|
|                                     | highest                    | lowest | mean  |                               | possible          | actual |
| Ottawa, Ont. ....                   | 37.8                       | -18.0  | 10.60 | 2.35                          | 292               | 124.2  |
| Charlottetown, P.E.I. .             | 48.0                       | -17.5  | 13.46 | 2.51                          | 289               | 117.6  |
| Nappan, N.S. ....                   | 51.0                       | -15.0  | 13.81 | 2.15                          | 292               | 112.1  |
| Cap Rouge, Que. ....                | 41.0                       | -19.9  | 4.80  | 2.70                          | 287               | 78.2   |
| Brandon, Man. ....                  | 32.0                       | -38.6  | -3.80 | .60                           | 283               | 112.4  |
| Indian Head, Sask. ....             | 40.0                       | -35.0  | 1.50  | 1.30                          | 282               | 63.1   |
| Rosthern, Sask. ....                | 35.0                       | -34.0  | .60   | .32                           | 275               | 103.8  |
| Scott, Sask. ....                   | 38.8                       | -35.4  | 3.33  | .42                           | 276               | 104.4  |
| Lacombe, Alta. ....                 | 55.6                       | -28.6  | 12.11 | 1.15                          | 278               | 103.2  |
| Lethbridge, Alta. ....              | 57.8                       | -22.0  | 14.05 | .30                           | 284               | 102.1  |
| Agassiz, B.C. ....                  | 48.0                       | 20.0   | 34.80 | 5.12                          | 285               | 105.1  |

J. H. GRISDALE, Director, Experimental Farms.

Ottawa, March 10.

**Erratum.** In the Meteorological Record for December 1912, as printed on page 5 of the Census Monthly for January and February (Vol. 6, No. 55), the minus signs indicating temperatures below zero were omitted from the lowest degrees of temperature in column 2. The corrected lowest readings of temperature for December are: Ottawa -4.8, Charlottetown -2, Nappan 0, Cap Rouge -13.2, Brandon -27.2, Indian Head -19, Rosthern -23.2, Scott -19.8, Lacombe -10.6, Lethbridge -0.9, Agassiz 25.

**Live Stock Branch.** Realising the urgent need that something should be done to encourage sheep raising in western Canada, and recognising the fact that an improvement of the wool trade and of the facilities for marketing that product would greatly strengthen the hands of those engaged in the industry, the Minister has decided to co-operate with the sheep raisers by aiding them in consigning to the British market, under the most favourable conditions feasible, their wool clip of the present year. Inquiry into the conditions during 1912 by a special officer of the Live Stock Branch made it apparent that the marketing of wool in western Canada followed no particular system and was attended by many of the difficulties and losses which naturally result from lack of organisation and co-operation. It was found that the wool was put up in bad shape. While of good quality naturally, it contained too large a proportion of foreign matter, was without uniformity as regards classification when presented for sale and consequently proved unattractive to the trade. In addition to this, as no permanent facilities had been provided for storage, the grower was practically obliged to take the price he was offered on the ground, and this in many cases was considerably below the actual market value of the product.

In view of this situation, and in the light of the attitude taken by the sheep men themselves, it became clear to the Minister that he would be well advised in furthering any reasonable scheme to provide for the sale of

western grown wool in Great Britain. The strength of the wool market in London has encouraged growers to seek an outlet for their annual clip through the medium of the great colonial wool sales which are held at stated intervals in the British metropolis. Encouraged by the support which the Government is prepared to offer them it is probable that considerable consignments of wool will be sent forward this year. If this is undertaken there is no doubt that the wool will be put up in very much better condition than was formerly the case. It will be graded, skirted, pressed and sold according to classification. With the adoption of these measures it is hoped that the Canadian product may in future command fuller recognition by the trade, and that thus through standardisation better and steadier prices may be secured to the grower.

It is proposed that the Department shall co-operate as far as possible with the Wool Growers' Associations in the provinces of Alberta and Saskatchewan; and if they are prepared to go on with the undertaking the services of Mr. T. R. Arkell, sheep specialist of the Branch, who during the past month has gathered a great deal of information in reference to all features of the trade, will be placed at their disposal. The Department will in addition provide two expert wool sorters, one for Saskatchewan and one for Alberta, who will take charge of the sorting of the wool at the shearing sheds.

It is proposed further that for the current year 25 p.c. of the freight charges on a consignment of wool from point of shipment to its destination on the London market shall be paid by the Department. The Associations will be required to furnish a full statement of expenditures and receipts, itemised in such a way that the data so secured may be used in determining what advantages if any may accrue to Canadian growers by consigning their wool to the colonial sales in London.

Considerable progress has been made in the development of the poultry work in the Live Stock Branch during the past month. The appointment of Mr. J. H. Hare, B.S.A., to have charge of the egg trade investigation has given a decided impetus to this phase of the work. Much of the preliminary work has been completed, and data that will serve to indicate the extent to which the various causes of loss affect the trade are now being systematically collected. In Prince Edward Island the poultry work undertaken by the Live Stock Branch is developing rapidly. Mr. Benson reports that his services are in constant demand both at public meetings and at private conferences on the farms of interested individuals. One co-operative egg circle has already been organised, and requests for the organisation of a number of others are on file. The public interest in egg circle organisation is rapidly growing in Canada and extends over a wide radius. Meetings have recently been held in Hemmingford, Dunham and Lennoxville, Quebec, and in Lansdowne, Athens, Crosby, Sydenham, Sillsville, Adolphustown, Napanee, etc., Ontario. Favourable reports have been recently received from those in operation in Quebec, New Brunswick and Nova Scotia. Mr. J. C. Stewart of Dalmeny, Ont., is at present engaged in this work for the Live Stock Branch.

JOHN BRIGHT, Commissioner.

Ottawa, March 20.



**Dairy and Cold Storage Branch.** During the present month two more dairy record centres have been organised, one at Sussex, N.B., and one at North Gower, Carleton County, Ontario. In all 19 centres are now established.

Fruit growers in Ontario, British Columbia and Nova Scotia are all alike interested in the capacity of the market in western Canada for apples, and from time to time estimates of varying degrees of accuracy have been made of the total quantity received annually by the provinces of Manitoba, Saskatchewan and Alberta. Last summer the Dominion fruit inspectors assigned to these three provinces were instructed to take notes as to the quantity of apples shipped into their several districts and make a report to this office at the end of the season. These reports have been compiled with the following results. The total quantity of apples marketed in these provinces for the season of 1912 was approximately 495,000 barrels, of which Ontario supplied 238,000, British Columbia 75,000, Nova Scotia 18,000 and the United States 164,000. The exact quantity imported from the United States was ascertained by reference to the Canadian customs.

In addition to the prairie provinces there is a large and growing market in northern and New Ontario which will afford an outlet for increasing quantities of Ontario apples. If we consider the present population of Fort William, Port Arthur, Sault Ste. Marie, North Bay, Sudbury, the Cobalt district, etc., we shall find that 60,000 barrels is a conservative estimate for the quantity of apples marketed in this section during the past season. The proportion of the above total supplied by the United States would probably not exceed ten per cent.

This week this Branch is shipping from the port of St. John, N.B., about 1,500 boxes of apples for the Canadian exhibit at the International Exhibition, Ghent, Belgium. The apples will be stored in London and shipped across to Ghent as required. About 600 boxes were obtained in British Columbia, 135 boxes in the Maritime provinces, 30 boxes in Quebec and the remainder in Ontario. With the exception of the British Columbia lot these apples were all selected and packed last fall by officers of this Branch. The exhibition opens the latter part of April and will continue throughout the summer.

Since the publication of the last Census Monthly, P. D. Phinney, Granville, N. S., and J. W. Hopper, Burgoyne, Ontario, have been convicted and fined for the improper packing and marking of apples.

J. A. RUDDICK, Dairy and Cold Storage Commissioner.

Ottawa, March 26.

**Seed Branch.** Very few applications for seed grain from homesteaders in western Canada have been received by the Immigration Branch, compared with last season. Results of investigation by seed inspectors and the germination tests of samples received from different parts of the country also indicate that there are few, if any, districts where good seed cannot be obtained near at hand. Last year about 200,000 bushels of seed grain were distributed to homesteaders by the Immigration Branch, while so far this season applications have been received for only 11,000 bushels. All

seed purchased for this distribution will be inspected by Seed Branch officers, and it is the intention to accept only grain that is free from weed seeds and is otherwise suitable for seed. Arrangements have been made for purchasing 2,000 bushels of Marquis wheat and 2,000 bushels of Abundance oats for distribution in Saskatchewan. Seed of this quality will cost the homesteader more than ordinary re-cleaned commercial grain, but the advantages of having clean seed of known varieties will much more than compensate for the added cost.

The seed inspection work so far conducted shows the trade to be in fairly good condition on the whole, so far as the observance of the Seed Control Act is concerned. In eastern Canada the seed being sent out by the wholesalers is, with very few exceptions, properly graded and marked. Some of the retailers in the seed-producing districts have not been so careful, and there have been a number of violations. In western Canada the inspection system has not been so thorough in previous years, and the Act is not so strictly observed. In Alberta and British Columbia there was a tendency early in the season to disregard the grading regulations as applied to timothy seed; but dealers have been given to understand that they must be observed and conditions are improving. Several dealers in western Canada and a few in Ontario have purchased seed from United States firms without any guarantee or grade and without having a sample tested. In some cases the seed is prohibited from sale in Canada, and the dealers are having difficulty in making any re-adjustment, as the firms they bought from refuse to take back the seed, and they cannot be held responsible under the Canadian law. Dealers purchasing from United States firms would do well to protect themselves by insisting on a guarantee that the seed supplied will comply with the Seed Control Act.

During February 1,694 samples of seed were received at the Ottawa seed laboratory for purity or germination. Of these over 70 per cent were for purity. The following were graded according to Seed Control Act standards: Red clover: Total, 485; Ex. No. 1, 1; No. 1, 60; No. 2, 115; No. 3, 178; rejected, 131; Alsike: Total, 246; Ex. No. 1, 2; No. 1, 28; No. 2, 57; No. 3, 93; rejected, 66. Alfalfa: Total, 58; No. 1, 26; No. 2, 20; No. 3, 10; rejected, 2. Timothy: Total, 324; Ex. No. 1, 1; No. 1, 64; No. 2, 78; No. 3, 93; rejected, 88.

At the Calgary seed laboratory 1,811 samples were received during the month of March. The samples reported upon were: 1,452 germination only, 25 purity only, 185 purity and germination, total 1,663.

GEO. H. CLARK, Seed Commissioner.

Ottawa, March 26.

**Production of Linseed Oil in Canada.** From data of the census of manufactures of 1911 it is estimated that the total production of the four Canadian linseed oil companies in 1910 was \$1,711,463 imperial gallons of the value, at 92 cents per gallon, of \$1,574,646. The total production of oil cake was 16,004 short tons of the value of \$472,711 in addition to seed and meal of the value of \$18,671. The total value of the flaxseed used as raw material was \$1,750,511, and the total value of all products was \$2,066,028.

## CROP REPORTS FROM OTHER COUNTRIES.

**England and Wales.** The Board of Agriculture reports (March 1) that the drier weather which prevailed during the latter part of the month has been of much benefit to the land, and the frosts have provided a much needed check to the autumn-sown crops. The wheat now looks very well everywhere on all but low-lying and heavy lands; but on these, especially where they have been flooded, the plant is poor, or has in some instances perished; so that in a few localities some will be ploughed up: this applies perhaps more particularly in the northern half of the country. Wheat that was got in early still looks better than that sown late. The recent dry, frosty conditions have enabled farmers to get on with spring cultivation, which was very generally impracticable, except on very light soils, during the first fortnight of February. Not much spring sowing has however as yet been carried out, except in the south; but with the continuance of dry weather it is anticipated that arrears will be rapidly cleared off. All classes of stock have derived benefit from the recent finer weather, and are making satisfactory progress.

**France.** The French Department of Agriculture published (March 9) a comparative statement of the condition of winter crops on the first day of each of the past three months. The following is a statement of the condition of wheat in each of the ten regions into which France is divided:

| No. | Region         | Jan. 1 | Feb. 1 | Mar. 1 | No. | Region         | Jan. 1 | Feb. 1 | Mar. 1 |
|-----|----------------|--------|--------|--------|-----|----------------|--------|--------|--------|
| 1   | Northwest..... | 71     | 66     | 71     | 6   | East .....     | 67     | 64     | 65     |
| 2   | North.....     | 79     | 78     | 80     | 7   | Southwest..... | 73     | 73     | 75     |
| 3   | Northeast..... | 68     | 67     | 67     | 8   | South .....    | 74     | 74     | 77     |
| 4   | West.....      | 68     | 65     | 66     | 9   | Southeast..... | 71     | 71     | 74     |
| 5   | Centre.....    | 68     | 72     | 71     | 10  | Corsica.....   | 60     | 60     | 60     |

Scale: 100 very good, 80 good, 60 fairly good, 50 fair, 30 poor, 20 bad.

**Flax in District of Dieppe.** H. M. Vice-Consul at Dieppe, in reporting upon the state of agriculture in his district in 1912, states that the cultivation of flax is increasing in importance and that the wet season, which was detrimental to other crops, was very favourable to flax. Dieppe flax is sent in its natural state to the north of France and to certain parts of Belgium, where it is washed and prepared for sending into the manufactories. It appears that the waters of the river Lys, which has its source in France and after traversing 135 miles of France and Belgium falls into the Scheldt, have special properties, the flax being soaked in these waters. The quantity sent from Dieppe this season has been most important, over 1,000 wagons having been despatched from Dieppe station, each containing from two to five tons of flax, this being an important increase on previous years.

**Austria.** The Austrian Department of Agriculture issued (February 6) the following preliminary figures as to the areas and yields of field crops in 1912 compared with 1911:

| Crops                   | 1911         | 1912         | 1911             | 1912             | 1911              | 1912              |
|-------------------------|--------------|--------------|------------------|------------------|-------------------|-------------------|
|                         | 000<br>acres | 000<br>acres | 000<br>bush.     | 000<br>bush.     | per acre<br>bush. | per acre<br>bush. |
| Wheat.....              | 3,003        | 3,114        | 58,887           | 69,639           | 19.63             | 22.30             |
| Spelt.....              | 15           | 15           | 222              | 300              | 14.87             | 19.52             |
| Rye.....                | 4,995        | 5,023        | 104,115          | 117,113          | 20.87             | 23.26             |
| Barley.....             | 2,710        | 2,634        | 74,414           | 78,382           | 27.50             | 29.74             |
| Oats.....               | 4,641        | 4,613        | 147,185          | 157,572          | 31.75             | 34.11             |
| Corn.....               | 748          | 752          | 11,973           | 15,295           | 15.93             | 20.39             |
| Mixed grains.....       | 95           | 111          | 2,145            | 2,883            | 22.46             | 26.00             |
| Buckwheat (1st crop)... | 169          | 167          | 3,065            | 2,332            | 18.03             | 13.94             |
| Buckwheat (2nd crop)... | 206          | 205          | 1,794            | 1,528            | 8.73              | 7.43              |
| Potatoes.....           | 3,108        | 3,093        | 426,410          | 460,825          | 137.25            | 148.99            |
| Clover seed.....        | 232          | 176          | 615              | 353              | 2.68              | 1.93              |
| Flax.....               | 95           | 91           | 697              | 651              | 7.33              | 7.17              |
|                         |              |              | 460 <sup>1</sup> | 520 <sup>1</sup> | 4.90 <sup>1</sup> | 5.70 <sup>1</sup> |
|                         |              |              | bush.            | bush.            | bush.             | bush.             |
| Hemp.....               | 54           | 55           | 605              | 523              | 11.52             | 9.53              |
|                         |              |              | cwt.             | cwt.             | cwt.              | cwt.              |
| Hops.....               | 49           | 50           | 320 <sup>1</sup> | 340 <sup>1</sup> | 5.80 <sup>1</sup> | 5.98 <sup>1</sup> |
|                         |              |              | 190              | 443              | 3.84              | 8.83              |
| Tobacco.....            | 10           | 9            | lb.              | -                | lb.               | -                 |
|                         |              |              | 11,883           | -                | 1,188             | -                 |
| Sugar beet.....         | 616          | 653          | tons             | tons             | tons              | tons              |
| Hay.....                | 7,577        | 7,587        | 4,685            | 8,734            | 7.61              | 13.36             |
|                         |              |              | 9,709            | 9,794            | 1.28              | 1.29              |

<sup>1</sup> Fibre.

**Russia.** According to a despatch from the British Embassy at St. Petersburg (February 16) the Official Messenger of January 31/February 13 1913, published the following particulars as to the harvest prospects for this year up to January 10/23, as received by the Central Statistical Committee at the Ministry of the Interior. The details relate to 72 of the 91 governments of European and Asiatic Russia. As is known, much, if not all depends on the extent and depth to which the winter sowings are covered by the fall of snow as to the eventual yield of these crops. Snow fell "earlier than usual" in 6 governments; "at the usual time" in 19 governments; "later than usual" in 6 governments; "late" in 24 governments; "very late" in 17 governments. The depth of snow is "very light and the sowing are poorly or very poorly covered" in 34 governments; "insufficient and the sowings unsatisfactorily covered" in 4 governments; "sufficient or almost sufficient and the sowings covered satisfactorily or almost satisfactorily" in 20 governments; "fully sufficient and the sowings covered fully satisfactorily or well covered" in 14 governments. Thus the first half of the winter of 1912-13 cannot be regarded as having been favourable for the winter crops; in the majority of the governments the snow fell later than usual and insufficiently covered the sowings. This last feature is for the most part noticeable in the majority of the wheat and other grain growing regions of European Russia, almost throughout Poland, and in certain governments of Trans-Caucasia.

**United States.** The Crop reporting Board of the United States Department of Agriculture estimates that the amount of wheat on farms



on March 1 1913, was about 156,483,000 bushels, or 21.4 p.c. of the 1912 crop, against 122,025,000 bushels or 19.6 p.c. of the 1911 crop on farms March 1 1912 and 162,705,000 bushels, or 25.6 p.c. of the 1910 crop on farms March 1 1911. The amount of corn on farms March 1 1913 was about 1,289,655,000 bushels or 41.3 p.c. of the 1912 crop, against 884,069,000 bushels, or 34.9 p.c. of the 1911 crop on farms March 1 1912, and 1,165,378,000 bushels, or 40.4 p.c. of the 1910 crop on farms March 1 1911. The proportion of the total 1912 crop which is merchantable is about 85 p.c., against 80.1 p.c. of the 1911 crop and 86.4 p.c. of the 1910 crop. The amount of oats on farms March 1 1913 was about 604,216,000 bushels, or 42.6 p.c. of the 1912 crop, against 289,988,000 bushels or 31.4 p.c. of the 1911 crop on farms March 1 1912 and 442,665,000 bushels, or 37.3 p.c. of the 1910 crop on farms March 1 1911. The amount of barley on farms March 1 1913 was about 62,283,000 bushels, or 27.8 p.c. of the 1912 crop, against 24,760,000 bushels, or 15.5 p.c. of the 1911 crop on farms March 1 1912 and 33,498,000 bushels, or 19.3 p.c. of the 1910 crop on farms March 1, 1911.

The Bureau of Statistics of the Department of Agriculture reports that the money wages of farm labour of the United States increased about 3.2 p. c. during the past year and 7 p. c. during the past two years. Since 1902 the increase has been about 34 p. c. The wages of farm labour had an upward tendency during the decade of the 'seventies (considered on gold basis); they were almost stationary during the 'eighties, and declined from 1892 to 1894, since which year they have been steadily tending upward. Wages now compared with the average of wages during the 'eighties, are about 53 p. c. higher; compared with the low year of 1894 wages now are about 65 p. c. higher. The current average rate of farm wages in the United States, when board is included, is, by the month, \$20.81; by the day, other than harvest, \$1.14; at harvest \$1.54. When board is not included the rate is, by the month \$29.58; by the day, other than harvest, \$1.47; by the day, at harvest, \$1.87. Wages vary widely in different sections of the United States; for instance the monthly rate without board is \$56.50 in Nevada, \$53.80 in Montana, \$51.60 in Idaho, \$17.10 in South Carolina, \$19 in Mississippi and \$19.50 in Alabama.

The following are the averages for the United States for 1912-13, compared with 1911-12, 1902 and 1894:

|                              | 1912-13 | 1911-12 | 1902  | 1894  |
|------------------------------|---------|---------|-------|-------|
|                              | \$      | \$      | \$    | \$    |
| By the month—                |         |         |       |       |
| With board.....              | 20.81   | 20.18   | 15.51 | 12.70 |
| Without board.....           | 29.58   | 28.77   | 22.12 | 18.57 |
| By the day (not at harvest)— |         |         |       |       |
| With board.....              | 1.14    | 1.09    | .83   | .65   |
| Without board.....           | 1.47    | 1.42    | 1.09  | .84   |
| By the day (at harvest)—     |         |         |       |       |
| With board.....              | 1.54    | 1.49    | 1.23  | .97   |
| Without board.....           | 1.87    | 1.85    | 1.51  | 1.18  |

## INTERNATIONAL INSTITUTE OF AGRICULTURE.

The Bulletin of agricultural statistics for February 1913 reports the preliminary estimates of the harvest of corn in Argentina for 1912-13, compared with 1911-12, as follows: Area in 1912-13, 9,464,000 acres, compared with 8,456,000 acres in 1911-12, or 11.9 p.c. more; production in 1912-13, 196,841,000 bushels, compared with 295,853,000 bushels in 1911-12, or 33.5 p.c. less; yield per acre in 1912-13, 20.87 bushels, compared with 35.05 bushels in 1911-12, or 4.05 p.c. less.

**Winter Cereals.** The following statement shows the areas sown to winter cereals during the fall and winter according to the latest revised figures:

### 1. Areas sown to Winter Cereals in 1912 compared with 1911.

| Countries                  | Winter wheat |                  | Winter rye |                  | Winter barley |                  |
|----------------------------|--------------|------------------|------------|------------------|---------------|------------------|
|                            | area 1912    | per cent of 1911 | area 1912  | per cent of 1911 | area 1912     | per cent of 1911 |
|                            | acres        | p.c.             | acres      | p.c.             | acres         | p.c.             |
| Belgium.....               | 408,400      | 100.2            | 645,400    | 102.4            | 86,400        | 109.4            |
| Denmark.....               | 100,100      | 100.0            | 682,000    | 100.0            | -             | -                |
| Spain.....                 | 9,115,000    | 99.4             | 1,887,400  | 95.4             | 3,492,000     | 111.9            |
| France.....                | 15,568,000   | 99.8             | 2,856,400  | 102.9            | 380,900       | 95.0             |
| England and Wales.....     | -            | 95.0             | -          | -                | -             | -                |
| Scotland.....              | -            | 90.0             | -          | -                | -             | -                |
| Luxemburg.....             | 27,100       | 100.0            | 26,200     | 99.1             | 124           | 135.1            |
| Norway.....                | -            | -                | 37,200     | 100.0            | -             | -                |
| Rumania <sup>1</sup> ..... | 3,569,000    | 60.2             | 196,900    | 70.2             | 87,500        | 96.8             |
| Switzerland.....           | 93,900       | 100.0            | 54,300     | 100.0            | 3,200         | 100.0            |
| Canada.....                | 1,086,000    | 93.9             | -          | -                | -             | -                |
| United States.....         | 32,387,000   | 97.5             | 2,443,000  | 98.6             | -             | -                |
| India <sup>2</sup> .....   | 24,634,000   | 102.5            | -          | -                | -             | -                |
| Japan.....                 | 1,159,000    | 99.7             | -          | -                | 3,042,000     | 100.1            |
| Tunis.....                 | -            | 100.0            | -          | -                | -             | 100.0            |

<sup>1</sup> Including crops sown up to December 1 1912 only.      <sup>2</sup> About 86 p.c. of the total generally sown to wheat in India.

In Spain the area sown to winter oats is 1,052,000 acres or 3.1 p.c. less than last year. In France the area under winter oats is 2,037,000 acres, or 2.9 p.c. more than last year. In Tunis the area under winter oats is equal to that of last year.

**Harvest of 1911-12.** The following table gives supplementary information as to the harvest of 1912:

**II. Area and Yield of Crops in 1912 compared with 1911.**

| Countries and crops | Area      |           |              | Production        |                 |              | Yield per acre     |                    |
|---------------------|-----------|-----------|--------------|-------------------|-----------------|--------------|--------------------|--------------------|
|                     | 1911      | 1912      | p.c. of 1911 | 1911              | 1912            | p.c. of 1911 | 1911               | 1912               |
|                     | 000 acres | 000 acres | p. c.        | 000 bush.         | 000 bush.       | p. c.        | bush.              | bush.              |
| Hungary—            |           |           |              |                   |                 |              |                    |                    |
| Wheat.....          | 9,164     | 9,581     | 104.6        | 190,770           | 184,643         | 96.8         | 20.82              | 19.33              |
| Rye.....            | 2,867     | 3,065     | 106.9        | 53,053            | 56,673          | 106.8        | 18.48              | 18.48              |
| Barley.....         | 2,895     | 2,760     | 95.3         | 76,742            | 72,119          | 94.0         | 26.57              | 26.21              |
| Oats.....           | 2,901     | 2,712     | 93.5         | 90,446            | 75,370          | 83.3         | 31.23              | 27.82              |
| Maize.....          | 7,114     | 7,088     | 99.6         | 161,427           | 205,993         | 127.6        | 22.62              | 29.00              |
|                     |           |           |              | tons              |                 |              | tons               | tons               |
| Sugar beet.....     | 292       | 435       | 149.1        | 2,216             | 5,331           | 240.6        | 7.60               | 12.27              |
| Rumania—            |           |           |              | bush.             | bush.           |              | bush.              | bush.              |
| Maize.....          | 5,153     | 5,128     | 99.7         | 118,268           | 102,357         | 86.5         | 22.94              | 19.91              |
|                     |           |           |              | { 560             | 718             | 128.1        | 10.67              | 9.08               |
| Flax.....           | 52        | 78        | 150.4        | { cwt.            | cwt.            |              | cwt.               | cwt.               |
|                     |           |           |              | { 45 <sup>1</sup> | 30 <sup>1</sup> | 67.0         | 00.89 <sup>1</sup> | 00.36 <sup>1</sup> |
|                     |           |           |              | tons              | tons            |              | tons               | tons               |
| Sugar beet.....     | 34        | 36        | 105.6        | 290               | 320             | 110.3        | 8.63               | 9.00               |
| Sweden—             |           |           |              |                   |                 |              |                    |                    |
| Sugar beet.....     | -         | -         | -            | 1,064             | 922             | 86.7         | -                  | -                  |

Ton=2000 lb. cwt.=100 lb. <sup>1</sup> Fibre.

**Live Stock Statistics.** The following statement shows the numbers of farm live stock in Germany and in Hungary in 1912, with comparative figures of 1907 for Germany and of 1911 for Hungary:

| Description | Germany     |             |                      |          | Hungary   |           |                      |          |
|-------------|-------------|-------------|----------------------|----------|-----------|-----------|----------------------|----------|
|             | Dec. 2 1912 | Dec. 2 1907 | Increase or decrease | per cent | 1912      | 1911      | Increase or decrease | per cent |
|             | No.         | No.         | No.                  | p. c.    | No.       | No.       | No.                  | p. c.    |
| Horses....  | 4,516,297   | 4,345,047   | + 171,250            | + 3.9    | 1,960,000 | 2,000,611 | - 40,611             | - 2.0    |
| Mules....   | 1,746       | 942         | + 804                | + 85.4   | 968       | 935       | + 33                 | + 3.5    |
| Donkeys.... | 11,086      | 10,349      | + 737                | + 7.1    | 15,986    | 17,830    | - 1,844              | - 10.3   |
| Cattle....  | 20,158,738  | 20,630,544  | - 471,806            | - 2.3    | 6,036,945 | 6,183,424 | - 146,479            | - 2.4    |
| Sheep....   | 5,787,848   | 7,703,710   | - 1,915,862          | - 24.9   | 7,168,054 | 7,696,881 | - 528,827            | - 6.9    |
| Goats....   | 3,383,971   | 3,333,970   | + 49,999             | + 4.2    | 313,849   | 331,383   | - 17,534             | - 5.3    |
| Swine....   | 21,885,073  | 22,146,532  | - 261,459            | - 1.2    | 7,409,801 | 6,415,197 | + 994,604            | + 15.5   |
| Poultry.... | 82,474,317  | 77,103,045  | + 5,371,272          | + 7.0    | -         | -         | -                    | -        |
| Bee-hives.. | 2,619,891   | 2,594,690   | + 25,201             | + 1.0    | -         | -         | -                    | -        |

## CANADIAN SEED GROWERS' ASSOCIATION.

The ninth annual convention of the Canadian Seed Growers' Association was held at Ottawa on March 6 and 7 under the presidency of Dr. James W. Robertson, C.M.G. The report of the Secretary-Treasurer (Mr. L. H. Newman) showed that great progress had been made during the year. There were 464 seed growers affiliated to the Association of whom 196 were members in full standing. Mr. Newman gave particulars of his journey of inspection in the west during last summer, referring especially to the constantly found presence of bearded heads amongst beardless varieties of wheat such as the Red Fife and Marquis. There were however encouraging exceptions due to careful selection and to roguing or removal of impure types.

Professor C. A. Zavitz read a paper on thickness in the seeding of cereal grains, based on four years' experiments at the Ontario Agricultural College. The following is a statement of the average results for the four years :

| Distance<br>between<br>plants | Rate of<br>seeding<br>per acre | Heads<br>per<br>plant | Heads<br>per<br>acre | Height | Lodged | Rust  | Days<br>ma-<br>turing | Yield per acre   |       |       |
|-------------------------------|--------------------------------|-----------------------|----------------------|--------|--------|-------|-----------------------|------------------|-------|-------|
|                               |                                |                       |                      |        |        |       |                       | weight           | straw | grain |
| in.                           | bush.                          | No.                   | p. c.                | in.    | p. c.  | p. c. | No.                   | lb. per<br>bush. | tons  | bush. |
| 1. . . . .                    | 12.34                          | 1.0                   | 100                  | 20.4   | 5.6    | 11.8  | 91                    | 25.0             | 1.75  | 30.60 |
| 2. . . . .                    | 3.06                           | 1.1                   | 31                   | 27.8   | 11.9   | 15.0  | 93                    | 31.4             | 1.58  | 34.95 |
| 3. . . . .                    | 1.36                           | 1.3                   | 17                   | 32.6   | 12.8   | 17.8  | 94                    | 33.2             | 1.52  | 41.73 |
| 4. . . . .                    | .76                            | 2.0                   | 13                   | 33.1   | 29.9   | 20.9  | 95                    | 31.5             | 1.29  | 38.99 |
| 6. . . . .                    | .34                            | 4.2                   | 12                   | 35.3   | 35.8   | 25.4  | 97                    | 28.6             | 1.40  | 37.42 |
| 8. . . . .                    | .19                            | 6.5                   | 11                   | 34.9   | 34.7   | 27.7  | 99                    | 26.4             | 1.20  | 31.77 |
| 12. . . . .                   | .09                            | 11.2                  | 9                    | 31.6   | 30.1   | 33.2  | 100                   | 23.9             | 1.03  | 21.93 |

As will be seen from this table the light sown plots took longer to ripen and showed a higher percentage of rust. The number of heads per plant increased according to thinness of sowing and distance between the plants. The thinnest seeding gave 11.2 heads per plant. The percentage of heads per acre was largest with the thickest sowing; the tallest plants grew on the plots with seed planted six inches apart, and these also showed the highest percentage of lodging. For a large straw production a comparatively thick seeding is shown to be necessary. The heaviest straw yield was from the plot seeded at the rate of 12.34 bushels per acre. The heaviest grain and the largest yield of grain were obtained from the seeding with 1.36 bushel to the acre, the plants being three inches apart.

Mr. F. C. Nunnick read a paper giving statistics as to the production, selection and cleaning of seed on 1,300 farms inspected by the Commission of Conservation in 1912. He quoted Professor Bracken as stating that the prevalence of weeds and the cost of their control was a most serious problem in Saskatchewan. Wild oats were the worst. Stink weed was prevalent, but was not the menace that the wild oat is. The Canada thistle had gained a foothold and was to be suppressed only by patient and



persevering effort. The weed problem was present in all its intensity. People were realising its cost to the community and were planning for the introduction of a changed system. A few men were branching out into more diversified farming.

Other papers were read by Mr. E. D. Eddy on the result of two years' work in testing field root seeds of commerce to prove genuineness of stock, by Mr. G. H. Clark on methods of improving the seed supply of field roots and vegetable crops and by Mr. W. T. Macoun on the production of garden vegetable seeds in Canada. These were followed by interesting discussions.

## THE WEATHER OF THE YEAR 1912.

Data supplied by the Dominion Meteorological Service.

Mean Values of Meteorological Elements at Representative Stations in Canada 1912, compared with Normal Values based on the averages of the monthly and yearly values for the 20 years ended 1907.

| Station               | Degrees of temperature, F. |             |             |        |         |                           | Hours of sunshine  |                           |
|-----------------------|----------------------------|-------------|-------------|--------|---------|---------------------------|--------------------|---------------------------|
|                       | mean annual                | mean winter | mean summer | lowest | highest | normal annual (1888-1907) | 1912               | normal annual (1888-1907) |
| British Columbia—     |                            |             |             |        |         |                           |                    |                           |
| Victoria.....         | 50.3                       | 41.8        | 60.3        | 23.5   | 89.8    | 50.3                      | 1,669              | 1,822                     |
| Vancouver.....        | 49.7                       | 39.1        | 61.8        | 15.8   | 85.1    | 49.1                      | 1,643              | 1,815                     |
| Kamloops.....         | 46.6                       | 24.2        | 66.0        | -18.0  | 101.0   | 47.7                      | 1,868              | -                         |
| Alberta—              |                            |             |             |        |         |                           |                    |                           |
| Calgary.....          | 39.5                       | 19.5        | 58.0        | -30.0  | 102.0   | 37.4                      | -                  | -                         |
| Edmonton.....         | 39.5                       | 14.9        | 60.2        | -46.0  | 89.0    | 36.7                      | 2,040              | -                         |
| Saskatchewan—         |                            |             |             |        |         |                           |                    |                           |
| Battleford.....       | -                          | 1.4         | 63.0        | -46.0  | 98.0    | 34.4                      | -                  | 2,101                     |
| Prince Albert.....    | 33.0                       | -2.9        | 60.7        | -53.0  | 95.5    | 32.1                      | -                  | -                         |
| Qu'Appelle.....       | 34.2                       | -0.4        | 60.0        | -47.0  | 92.5    | 34.5                      | -                  | -                         |
| Manitoba—             |                            |             |             |        |         |                           |                    |                           |
| Minnedosa.....        | 33.8                       | -2.9        | 60.9        | -45.0  | 98.0    | 34.1                      | -                  | -                         |
| Winnipeg.....         | 36.1                       | -2.5        | 63.7        | -41.3  | 98.2    | 34.9                      | 1,815              | 2,178                     |
| Ontario—              |                            |             |             |        |         |                           |                    |                           |
| Port Arthur.....      | 34.6                       | 0.4         | 58.3        | -36.0  | 96.0    | 35.7                      | -                  | -                         |
| White River.....      | -                          | -           | -           | -58.0  | -       | 32.3                      | -                  | -                         |
| Parry Sound.....      | 40.3                       | 7.5         | 63.3        | -34.0  | 96.0    | 41.3                      | -                  | -                         |
| Southampton.....      | 41.9                       | 12.9        | 61.5        | -34.3  | 85.4    | 43.8                      | -                  | -                         |
| Toronto.....          | 44.8                       | 16.5        | 65.2        | -18.8  | 92.7    | 45.5                      | 1,925              | 2,048                     |
| Kingston.....         | 42.3                       | 11.7        | 63.1        | -24.2  | 85.2    | 43.7                      | 1,839              | 1,989                     |
| Stouffville.....      | 36.8                       | 1.6         | 61.4        | -40.0  | 99.0    | 38.5                      | -                  | -                         |
| Ottawa.....           | 40.1                       | 7.0         | 63.6        | -27.0  | 91.0    | 43.0                      | 2,135              | 1,874                     |
| Quebec—               |                            |             |             |        |         |                           |                    |                           |
| Montreal.....         | 41.4                       | 9.3         | 65.2        | -19.0  | 92.4    | 42.3                      | 1,984 <sup>1</sup> | 1,905                     |
| Quebec.....           | 37.9                       | 7.2         | 61.7        | -23.5  | 93.6    | 38.7                      | 1,620              | 1,762                     |
| Sherbrooke.....       | 39.0                       | 6.9         | 61.3        | -35.5  | 92.9    | -                         | 1,825              | -                         |
| Father Point.....     | 34.8                       | 9.3         | 54.1        | -21.3  | 83.0    | 35.1                      | -                  | -                         |
| New Brunswick—        |                            |             |             |        |         |                           |                    |                           |
| Chatham.....          | 39.6                       | 12.7        | 61.8        | -22.0  | 98.0    | 40.3                      | -                  | -                         |
| Fredericton.....      | 39.7                       | 11.4        | 61.5        | -31.5  | 95.8    | 40.5                      | 2,005              | 1,978                     |
| St. John.....         | 41.1                       | 16.9        | 58.4        | -12.7  | 77.5    | 41.6                      | -                  | -                         |
| Nova Scotia—          |                            |             |             |        |         |                           |                    |                           |
| Yarmouth.....         | 52.0                       | 23.7        | 58.0        | 2.2    | 78.0    | 40.2                      | -                  | -                         |
| Halifax.....          | 43.6                       | 20.7        | 62.1        | -11.6  | 98.7    | 44.3                      | -                  | -                         |
| Sydney.....           | 41.9                       | 19.0        | 60.3        | -12.8  | 91.5    | 42.4                      | -                  | -                         |
| Prince Edward Island— |                            |             |             |        |         |                           |                    |                           |
| Charlottetown.....    | 39.5                       | 19.5        | 58.0        | -15.0  | 91.0    | 40.2                      | 1,751              | 1,896                     |

<sup>1</sup> No return of sunshine for December.

## PRECIPITATION IN INCHES.

| Station               | 1912  |       |       | Normal (1888-1907) |       |       |
|-----------------------|-------|-------|-------|--------------------|-------|-------|
|                       | rain  | snow  | total | rain               | snow  | total |
| British Columbia—     |       |       |       |                    |       |       |
| Victoria.....         | 29.53 | 3.2   | 29.85 | 31.41              | 11.6  | 32.57 |
| Vancouver.....        | 56.12 | 9.3   | 57.05 | 57.88              | 23.2  | 60.20 |
| Kamloops.....         | 11.59 | 18.8  | 13.47 | 8.00               | 26.2  | 10.62 |
| Alberta—              |       |       |       |                    |       |       |
| Calgary.....          | 18.80 | 25.2  | 21.32 | 11.70              | 46.0  | 16.30 |
| Edmonton.....         | 17.98 | 22.0  | 20.18 | 14.18              | 40.2  | 18.20 |
| Saskatchewan—         |       |       |       |                    |       |       |
| Battleford.....       | -     | -     | -     | 11.05              | 27.4  | 13.79 |
| Prince Albert.....    | 15.09 | 36.0  | 18.69 | 11.62              | 49.8  | 16.60 |
| Qu'Appelle.....       | 14.51 | 35.5  | 18.06 | 13.44              | 54.0  | 18.84 |
| Manitoba—             |       |       |       |                    |       |       |
| Minnedosa.....        | 14.13 | 30.5  | 17.18 | 12.79              | 45.7  | 17.36 |
| Winnipeg.....         | 20.01 | 28.0  | 22.81 | 15.62              | 51.9  | 20.81 |
| Ontario—              |       |       |       |                    |       |       |
| Port Arthur.....      | 17.89 | 22.2  | 20.11 | 19.01              | 44.5  | 23.46 |
| White River.....      | -     | -     | -     | 17.36              | 93.5  | 26.71 |
| Parry Sound.....      | 25.87 | 188.2 | 44.69 | 29.38              | 115.6 | 40.94 |
| Southampton.....      | 26.82 | 128.4 | 39.66 | 21.64              | 116.0 | 33.24 |
| Toronto.....          | 25.65 | 68.7  | 32.52 | 25.28              | 61.0  | 31.38 |
| Kingston.....         | 30.01 | 68.2  | 36.83 | 24.01              | 74.8  | 31.49 |
| Stonecliffe.....      | 21.24 | 87.8  | 30.02 | 21.69              | 82.6  | 29.95 |
| Ottawa.....           | 29.10 | 131.2 | 42.22 | 33.40              | 87.0  | 33.40 |
| Quebec—               |       |       |       |                    |       |       |
| Montreal.....         | 32.25 | 119.8 | 44.23 | 29.37              | 122.7 | 41.64 |
| Quebec.....           | 35.82 | 116.4 | 47.46 | 27.17              | 132.9 | 40.46 |
| Sherbrooke.....       | 35.55 | 99.0  | 45.45 | -                  | -     | -     |
| Father Point.....     | 27.52 | 143.9 | 41.91 | 23.21              | 109.6 | 34.17 |
| New Brunswick—        |       |       |       |                    |       |       |
| Chatham.....          | 40.02 | 104.6 | 50.48 | 27.65              | 119.9 | 39.64 |
| Fredericton.....      | 44.82 | 98.0  | 54.62 | 33.73              | 104.6 | 44.19 |
| St. John.....         | 43.92 | 70.2  | 50.94 | 36.68              | 84.3  | 45.11 |
| Nova Scotia—          |       |       |       |                    |       |       |
| Yarmouth.....         | 34.37 | 77.8  | 42.15 | 42.46              | 84.2  | 50.88 |
| Halifax.....          | 48.07 | 100.5 | 58.12 | 49.43              | 76.7  | 57.10 |
| Sydney.....           | 29.69 | 115.5 | 41.24 | 41.10              | 92.8  | 50.38 |
| Prince Edward Island— |       |       |       |                    |       |       |
| Charlottetown.....    | 31.88 | 86.8  | 40.56 | 29.97              | 101.8 | 40.15 |

## THE WEATHER DURING FEBRUARY.

The mean temperature for February was subnormal over the greater part of Canada, Alberta, Saskatchewan and the extreme southern part of Manitoba alone having a value in excess of the average. The negative departure was pronounced in central British Columbia, where it exceeded 9°, this being also the case in upper Ontario; in other districts where the values were subnormal the deficiency was about 3°. The excess in Alberta was more than 3°, and in Saskatchewan from 1° to 5°. An excess of precipitation occurred during February in central and southern British Columbia, southern Alberta, eastern Saskatchewan, western Manitoba, upper Ontario and the Georgian Bay region, and eastern districts of the Maritime

provinces; elsewhere the average value was not reached. The negative departures were quite marked, particularly in Vancouver Island, B.C., and the lower Lake region of Ontario, where the fall was as a rule less than half the usual amount. On the last day of the month the ground was snow-covered throughout Canada, except on the British Columbian coast, and the depth was considerably greater than at the close of January.

## PRICES OF COLONIAL AND FOREIGN PRODUCE IN BRITISH MARKETS, 1913.

WHEAT (per bushel of 60 lb.)

| Description                    | Feb. 3 |        | Feb. 10 |        | Feb. 17 |        | Feb. 24 |        |
|--------------------------------|--------|--------|---------|--------|---------|--------|---------|--------|
|                                | \$ c.  | \$ c.  | \$ c.   | \$ c.  | \$ c.   | \$ c.  | \$ c.   | \$ c.  |
| Wheat—                         |        |        |         |        |         |        |         |        |
| Manitoba best . . . . .        | 1.14½  | -1.17½ | 1.14½   | -1.17½ | 1.14½   | -1.16½ | 1.14½   | -1.16½ |
| " good . . . . .               | 1.11½  | -1.14½ | 1.11½   | -1.14½ | 1.12½   | -1.14  | 1.12½   | -1.14  |
| " No. 3 . . . . .              | 1.08½  | -1.08½ | 1.08½   | -1.08½ | 1.09½   | -1.11½ | 1.09½   | -1.11½ |
| " No. 4 . . . . .              | 1.06   | -1.07½ | 1.06    | -1.07½ | —       | —      | —       | —      |
| " No. 6 . . . . .              | 0.97½  | -1.00  | 0.97½   | -1.00  | —       | —      | —       | —      |
| " feed . . . . .               | 0.85½  | -0.88½ | 0.85½   | -0.88½ | 0.85½   | -0.88½ | 0.85½   | -0.88½ |
| American best spring . . . . . | 1.13½  | -1.16½ | 1.13½   | -1.16½ | 1.14½   | -1.17½ | 1.14½   | -1.17½ |
| " ordinary spring . . . . .    | 1.10½  | -1.13½ | 1.10½   | -1.13½ | 1.11½   | -1.14½ | 1.11½   | -1.14½ |
| " red winter . . . . .         | 1.10½  | -1.13½ | 1.10½   | -1.13½ | 1.11½   | -1.14½ | 1.11½   | -1.14½ |
| " hard winter . . . . .        | 1.08½  | -1.10½ | 1.08½   | -1.10½ | 1.10½   | -1.11½ | 1.10½   | -1.11½ |
| Australian . . . . .           | 1.14½  | -1.16½ | 1.14½   | -1.16½ | 1.17½   | -1.19½ | 1.17½   | -1.19½ |
| New Zealand . . . . .          | 1.11½  | -1.14½ | 1.11½   | -1.14½ | 1.14½   | -1.16½ | 1.14½   | -1.16½ |
| Russian fine . . . . .         | 1.08½  | -1.11½ | 1.08½   | -1.15½ | 1.08½   | -1.11½ | 1.08½   | -1.11½ |
| " good . . . . .               | 1.03½  | -1.06  | 1.03    | -1.06  | 1.03    | -1.06  | 1.03    | -1.06  |
| " common . . . . .             | 0.97½  | -1.00  | 0.97½   | -1.00½ | 0.97½   | -1.00½ | 0.97½   | -1.00½ |
| Californian . . . . .          | 1.13½  | -1.16½ | 1.13½   | -1.16½ | 1.14½   | -1.17½ | 1.16½   | -1.19½ |
| Blue Stem . . . . .            | 1.12½  | -1.14½ | 1.12½   | -1.14½ | 1.14    | -1.16½ | 1.15½   | -1.17½ |
| White Walla . . . . .          | 1.11½  | -1.13½ | 1.11½   | -1.13½ | 1.13½   | -1.14½ | 1.14½   | -1.16½ |
| Red Walla . . . . .            | 1.11½  | -1.11½ | 1.11½   | -1.11½ | 1.12½   | -1.13½ | 1.13½   | -1.14½ |
| White Bombay . . . . .         | 1.16½  | -1.17½ | 1.16½   | -1.17½ | 1.17½   | -1.19½ | 1.19½   | -1.20  |
| " Calcutta . . . . .           | 1.14   | -1.14½ | 1.14    | -1.14½ | 1.17    | -1.17½ | 1.18½   | -1.19½ |
| " Karachi . . . . .            | 1.13½  | -1.14  | 1.13½   | -1.14  | 1.17    | -1.17½ | 1.18½   | -1.19½ |
| Red " . . . . .                | 1.12½  | -1.13½ | 1.12½   | -1.13½ | 1.14½   | -1.16½ | 1.16½   | -1.17½ |
| Argentine . . . . .            | 1.11½  | -1.14½ | 1.11½   | -1.14½ | 1.10½   | -1.11½ | 1.08½   | -1.11½ |
| Chilian . . . . .              | 1.17½  | -1.20½ | 1.17½   | -1.20  | 1.14½   | -1.17½ | 1.14½   | -1.17½ |

OATS (per bushel of 34 lb.)

|                        |       |        |       |        |       |        |       |        |
|------------------------|-------|--------|-------|--------|-------|--------|-------|--------|
| Canadian . . . . .     | 0.54½ | -0.56½ | 0.54½ | -0.56½ | 0.54½ | -0.56½ | 0.54½ | -0.56½ |
| American . . . . .     | 0.50½ | -0.51½ | 0.50½ | -0.51½ | 0.50½ | -0.51½ | 0.50½ | -0.51½ |
| Chilian . . . . .      | 0.62  | -0.63½ | 0.62  | -0.63½ | 0.62  | -0.63½ | 0.62  | -0.63½ |
| Bahia Blanca . . . . . | 0.51  | -0.52½ | 0.51  | -0.52½ | 0.51½ | -0.53  | 0.51½ | -0.53  |
| Buenos Aires . . . . . | 0.49½ | -0.50½ | 0.49½ | -0.50½ | 0.50½ | -0.51½ | 0.50½ | -0.51½ |
| Russian . . . . .      | 0.51½ | -0.64½ | 0.51½ | -0.64½ | 0.51½ | -0.64½ | 0.51½ | -0.64½ |

NOTES. The prices of grain are from the Market Supplements to the "Mark Lane Express." The prices of meat and dairy produce are from the British official returns. Rate of conversion from English currency, £1=4.86.

## FLOUR (per 280 lb.)

| Description              | Feb. 3    | Feb. 10   | Feb. 17   | Feb. 24   |
|--------------------------|-----------|-----------|-----------|-----------|
| Hungarian .....          | 9.25-9.49 | 9.25-9.49 | 9.25-9.49 | 9.00-9.49 |
| American Duluth .....    | 9.06-7.30 | 7.06-7.30 | 7.18-7.42 | 7.18-7.42 |
| " Minneapolis best ..... | 7.30-7.54 | 7.30-7.54 | 7.42-7.66 | 7.42-7.66 |
| " " good .....           | 7.06-7.30 | 7.06-7.30 | 7.18-7.42 | 7.18-7.42 |
| " first patents .....    | 7.06-7.18 | 7.06-7.18 | 7.18-7.30 | 7.18-7.30 |
| " second patents .....   | 6.81-6.93 | 6.81-6.93 | 6.93-7.06 | 6.93-7.06 |
| " first bakers .....     | 6.57-6.63 | 6.57-6.63 | 6.69-6.75 | 6.69-6.75 |
| " second bakers .....    | 6.20-6.27 | 6.20-6.27 | 6.33-6.39 | 6.33-6.39 |
| " low grade .....        | 4.90-5.11 | 4.99-5.11 | 5.11-5.23 | 5.11-5.23 |
| Manitoba patents .....   | 7.06-7.12 | 7.06-7.12 | 7.18-7.24 | 7.18-7.24 |
| " straights .....        | 6.87-6.93 | 6.87-6.93 | 7.00-7.06 | 7.00-7.06 |
| Kansas best .....        | 6.69-6.93 | 6.69-6.93 | 6.81-7.06 | 6.81-7.06 |
| " firsts .....           | 6.45-6.69 | 6.45-6.69 | 6.57-6.81 | 6.57-6.81 |
| " seconds .....          | 6.20-6.45 | 6.20-6.45 | 6.33-6.57 | 6.33-6.57 |
| Californian .....        | 7.54-7.79 | 7.54-7.79 | 7.54-7.79 | 7.54-7.79 |
| Australian .....         | 6.93-7.06 | 6.93-7.06 | 6.81-6.93 | 6.81-6.93 |
| French fine .....        | 7.91-8.03 | 7.91-8.03 | 7.79-7.91 | 7.79-7.91 |
| Belgian " .....          | 7.66-7.79 | 7.66-7.79 | 7.66-7.79 | 7.66-7.79 |
| Galatz " .....           | 8.15-8.27 | 8.15-8.27 | 8.15-8.27 | 8.15-8.27 |
| Pillsbury's Best .....   | -         | -         | -         | 7.06      |
| Iron Duke .....          | -         | -         | -         | 6.33      |

## FRESH MEATS (Per cwt. of 100 lb.)

| Description and Market | Feb. 5            | Feb. 12 | Feb. 19 | Feb. 26 |
|------------------------|-------------------|---------|---------|---------|
|                        | \$ c.             | \$ c.   | \$ c.   | \$ c.   |
| Argentine frozen—      |                   |         |         |         |
| Birmingham .....       | { hind qrs.. 7 35 | 7 35    | 7 60    | 7 60    |
|                        | { fore qrs.. 6 59 | 6 34    | 6 59    | 6 59    |
| Leeds .....            | { hind qrs.. 7 35 | 7 60    | 7 35    | 7 35    |
|                        | { fore qrs.. 6 59 | 6 59    | 6 59    | 6 59    |
| Liverpool .....        | { hind qrs.. 7 60 | 7 60    | 7 60    | 7 60    |
|                        | { fore qrs.. 6 08 | 6 59    | 6 59    | 6 59    |
| London .....           | { hind qrs.. 7 35 | 7 04    | 7 86    | 7 86    |
|                        | { fore qrs.. 6 34 | 6 34    | 6 59    | 6 59    |
| Manchester .....       | { hind qrs.. 7 60 | 7 60    | 7 60    | 7 60    |
|                        | { fore qrs.. 6 59 | 6 59    | 6 59    | 6 59    |
| Dundee .....           | { hind qrs.. 7 35 | 7 60    | 8 11    | 7 85    |
|                        | { fore qrs.. 6 85 | 6 85    | 6 85    | 6 85    |
| Edinburgh .....        | { hind qrs.. 7 35 | 7 60    | 7 60    | 7 60    |
|                        | { fore qrs.. 6 59 | 6 59    | 6 85    | -       |
| Glasgow .....          | { hind qrs.. 7 35 | 7 60    | 7 60    | 8 11    |
|                        | { fore qrs.. 6 59 | 6 59    | 6 59    | 6 59    |
| Argentine chilled—     |                   |         |         |         |
| Birmingham .....       | { hind qrs.. 9 12 | 9 12    | 10 89   | 10 89   |
|                        | { fore qrs.. 7 35 | 7 04    | 7 86    | 7 60    |
| Leeds .....            | { hind qrs.. 8 87 | 9 37    | 10 14   | 10 65   |
|                        | { fore qrs.. 6 84 | 7 04    | 7 60    | 7 86    |
| Liverpool .....        | { hind qrs.. 8 62 | 9 12    | 10 65   | 10 14   |
|                        | { fore qrs.. 6 59 | 7 04    | 7 60    | 7 60    |
| London .....           | { hind qrs.. 9 63 | 9 87    | 10 89   | 11 15   |
|                        | { fore qrs.. 7 04 | 7 35    | 8 11    | 7 60    |
| Manchester .....       | { hind qrs.. 8 62 | 9 12    | 10 65   | 10 65   |
|                        | { fore qrs.. 7 04 | 7 04    | 7 60    | 7 60    |
| Dundee .....           | { hind qrs.. 9 64 | 9 64    | 10 65   | 10 89   |
|                        | { fore qrs.. 7 60 | 7 60    | 8 62    | 8 62    |
| Edinburgh .....        | { hind qrs.. 9 64 | 9 64    | 10 95   | 10 89   |
|                        | { fore qrs.. 7 60 | 7 35    | -       | 7 85    |
| Glasgow .....          | { hind qrs.. 9 64 | 9 64    | 10 95   | 10 65   |
|                        | { fore qrs.. 7 60 | 7 60    | 8 11    | 7 60    |



| Description and Market |           | Feb. 5 | Feb. 12 | Feb. 19 | Feb. 26 |
|------------------------|-----------|--------|---------|---------|---------|
|                        |           | \$ c.  | \$ c.   | \$ c.   | \$ c.   |
| Australian frozen—     |           |        |         |         |         |
| Birmingham.....        | hind qrs. | 7 35   | 7 35    | 7 60    | 7 35    |
|                        | fore qrs. | 6 59   | 6 59    | 6 59    | 6 59    |
| Leeds .....            | hind qrs. | 7 35   | 7 04    | 7 04    | 7 04    |
|                        | fore qrs. | 6 59   | 6 59    | 6 59    | 6 59    |
| Liverpool .....        | hind qrs. | 7 04   | 7 04    | 7 04    | 7 04    |
|                        | fore qrs. | 6 08   | 6 59    | 6 59    | 6 59    |
| London.....            | hind qrs. | 7 04   | 6 84    | 7 86    | 7 35    |
|                        | fore qrs. | 6 34   | 6 08    | 6 59    | 6 34    |
| Manchester.....        | hind qrs. | 7 04   | 7 04    | 7 04    | 7 04    |
|                        | fore qrs. | 6 08   | 6 59    | 6 59    | 6 59    |
| Glasgow.....           | hind qrs. | 7 10   | 7 10    | 7 10    | 7 35    |
|                        | fore qrs. | 6 33   | 6 33    | 6 33    | 6 59    |

## GREEN BACON (per cwt. of 100 lb.)

| Description and Market    |  | Feb. 5      | Feb. 12     | Feb. 19     | Feb. 26     |
|---------------------------|--|-------------|-------------|-------------|-------------|
|                           |  | \$ c. \$ c. | \$ c. \$ c. | \$ c. \$ c. | \$ c. \$ c. |
| Canadian sides—           |  |             |             |             |             |
| Bristol.....              |  | 15.86-15.21 | 15.86-15.21 | 15.86-15.21 | 15.86-15.21 |
| Liverpool.....            |  | 15.43-14.99 | 15.21-14.55 | 14.99-14.12 | 15.43-14.77 |
| London.....               |  | 16.29-15.73 | 16.08-15.86 | 15.73-15.21 | 15.73-15.21 |
| Canadian Cumberland cuts— |  |             |             |             |             |
| Liverpool.....            |  | 15.43-14.55 | 15.73-14.99 | 15.86-15.21 | 16.08-15.73 |
| Danish sides—             |  |             |             |             |             |
| Bristol.....              |  | 17.16-16.51 | 16.73-16.08 | 16.73-16.08 | 16.73-15.86 |
| Liverpool.....            |  | 16.29-15.43 | 15.21-14.55 | 15.43-14.77 | 15.86-15.43 |
| London.....               |  | 17.16-16.08 | 16.73-16.08 | 16.08-15.73 | 16.29-15.86 |
| Glasgow.....              |  | -           | -           | 16.51       | 16.95       |

## GREEN HAMS (per cwt. of 100 lb.)

|                     |  |             |             |             |             |
|---------------------|--|-------------|-------------|-------------|-------------|
| Canadian long cut—  |  |             |             |             |             |
| Bristol.....        |  | 16.95-16.08 | 16.95-16.08 | 16.95-16.08 | 16.95-16.08 |
| Liverpool.....      |  | 16.51-15.73 | 16.73-15.86 | 16.73-15.86 | 17.16-16.57 |
| London.....         |  | 16.95-16.40 | 16.95-16.51 | 16.95-16.51 | 17.37-16.95 |
| American long cut—  |  |             |             |             |             |
| Bristol.....        |  | 15.43-14.77 | 15.43-14.77 | 15.43-14.77 | 15.43-14.77 |
| Liverpool.....      |  | 15.54-14.88 | 15.54-14.88 | 15.54-14.88 | 15.80-15.32 |
| London.....         |  | 15.43-14.77 | 15.43-14.77 | 15.43-14.77 | 15.73-14.77 |
| Glasgow.....        |  | 17.81       | 17.81       | 17.81       | 17.81       |
| American short cut— |  |             |             |             |             |
| Bristol.....        |  | 15.43-14.99 | 15.43-14.99 | 15.43-14.99 | 15.21-14.55 |
| Liverpool.....      |  | 15.43-14.77 | 15.32-14.55 | 15.32-14.45 | 15.32-14.45 |
| London.....         |  | 15.21-14.99 | 14.99-14.77 | 14.99-14.55 | 14.99-14.55 |
| Glasgow.....        |  | 16.95       | 16.73       | 16.51       | 16.51       |

## CHEESE (per cwt. of 100 lb.)

| Description and Market | Feb. 5 |       | Feb. 12 |       | Feb. 19 |       | Feb. 26 |       |
|------------------------|--------|-------|---------|-------|---------|-------|---------|-------|
|                        | \$ c.  | \$ c. | \$ c.   | \$ c. | \$ c.   | \$ c. | \$ c.   | \$ c. |
| Canadian—              |        |       |         |       |         |       |         |       |
| Bristol.....           | 14.12  | 13.25 | 14.12   | 13.25 | 14.12   | 13.25 | 14.12   | 13.25 |
| Liverpool.....         | 14.02  | 13.37 | 14.02   | 13.58 | 14.02   | 13.58 | 14.02   | 13.58 |
| London.....            | 13.90  | 13.69 | 13.90   | 13.66 | 14.12   | 13.69 | 14.12   | 13.69 |
| Glasgow.....           | 14.12  | 13.69 | 14.12   | 13.69 | 14.12   | -     | 14.12   | -     |
| New Zealand—           |        |       |         |       |         |       |         |       |
| Bristol.....           | 13.25  | 13.04 | 13.25   | 13.04 | 13.25   | 13.04 | 13.35   | 13.04 |
| London.....            | 13.25  | 13.04 | 13.25   | 13.04 | 13.25   | 13.04 | 13.25   | 13.04 |
| Glasgow.....           | 13.69  | 13.25 | 13.69   | 13.25 | 13.47   | -     | 13.69   | -     |

## PUBLICATIONS OF THE CENSUS AND STATISTICS OFFICE.

Copies of the undermentioned publications will so far as  
available be sent free on application to Archibald Blue, Chief  
Officer, Census and Statistics Office, Ottawa.

THE CANADA YEAR BOOK. Second Series, 1905-1910.

Each of these six Volumes contains a complete summary of the principal events of the year and the acts of the Dominion Parliament, with statistics of population, agriculture, forestry, minerals, manufactures, trade and commerce, public accounts, banking, post office, insurance, railways, canals, marine, fisheries, etc.

LONGEVITY AND SANITATION. Bulletin VIII. The substance of addresses delivered by Archibald Blue before the McMaster Convocation and the American Public Health Association.

REPORT ON THE CENSUS OF POPULATION AND AGRICULTURE OF THE NORTHWEST PROVINCES, Manitoba, Saskatchewan and Alberta, 1906.

THE BEET SUGAR INDUSTRY. Bulletin IX. The result of an investigation of Sugar Beet production in Canada and the manufacture of the roots into refined sugar, with Appendix A consisting of the Hearings of the Customs Tariff Committee, 1906, and Appendix B, Beet Sugar Production in Posen, Germany. 75 pp., 3 illustrations.

OCCUPATIONS OF THE PEOPLE. Bulletin XI. The figures in this Bulletin are compiled from data of the Census of 1901.

BULLETINS OF THE FIFTH CENSUS OF CANADA, 1911. i. Manufactures for the year 1910. ii. Dairying Industries for the year 1910. iv. Agriculture of Nova Scotia. v. Agriculture of New Brunswick. xii. Religions of Canada. xiii. Origins of the People.

# CENSUS AND STATISTICS MONTHLY

Vol. 6

OTTAWA, APRIL 1913

No. 57

PUBLISHED BY AUTHORITY OF HONOURABLE GEORGE E. FOSTER, MINISTER OF TRADE AND COMMERCE. CORRESPONDENCE RELATING TO THE CENSUS AND STATISTICS MONTHLY SHOULD BE ADDRESSED TO ARCHIBALD BLUE, CHIEF OFFICER OF THE CENSUS AND STATISTICS OFFICE, DEPARTMENT OF TRADE AND COMMERCE, OTTAWA, CANADA.

## CROPS AND LIVE STOCK IN CANADA.

Report for the month ended March 31 1913.

According to reports made by correspondents at the end of March, 92 p.c. of last year's wheat crop in Canada, i.e., 183,611,000 bushels out of the total estimated production of 199,236,000 bushels, proved to be of merchantable quality. In the Maritime provinces, in Quebec and in Ontario the proportions were smaller than this, being 88 p.c. in Prince Edward Island, 86 p.c. in Nova Scotia, 82 p.c. in New Brunswick, 75 p.c. in Quebec and 83 p.c. in Ontario; but in the three Northwest provinces of Manitoba, Saskatchewan and Alberta, where the bulk of the wheat crop is produced, the percentage of merchantable quality was in each case about 93. In British Columbia the quality proving merchantable was only 76 p.c.; but in this province the total production was relatively small.

It is estimated that about 22 p.c. of the total wheat crop in Canada, viz., 44,668,000 bushels, remained in farmers' hands on March 31, as compared with 27 p.c. representing 58,129,000 bushels of the crop of 1911 which remained in farmers' hands on March 31 1912. The quantity of wheat estimated as remaining in farmers' hands on March 31 1913 was in the Maritime provinces 336,000, in Quebec 350,000, in Ontario 3,232,000, in the three Northwest provinces 40,704,000 and in British Columbia 46,000 bushels.

Oats, the estimated yield of which was last year 361,733,000 bushels, was of merchantable quality to the extent of 91 p.c., or 328,183,000 bushels, and the quantity remaining in farmers' hands was 44.22 p.c., or 159,948,000 bushels, as compared with last year's figures of 89 p.c. merchantable, or 310,074,000 bushels, and 44.18 p.c., or 153,846,000 bushels in farmers' hands on March 31 1912. The proportions merchantable of the crop of 1912 were by provinces: Prince Edward Island 95 p.c. (6,857,000 bushels), Nova Scotia 87 p.c. (2,753,000 bushels), New Brunswick 86 p.c. (4,612,000 bushels), Quebec 73 p.c. (22,016,000) bushels, Ontario 83 p.c. 76,074,000 bushels), Manitoba 99 p.c. (53,171,000 bushels), Saskatchewan 94

p.c. (99,239,000 bushels), Alberta 99 p.c. (62,193,000 bushels) and British Columbia 80 p.c. (1,568,000 bushels).

Of the total barley crop of 44,014,000 bushels it is estimated that 87 p.c. or 38,299,000 bushels, were of merchantable quality, and that 35 p.c., or 15,404,000 bushels, remained in the hands of farmers at the end of March. The corresponding figures for last year were 90.26 p.c., or 36,683,000 bushels merchantable, and 32.56 p.c., or 13,235,000 bushels in farmers' hands on March 31 1912. The bulk of the barley crop is produced in Ontario and Manitoba. In the former province 12,001,000 bushels, or 81 p.c., and in the latter 13,416,000 bushels, or 90 p.c., was of merchantable quality.

The merchantable yield of corn for husking was 76 p.c. of the total crop, of buckwheat 81 p.c., of flaxseed 89 p.c., of potatoes 78 p.c., of turnips and other roots 90 p.c. and of hay and clover 81 p.c. The quantities on hand at March 31 were: corn 3,969,000 bushels, flaxseed 5,803,000 bushels, potatoes 35,097,000 bushels, turnips and other roots 18,884,000 bushels and hay and clover 3,444,000 tons.

As a general rule live stock wintered well, and their average condition for all Canada, expressed in a percentage of 100 representing a healthy and thrifty state, was for horses 95, milch cows 93, other cattle 91, sheep 95 and swine 94. In the Maritime provinces, Quebec and Ontario the winter proved exceptionally mild; and, with an abundance of fodder, all descriptions of farm live stock came well through. In the Northwest provinces live stock did well on the whole; but in many localities cattle suffered through the lack of prairie hay, which was spoiled by last year's heavy rains. Many deaths amongst young pigs were attributed to the cold farrowing season. The winter proved long and cold in Manitoba and Saskatchewan, but was unusually mild and open in Alberta.

Indications at the end of March were for an early spring and sowing season throughout the eastern part of Canada; but in the Northwest provinces, where deep snows and severe cold persisted during March, it was anticipated that sowing would be late.

With few exceptions the fall wheat in southern Ontario was reported to be in fine condition. It was too early to report on the fall wheat of Alberta.



## I. Statistics of the 1912 Harvest of Canada and the Provinces.

| Field crops               | Total production in 1912 | In farmers' hands<br>March 31 1913 |             | Yield of 1912<br>harvest merchantable |             |
|---------------------------|--------------------------|------------------------------------|-------------|---------------------------------------|-------------|
|                           | bush.                    | p.c.                               | bush.       | p.c.                                  | bush.       |
| Canada—                   |                          |                                    |             |                                       |             |
| Wheat .. . . .            | 199,236,000              | 22·41                              | 44,668,000  | 92·15                                 | 183,611,000 |
| Oats .. . . .             | 361,733,000              | 44·22                              | 159,948,000 | 90·81                                 | 328,483,000 |
| Barley .. . . .           | 44,014,000               | 35·00                              | 15,404,000  | 87·02                                 | 38,299,000  |
| Rye .. . . .              | 2,594,000                | 21·96                              | 579,000     | 86·70                                 | 2,249,000   |
| Buckwheat .. . . .        | 10,193,000               | 29·64                              | 3,021,000   | 81·37                                 | 8,294,000   |
| Corn for husking .. . . . | 16,569,800               | 23·95                              | 3,969,000   | 76·31                                 | 12,644,000  |
| Flaxseed .. . . .         | 21,681,500               | 26·44                              | 5,803,000   | 89·29                                 | 19,360,000  |
| Potatoes .. . . .         | 81,343,000               | 43·14                              | 35,097,000  | 78·33                                 | 63,713,000  |
| Turnips, etc. ....        | 87,505,000               | 22·84                              | 18,884,000  | 90·31                                 | 79,021,000  |
|                           | tons                     |                                    | tons        |                                       | tons        |
| Hay and clover .. . . .   | 11,189,000               | 30·78                              | 3,444,000   | 80·91                                 | 9,053,000   |
| P. E. Island—             | bush.                    |                                    | bush.       |                                       | bush.       |
| Wheat .. . . .            | 565,000                  | 38·46                              | 217,000     | 88·36                                 | 499,000     |
| Oats .. . . .             | 7,216,000                | 47·95                              | 346,000     | 95·63                                 | 6,857,000   |
| Barley .. . . .           | 141,000                  | 32·46                              | 46,000      | 92·85                                 | 131,000     |
| Buckwheat .. . . .        | 99,000                   | 28·26                              | 28,000      | 95·19                                 | 91,000      |
| Potatoes .. . . .         | 6,522,000                | 48·37                              | 3,155,000   | 78·61                                 | 5,127,000   |
| Turnips, etc. ....        | 3,173,000                | 18·19                              | 577,000     | 79·44                                 | 2,521,000   |
|                           | tons                     |                                    | tons        |                                       | tons        |
| Hay and clover .. . . .   | 240,000                  | 25·62                              | 61,000      | 83·57                                 | 201,000     |
| Nova Scotia—              | bush.                    |                                    | bush.       |                                       | bush.       |
| Wheat .. . . .            | 258,000                  | 27·19                              | 70,000      | 86·18                                 | 222,000     |
| Oats .. . . .             | 3,175,000                | 28·20                              | 895,000     | 86·70                                 | 2,753,000   |
| Barley .. . . .           | 152,000                  | 23·83                              | 36,000      | 86·44                                 | 131,000     |
| Rye .. . . .              | 15,000                   | 22·50                              | 3,000       | 87·60                                 | 13,000      |
| Buckwheat .. . . .        | 197,000                  | 24·63                              | 49,000      | 87·86                                 | 173,000     |
| Corn for husking .. . . . | 8,800                    | 42·00                              | 4,000       | 68·57                                 | 6,000       |
| Potatoes .. . . .         | 8,061,000                | 38·55                              | 3,108,000   | 82·16                                 | 6,623,000   |
| Turnips, etc. ....        | 4,755,000                | 28·37                              | 1,349,000   | 84·27                                 | 4,007,000   |
|                           | tons                     |                                    | tons        |                                       | tons        |
| Hay and clover .. . . .   | 755,000                  | 24·80                              | 187,000     | 82·28                                 | 621,000     |
| New Brunswick—            | bush.                    |                                    | bush.       |                                       | bush.       |
| Wheat .. . . .            | 225,000                  | 21·80                              | 49,000      | 81·79                                 | 184,000     |
| Oats .. . . .             | 5,359,000                | 37·35                              | 2,002,000   | 86·07                                 | 4,612,000   |
| Barley .. . . .           | 69,000                   | 21·22                              | 15,000      | 78·33                                 | 54,000      |
| Buckwheat .. . . .        | 1,474,000                | 25·61                              | 377,000     | 87·22                                 | 1,286,000   |
| Potatoes .. . . .         | 7,387,000                | 44·32                              | 3,274,000   | 86·00                                 | 6,353,000   |
| Turnips, etc. ....        | 2,566,000                | 19·67                              | 493,000     | 82·79                                 | 2,075,000   |
|                           | tons                     |                                    | tons        |                                       | tons        |
| Hay and clover .. . . .   | 826,000                  | 24·48                              | 202,000     | 77·32                                 | 639,000     |
| Quebec—                   | bush.                    |                                    | bush.       |                                       | bush.       |
| Wheat .. . . .            | 1,020,000                | 34·31                              | 350,000     | 75·00                                 | 765,000     |
| Oats .. . . .             | 30,267,000               | 42·13                              | 12,751,000  | 72·74                                 | 22,016,000  |
| Barley .. . . .           | 2,163,000                | 32·24                              | 697,000     | 78·67                                 | 1,702,000   |
| Rye .. . . .              | 296,000                  | 33·35                              | 99,000      | 70·71                                 | 209,600     |
| Buckwheat .. . . .        | 3,030,000                | 36·39                              | 1,103,000   | 78·27                                 | 2,372,000   |
| Corn for husking .. . . . | 514,000                  | 23·90                              | 123,000     | 71·09                                 | 365,000     |
| Flaxseed .. . . .         | 12,500                   | -                                  | -           | -                                     | -           |
| Potatoes .. . . .         | 17,632,000               | 45·71                              | 8,060,000   | 78·93                                 | 13,917,000  |
| Turnips, etc. ....        | 3,296,000                | 23·98                              | 790,000     | 86·00                                 | 2,835,000   |
|                           | tons                     |                                    | tons        |                                       | tons        |
| Hay and clover .. . . .   | 3,355,000                | 36·67                              | 1,230,000   | 82·66                                 | 2,773,000   |

## 1. Statistics of the 1912 Harvest of Canada and the Provinces—con.

| Field crops           | Total production in 1912 | In farmers' hands<br>March 31 1913 |            | Yield of 1912<br>harvest merchantable |            |
|-----------------------|--------------------------|------------------------------------|------------|---------------------------------------|------------|
| Ontario—              | bush.                    | p.c.                               | bush.      | p.c.                                  | bush.      |
| Wheat.....            | 13,638,000               | 23·70                              | 3,232,000  | 83·22                                 | 11,350,000 |
| Oats.....             | 31,899,000               | 38·81                              | 35,666,000 | 82·78                                 | 76,074,000 |
| Barley.....           | 14,745,000               | 27·87                              | 4,169,000  | 81·39                                 | 12,001,000 |
| Rye.....              | 1,746,000                | 22·70                              | 396,000    | 86·90                                 | 1,517,000  |
| Buckwheat.....        | 5,393,000                | 27·14                              | 1,464,000  | 81·01                                 | 4,369,000  |
| Corn for husking..... | 16,047,000               | 23·94                              | 3,842,000  | 76·48                                 | 12,273,000 |
| Flaxseed.....         | 135,000                  | 28·96                              | 39,000     | 62·96                                 | 85,000     |
| Potatoes.....         | 22,089,000               | 33·97                              | 7,594,000  | 64·51                                 | 14,250,000 |
| Turnips, etc.....     | 64,565,000               | 21·18                              | 13,675,000 | 91·34                                 | 58,974,000 |
|                       | tons                     |                                    | tons       |                                       | tons       |
| Hay and clover.....   | 5,249,000                | 28·77                              | 1,510,000  | 88·18                                 | 4,209,000  |
| Manitoba—             | bush.                    |                                    | bush.      |                                       | bush.      |
| Wheat.....            | 58,899,000               | 23·56                              | 13,877,000 | 93·22                                 | 54,906,000 |
| Oats.....             | 53,806,000               | 41·58                              | 22,373,000 | 98·82                                 | 53,171,000 |
| Barley.....           | 14,965,000               | 37·74                              | 5,648,000  | 89·65                                 | 13,416,000 |
| Flaxseed.....         | 1,174,000                | 34·32                              | 403,000    | 76·40                                 | 897,000    |
| Potatoes.....         | 5,766,000                | 49·17                              | 2,835,000  | 90·52                                 | 5,219,000  |
| Turnips, etc.....     | 1,665,000                | 17·00                              | 283,000    | 93·83                                 | 1,562,000  |
|                       | tons                     |                                    | tons       |                                       | tons       |
| Hay and clover.....   | 241,000                  | 37·88                              | 91,000     | 79·02                                 | 190,000    |
| Saskatchewan—         | bush.                    |                                    | bush.      |                                       | bush.      |
| Wheat.....            | 93,849,000               | 20·91                              | 19,624,000 | 92·73                                 | 87,026,000 |
| Oats.....             | 105,115,000              | 50·26                              | 59,138,000 | 94·41                                 | 99,239,000 |
| Barley.....           | 5,926,000                | 44·73                              | 2,651,000  | 95·22                                 | 5,643,000  |
| Flaxseed.....         | 18,931,000               | 25·73                              | 4,871,000  | 91·31                                 | 17,286,000 |
| Potatoes.....         | 5,347,000                | 51·52                              | 2,755,000  | 90·23                                 | 4,825,000  |
| Turnips, etc.....     | 2,984,000                | 32·35                              | 965,000    | 93·68                                 | 2,795,000  |
|                       | tons                     |                                    | tons       |                                       | tons       |
| Hay and clover.....   | 35,000                   | 31·94                              | 11,000     | 83·21                                 | 29,000     |
| Alberta—              | bush.                    |                                    | bush.      |                                       | bush.      |
| Wheat.....            | 39,574,000               | 23·56                              | 7,203,000  | 93·22                                 | 28,501,000 |
| Oats.....             | 62,936,000               | 41·58                              | 26,169,000 | 98·82                                 | 62,193,000 |
| Barley.....           | 5,780,000                | 37·74                              | 2,181,000  | 89·65                                 | 5,182,000  |
| Rye.....              | 537,000                  | 15·00                              | 81,000     | 95·00                                 | 510,000    |
| Flaxseed.....         | 1,429,000                | 34·32                              | 490,000    | 76·40                                 | 1,062,000  |
| Potatoes.....         | 5,503,000                | 49·17                              | 2,706,000  | 90·52                                 | 4,981,000  |
| Turnips, etc.....     | 3,393,000                | 17·00                              | 577,000    | 93·83                                 | 3,181,000  |
|                       | tons                     |                                    | tons       |                                       | tons       |
| Hay and clover.....   | 296,000                  | 37·88                              | 112,000    | 79·02                                 | 234,000    |
| British Columbia—     | bush.                    |                                    | bush.      |                                       | bush.      |
| Wheat.....            | 208,000                  | 22·00                              | 46,000     | 76·00                                 | 158,000    |
| Oats.....             | 1,969,000                | 31·00                              | 608,000    | 80·00                                 | 1,568,000  |
| Barley.....           | 73,000                   | 28·33                              | 21,000     | 53·33                                 | 39,000     |
| Potatoes.....         | 3,036,000                | 56·00                              | 1,704,000  | 79·64                                 | 2,418,000  |
| Turnips, etc.....     | 1,168,000                | 15·00                              | 175,000    | 91·43                                 | 1,068,000  |
|                       | tons                     |                                    | tons       |                                       | tons       |
| Hay and clover.....   | 192,000                  | 20·83                              | 40,000     | 82·00                                 | 157,000    |

## II. Statistics of the Harvest of Canada for 1910, 1911 and 1912 compared.

| Field crops                 | Total production |             |             | In farmers' hands March 31 |             |             |
|-----------------------------|------------------|-------------|-------------|----------------------------|-------------|-------------|
|                             | 1912             | 1911        | 1910        | 1913                       | 1912        | 1911        |
|                             | bush.            | bush.       | bush.       | bush.                      | bush.       | bush.       |
| Wheat .....                 | 199,236,000      | 215,851,300 | 149,989,600 | 41,668,000                 | 58,129,000  | 30,912,000  |
| Oats .....                  | 361,733,000      | 348,187,600 | 323,149,000 | 159,948,000                | 153,846,000 | 127,587,000 |
| Barley .....                | 44,911,000       | 40,641,000  | 45,147,000  | 15,404,000                 | 13,235,000  | 13,145,000  |
| Rye .....                   | 2,594,000        | 2,694,400   | 1,543,500   | 579,000                    | 660,000     | 323,000     |
| Buckwheat ..                | 10,193,000       | 8,155,500   | 7,213,000   | 3,021,000                  | 1,728,000   | 1,750,000   |
| Corn for husk-<br>ing ..... | 16,569,800       | 18,772,700  | 18,726,000  | 3,959,000                  | 3,659,000   | 4,734,000   |
| Flaxseed .....              | 21,681,500       | 12,921,000  | 5,803,000   | 3,581,000                  |             |             |
| Potatoes .....              | 81,343,000       | 66,023,000  | 74,048,000  | 35,097,000                 | 20,404,000  | 23,564,000  |
| Turnips, etc.               | 87,505,000       | 84,933,000  | 95,207,000  | 18,884,000                 | 14,055,000  | 16,159,000  |
| Hay & clover                | 11,189,000       | 12,694,000  | 15,497,000  | 3,444,000                  | 3,134,000   | 5,287,000   |

| Field crops—con.            | Yield of harvest merchantable |             |             | P.c. of total yield<br>merchantable in |       |       | Per cent of total<br>yield on hand |      |      |
|-----------------------------|-------------------------------|-------------|-------------|--|-------|-------|------------------------------------|------|------|
|                             | 1912                          | 1911        | 1910        | 1912                                   | 1911  | 1910  | 1913                               | 1912 | 1911 |
|                             | bush.                         | bush.       | bush.       | p.c.                                   | p.c.  | p.c.  | p.c.                               | p.c. | p.c. |
| Wheat .....                 | 183,611,000                   | 188,255,000 | 141,096,000 | 92                                     | 15.87 | 22.94 | 07                                 | 22   | 41   |
| Oats .....                  | 328,483,000                   | 310,074,000 | 301,773,000 | 90                                     | 81    | 89    | 05                                 | 93   | 29   |
| Barley .....                | 38,299,000                    | 35,683,000  | 41,505,000  | 87                                     | 62    | 90    | 26                                 | 91   | 93   |
| Rye .....                   | 2,249,000                     | 2,400,000   | 1,281,000   | 86                                     | 70    | 89    | 07                                 | 82   | 99   |
| Buckwheat ..                | 8,294,000                     | 6,857,000   | 6,423,000   | 81                                     | 37    | 84    | 08                                 | 86   | 66   |
| Corn for husk-<br>ing ..... | 12,644,000                    | 15,891,000  | 15,662,000  | 76                                     | 31    | 84    | 65                                 | 83   | 63   |
| Flaxseed .....              | 19,360,000                    | 9,479,000   | —           | 89                                     | 29    | 73    | 36                                 | —    | 26   |
| Potatoes .....              | 66,713,000                    | 52,955,000  | 57,249,000  | 78                                     | 33    | 80    | 21                                 | 77   | 31   |
| Turnips, etc.               | 79,021,000                    | 72,279,000  | 82,652,000  | 90                                     | 31    | 85    | 10                                 | 86   | 81   |
| Hay and clover              | 9,053,000                     | 11,255,000  | 13,794,000  | 80                                     | 91    | 88    | 66                                 | 88   | 72   |

## III. Comparative Condition of Live Stock, March 31, 1911-12-13.

| Live stock        | Per cent condition<br>of live stock |       |       | Live stock        | Per cent condition<br>of live stock |       |       |
|-------------------|-------------------------------------|-------|-------|-------------------|-------------------------------------|-------|-------|
|                   | 1913                                | 1912  | 1911  |                   | 1913                                | 1912  | 1911  |
|                   | p.c.                                | p.c.  | p.c.  |                   | p.c.                                | p.c.  | p.c.  |
| Canada—           |                                     |       |       | Nova Scotia—      |                                     |       |       |
| Horses.....       | 95 40                               | 96 01 | 95 37 | Horses.....       | 97 47                               | 96 53 | 97 55 |
| Milch cows.....   | 93 25                               | 92 58 | 93 29 | Milch cows.....   | 94 87                               | 85 73 | 97 11 |
| Other cattle..... | 91 34                               | 91 53 | 90 87 | Other cattle..... | 91 63                               | 91 70 | 94 62 |
| Sheep.....        | 95 49                               | 93 40 | 93 77 | Sheep.....        | 94 80                               | 92 83 | 95 25 |
| Swine.....        | 94 26                               | 94 06 | 94 36 | Swine.....        | 90 59                               | 91 04 | 95 22 |
| P. E. Island—     |                                     |       |       | New Brunswick—    |                                     |       |       |
| Horses.....       | 93 51                               | 93 00 | 97 34 | Horses.....       | 96 94                               | 95 75 | 96 94 |
| Milch cows.....   | 91 92                               | 88 00 | 94 04 | Milch cows.....   | 95 36                               | 93 75 | 94 85 |
| Other cattle..... | 91 87                               | 86 48 | 91 91 | Other cattle..... | 89 37                               | 92 52 | 93 73 |
| Sheep.....        | 92 21                               | 91 28 | 93 12 | Sheep.....        | 92 53                               | 91 14 | 93 40 |
| Swine.....        | 94 48                               | 90 24 | 90 20 | Swine.....        | 95 67                               | 94 35 | 94 10 |

## III. Comparative Condition of Live Stock, March 31, 1911-12-13.—con

| Live stock         | Per cent condition of live stock |       |       | Live stock         | Per cent condition of live stock |       |       |
|--------------------|----------------------------------|-------|-------|--------------------|----------------------------------|-------|-------|
|                    | 1913                             | 1912  | 1911  |                    | 1913                             | 1912  | 1911  |
|                    | p.c.                             | p.c.  | p.c.  |                    | p.c.                             | p.c.  | p.c.  |
| Quebec—            |                                  |       |       | Saskatchewan—      |                                  |       |       |
| Horses .....       | 96 02                            | 95 74 | 95 71 | Horses .....       | 94 21                            | 99 02 | 94 27 |
| Milch cows .....   | 94 66                            | 94 32 | 95 95 | Milch cows .....   | 90 60                            | 93 56 | 90 96 |
| Other cattle ..... | 92 96                            | 92 51 | 93 77 | Other cattle ..... | 88 89                            | 93 21 | 88 56 |
| Sheep .....        | 94 58                            | 94 93 | 94 05 | Sheep .....        | 94 00                            | 94 86 | 93 46 |
| Swine .....        | 93 81                            | 93 55 | 94 89 | Swine .....        | 90 99                            | 95 81 | 93 43 |
| Ontario—           |                                  |       |       | Alberta—           |                                  |       |       |
| Horses .....       | 94 66                            | 93 07 | 95 84 | Horses .....       | 95 79                            | 96 40 | 93 16 |
| Milch cows .....   | 93 04                            | 89 57 | 94 00 | Milch cows .....   | 95 01                            | 96 66 | 89 75 |
| Other cattle ..... | 91 18                            | 86 53 | 92 98 | Other cattle ..... | 92 84                            | 95 41 | 85 00 |
| Sheep .....        | 97 86                            | 91 54 | 94 11 | Sheep .....        | 95 36                            | 97 70 | 91 27 |
| Swine .....        | 95 35                            | 90 68 | 95 00 | Swine .....        | 96 37                            | 97 26 | 94 67 |
| Manitoba—          |                                  |       |       | British Columbia—  |                                  |       |       |
| Horses .....       | 96 13                            | 98 10 | 94 21 | Horses .....       | 96 56                            | 94 96 | 94 52 |
| Milch cows .....   | 93 53                            | 95 41 | 88 73 | Milch cows .....   | 94 00                            | 94 55 | 91 80 |
| Other cattle ..... | 92 79                            | 96 03 | 84 79 | Other cattle ..... | 86 00                            | 86 58 | 87 94 |
| Sheep .....        | 94 69                            | 96 23 | 90 56 | Sheep .....        | 96 70                            | 88 21 | 94 66 |
| Swine .....        | 97 02                            | 97 44 | 92 98 | Swine .....        | 94 00                            | 92 23 | 96 06 |

## NOTES OF REPORTS FROM THE PROVINCES.

**Prince Edward Island.** The winter has been exceptionally mild, and there are indications of an early spring. The snow has disappeared, which is a month earlier than usual. Farm live stock have wintered well. Swine are scarce and the prices for them are high.

**Nova Scotia.** The winter has been exceptionally mild, and live stock have generally wintered well; but in some cases the damaged hay of last season made poor fodder, and cattle suffered accordingly. The weather was mild, and at the end of March there was every prospect of an early spring.

**New Brunswick.** The winter has been exceptionally mild, and live stock have generally wintered well. One correspondent states that the winter up to March 1st was the mildest known for 50 years. Another refers to an over production of potatoes and states that large quantities will have to be thrown away. Horses and milch cows are in good demand, and prices are high. Lumbering received a set-back owing to the absence of snow, and some difficulties were caused through lack of fire wood. A correspondent in St. John county writes as follows: "Owing to a lot of western oats being purchased by the farmers of this parish for seed in the season of 1912, which seed had been frosted and devitalised, a very great failure in the yield per acre took place. This year the farmers are refusing to purchase western oats for seed at any price. In my own case the oats I purchased looked fine, and I re-cleaned them; but only about ten per cent of them grew. This year I am sending to Prince Edward Island for my seed oats and hope with a fair season to have a better return. For every bushel of



oats raised in the parish there are ten or twelve bushels imported from Manitoba, Ontario and Carleton county, New Brunswick. Owing to so much lumbering and the employment of so many horses a great lot of oats, bran, corn, ground oats and barley are brought in by the lumbermen."

**Quebec.** Live stock have wintered well and are generally in good condition. The spring appears to be setting in very early, and one correspondent to the south of the St. Lawrence reports as unprecedented the use of wheels on March 20. So much damage was done to the grain last year by the rains that farmers find it impossible to use their own produce for seed, and for the coming season are purchasing seed grain from outside sources.

**Ontario.** The winter has been mild, and with an abundance of fodder live stock have wintered well and are on the whole in excellent shape. Prices for live stock are high. One correspondent mentions that owing to the high price of pork and beef farmers are feeding grain, as they find it a great deal more profitable to sell the finished product than to sell grain. Another writes that ensilage is becoming a great factor in the wintering of live stock. Horses in northern Ontario are reported to be thin from overwork in the woods. A section in Elgin county, southern Ontario, is reported to be wonderfully alive to the milk industry. The buildings are more modern and the greatest care is taken to get more out of the farm. Several correspondents refer to the scarcity of farm labour. A report from south Wellington, for instance, states that the scarcity of farm labourers and domestic servants is severely felt. Wages are high, being from \$25 to \$40 with board and lodging, and very few have secured help yet. Owing to the wet season of 1912 potatoes have rotted in the cellars; but a correspondent who sprinkled a pint of fresh lime over the potatoes before covering them up in pits and cellars writes that he did not find a single rotting tuber. In southern Ontario fall wheat is reported to be looking fine, though there are exceptions to this rule. The outlook for an early seeding season appears to be good.

**Manitoba.** The winter has been cold and long. Live stock have wintered well on the whole; but in many cases cattle have not done well owing to the scarcity or inferior quality of the hay, much of which was spoiled by the rains of last season. The prices of live stock are high. A correspondent at Strathelyde states that horses fetch from \$250 to \$350 and milch cows from \$75 to \$80 each. Some farmers have wheat stored in elevators awaiting better prices, which however do not appear to arrive. A correspondent at Swan River writes: "Taken all round the farmer in this district who was at all in mixed farming came out a little to the good, and the 'all grain' man went behind in nearly every case." Another correspondent writes that in the district of Melita farmers are going in more for mixed farming and that live stock have increased by 25 p.c. in the past year. In one instance, where a large percentage was reported of unharvested flax, it is stated as a reason that farmers think they can sow flax at any time—even so late as July 20.

**Saskatchewan.** The winter has been long and cold, with deep snows. In some parts temperatures below zero were recorded on March 31. The indications are for a late spring. Live stock have wintered fairly well on the whole; but milch cows and other cattle have in numerous instances done badly, owing to the absence of hay, which was spoiled by the rains of last year and to the consequent necessity of feeding on straw. The depth and long continuance of the snow have in some parts added to the difficulties, as cattle have had to be stabled instead of turned out. In one locality a good many farmers are reported to have burnt their straw in the fall, and in consequence to have run short of feed for their stock. Several correspondents report mortality amongst young pigs, due to the cold in March. The prices for grain continue low and those of live stock are high. A correspondent reporting that milch cows are in great demand mentions from \$80 to \$100 as the price per head. From the district of Eagle Creek a correspondent reports that good seed wheat is in great demand at from 80 cents to \$1.50 per bushel. From Swift Current it is reported that many farmers preferred to grind their wheat for feeding to swine rather than to sell it at a low price; the swine are consequently in good condition. There are indications that more attention is likely to be paid to the raising of live stock. A correspondent at Lashburn states that this district generally, mainly through wretched marketing conditions and returns, is considerably "grain-growing sick," and stock and mixed farming are receiving much greater attention. Another writes that frozen and tough grain has come as a blessing in disguise, as it has caused his locality to go into stock, e.g., cattle and swine.

One of our correspondents, writing for agricultural literature for his boys, states that the work on Farm Weeds, issued by the Seed Branch of the Department of Agriculture and distributed gratis to the crop-reporting correspondents of the Census and Statistics Office, has been studied by his boys and girls from the oldest to the youngest, and that they can tell at once what weeds are on such and such a farm. His little girl quite offered a neighbour by saying: "You have plenty of false flax in your crop if nothing else." The trouble in his district is, he states, that no grain is cleaned and little harrowing is done, especially amongst the Galicians.

**Alberta.** The winter has been mild and very favourable to live stock, which have done well. A correspondent at Amisk, northern Alberta, states that there was only about a week's sleighing and that live stock had been feeding on the prairie almost the whole winter. Other correspondents refer to the winter as the finest for many years. March was however a cold month, the coldest for 10 years at Raymond; and the cold weather in this month caused a considerable number of deaths amongst the litters of pigs. The low prices for grain and the high prices for live stock are causing farmers to increase their herds. Farmers at Huxley have taken advantage of the new facilities offered by the Grand Trunk Pacific branch under construction, although grain prices have been very unsatisfactory.

**British Columbia.** Live stock have come well through the winter; but in certain localities cattle are thin owing to the use of weathered hay

and straw. At Inverness the range cattle which wintered are reported to have suffered during March from unprecedentedly cold weather, which followed extremely mild weather. At Ladysmith eight inches of snow fell in six hours, which is very unusual. From several localities (New Westminster, Agassiz, Kamloops and Grand Forks) an over production of potatoes is reported.

## DEPARTMENT OF AGRICULTURE.

**Experimental Farms and Stations.** At the Central Farm, Ottawa, the temperatures of March range very considerably higher than a year ago, the highest being 58.8, the lowest - 14.2 and the mean temperature 26.18, compared with extremes of 44 and - 17 and a mean of 19.34 in the corresponding period of 1912. The precipitation amounts to 4.62 inches, made up of 2.2 inches of rain and 24.25 inches of snow; while in the previous March it totalled only 1.42 inch, consisting of 14 inches of snow and but .02 of an inch of rain. The bright sunshine recorded during the month averaged 3.47 hours per day, as against 6.8 hours per day in March 1912.

The annual free distribution of samples of some of the best varieties of wheat, oats, barley, field peas and potatoes, which is carried on every winter by the Cereal Division, is now drawing to a close. The demand for samples has been large and, as the supply of good seed was not great, there has been considerable difficulty in satisfying the applicants. Most of the applications however which were received early in the winter have been filled; and some of the later ones as well. Oats are much in demand from all parts of the country—especially the Banner variety. Among wheats, Marquis seems to hold first place in public favour; while the new variety "Prelude" is coming quickly into popularity. This being the first season for the distribution of Prelude, which is an extraordinarily early wheat, the stock on hand was far too small for the demand. It is hoped that by next season this difficulty will have been overcome. The manner in which the old standard wheat, Red Fife, has lost ground is noteworthy: it is now very seldom called for, whereas a few years ago thousands of requests for it were received annually. A large quantity of seed of the Arthur pea has been sent out. This new variety, which is a very productive pea, is taking its place in the front rank,—a place to which its remarkable productiveness fully entitles it.

J. A. Clark, Superintendent of the Station at Charlottetown, P.E.I., reports: "The weather during the first half of March was moderate, the hauling was good, and much of the winter's work was finished. The snow all disappeared between the 14th and the 16th. A very mild spell followed, with but two days of snow until the end of the month. A fall of seven inches of snow on the 26th all melted on the night of the 27th, doing much damage to roads and fields. All classes of stock at this Station have wintered well. Clover up to the present looks to be all right. The frost is now out of the ground to a depth of one foot, and, unless severe frosts follow, the prospect for hay is good. The Seed Fairs held in Summerside, Georgetown and Charlottetown were well attended, and the exhibits showed a marked improvement over former years."

Robert Robertson, Superintendent of the Farm at Nappan, N.S., reports: "The first half of March was fine and not too cold. About the 15th sleighing broke up, and it has been mild with much rain since. On the 27th over two inches of rain fell, washing out the roads in places and making them almost impassable. On the Experimental Farm the various lines of live stock have done well, and the beef steers and fat sheep have been sold at higher figures than ever before. At the end of March the bees, which were taken from their winter quarters two weeks ago, are flying and gathering alder pollen—earlier by two weeks than ever noticed before."

G. A. Langelier, Superintendent of the Station at Cap Rouge, Que., reports: "On the whole March has been mild and wet, the mean temperature of the month being 6.63 degrees higher than last year, and the total precipitation 2.71 inches more than for the corresponding period of 1912. The frequent rains during the first part of the month caused an early thaw, and the cold weather which immediately followed, froze the ground, which has been uncovered early. This will hurt meadows and pastures, especially in low-lying places where the water stood. At the Experimental Station the main work has been the care of live stock and the hauling of manure. The seed of a large number of flowers and vegetables was sown in flats in the greenhouse."

W. C. McKillican, Superintendent of the Farm at Brandon, Man., reports: "March has been unusually cold and stormy. Zero weather continued until the 27th. There was a great deal of cold wind and much drifting snow, resulting in bad roads. Spring set in on the 28th, and the three last days of the month have been fine and warm. On the Experimental Farm the work has consisted chiefly of the care of live stock and the preparation of seed grain."

Angus Mackay, Superintendent of the Farm at Indian Head, Sask., reports: "With the exception of the opening day the first half of March was fine. From the 15th to the 27th it was extremely cold, while the last four days have been exceptionally fine, with the snow melting fast. No storms have occurred during the month. The work on the Experimental Farm consisted chiefly in the cleaning of seed grain, for use here and for sale, attending to the stock and preparing generally for spring seeding. Having an abundance of hay, straw, ensilage and roots, all classes of live stock are in good condition. So far, five of the ewes have yeanned seven lambs, all strong and healthy."

Wm. A. Munro, Superintendent of the Station at Rosthern, Sask., reports: "March has been characterised by heavy snowfall, high winds and low temperatures, with consequent bad roads, delayed railroad traffic, and deferred spring operations. The weather moderated by the 27th and since then to the end of the month the snow has been disappearing quite rapidly. Seven men have been engaged for the summer, beginning operations on the 10th; but, owing to the inclemency of the weather, no outside work could be taken up. It afforded however a splendid opportunity to get seed grain and seed potatoes ready for putting in for this year's crop."



R. E. Everest, Superintendent of the Station at Scott, Sask., reports : " March came in cold, the temperature on the 1st going down to  $-35^{\circ} 6$ . The greater part of the month has been characterised by unusually bright winter weather, and now at its close the snow is disappearing and there is a feeling of spring in the air. Throughout this district a favourable feature at present is the number of fanning mills which have been recently purchased by farmers, who are now utilising them in preparing their grain for seeding purposes. Work at this station has included the sorting of roots and vegetables, hot-bed preparation, the cleaning, repairing and oiling of harness and other routine and preparatory employment."

G. H. Hutton, Superintendent of the Station at Lacombe, Alta., reports : " With the exception of the first week the weather during March has been cold. The best sleighing of the winter came after the 15th and lasted for one week. During the month the ice-house has been filled and sawdust for covering the ice has been hauled from the mills to the west. Feed has been stored in the barns to carry the stock up to pasture, while straw has been put through the cutting-box in sufficient quantity to provide bedding for all the stock through the summer. The forty-nine steers which were started on feed the 1st of December were sold on March 15th to the Swift Canadian Co. for their coast trade. Three groups were fed: one in box stalls in the new beef barn; one in the corrals about the building, with a limited run but no shelter; and the third was also fed in the open with a practically unlimited run. The group fed in the barn made a profit of \$10.95 per head; those with the limited run show a profit of \$14.05 per head; while those allowed free range made \$10.15 per head."

W. H. Fairfield, Superintendent of the Station at Lethbridge, Alta., reports : " The weather during March has been remarkable for the great difference between the first half and the last half of the month. The frost drew out of the ground sufficiently to allow disking and ploughing, and in some cases seeding; but the temperature changed on the 14th and until the last two or three days of the month the weather was very cold, going down to 23 degrees below zero on the 25th. Five of the six lots of lambs and yearlings that were being fed this winter were sold, the average weight being 101 lb. The sixth lot consisting of yearlings which are receiving alfalfa and roots, is being fed longer, and the animals will be sheared before being sold."

P. H. Moore, Superintendent of the Farm at Agassiz, B.C., reports : " The weather during March has been cold and backward, with a good deal of rain and snow—greatly retarding operations. With the return of more favourable conditions much extra effort will be required to catch up with outside work. All classes of live stock on the Experimental Farm are in excellent condition. The cattle have been in the open as much as possible; but it is feared that they have not always enjoyed it. The entomological laboratory, which has been in course of construction on the Farm, has been finished and is now ready for occupation, while the new boarding house is nearing completion, and a general clearing up of debris after these building operations is taking place."

The records of temperature, precipitation and sunshine at the several Experimental Farms and Stations for the month of March are given in the following table :

**Meteorological Record for March, 1913.**

| Experimental Farm<br>or Station at— | Degrees of temperature, F. |        |       | Precipitation<br>in<br>inches | Hours of sunshine |        |
|-------------------------------------|----------------------------|--------|-------|-------------------------------|-------------------|--------|
|                                     | highest                    | lowest | mean  |                               | possible          | actual |
| Ottawa, Ont. ....                   | 58.8                       | -14.2  | 26.18 | 4.62                          | 370               | 107.7  |
| Charlottetown, P.E.I. ....          | 60.0                       | -4.0   | 30.80 | 4.61                          | 370               | 131.0  |
| Nappan, N.S. ....                   | 62.0                       | -1.0   | 32.52 | 6.16                          | 370               | 140.0  |
| Cap Rouge, Que. ....                | 52.0                       | -14.9  | 21.91 | 5.10                          | 368               | 67.5   |
| Brandon, Man. ....                  | 46.4                       | -29.7  | 7.70  | .50                           | 370               | 148.2  |
| Indian Head, Sask. ....             | 45.0                       | -31.0  | 10.58 | 1.17                          | 370               | 121.0  |
| Rosthern, Sask. ....                | 41.1                       | -33.8  | 4.25  | .08                           | 369               | 160.3  |
| Scott, Sask. ....                   | 46.0                       | -35.6  | 11.08 | .23                           | 367               | 157.4  |
| Lacombe, Alta. ....                 | 52.1                       | -23.5  | 18.59 | .81                           | 370               | 164.1  |
| Lethbridge, Alta. ....              | 59.9                       | -23.0  | 18.85 | .42                           | 370               | 157.3  |
| Agassiz, B.C. ....                  | 59.0                       | 17.0   | 40.10 | 6.76                          | 370               | 116.4  |

J. H. GRISDALE, Director, Experimental Farms.

Ottawa, April 12.

**Live Stock Branch.** The great need of more and better sires with which to grade up the ordinary live stock of the country, and particularly in the newly settled districts, has appeared to the Minister to be of such an urgent nature that he has decided to authorise the Live Stock Commissioner to undertake this year, in such sections, a distribution of pure bred stallions, bulls, rams and boars. Canadian bred animals only will be purchased for distribution. As far as possible they will be bought in the province where they are to be placed. The stallions will be bought subject to veterinary inspection and the bulls subject to the tuberculin test.

Districts where the services of pure bred sires are not obtainable may secure the use of these animals by forming associations. These associations must subscribe to the rules and regulations governing distribution and become responsible for the proper care and maintenance of the animals under the general supervision of officers of the Live Stock Branch. In the case of stallions the association will also be required to pay the amount of the annual insurance premium. The local arrangements are to be left largely in the hands of the directors of each association; but it is understood that they shall be subject to the approval of the Live Stock Commissioner, who reserves the right to remove the animal at any time if it is not properly cared for, or if the management of the affairs of the association is contrary to the intention of the Branch.

The wishes of an association as expressed at a regularly called meeting shall, subject to the approval of the Live Stock Commissioner, determine the breed from which the sire placed shall be selected. In all classes the sires that may replace the original ones shall in each case be of the same breed as was primarily chosen by the association.

A clause in the regulations provides for the castration of all male progeny, other than pure bred, of association sires before they reach specified ages. A full report of the affairs of an association must be forwarded to the Live Stock Branch on or before the 1st of February each year.

Important developments have taken place in the poultry work of the Live Stock Branch during the past month, particularly in that part relating to the egg trade. For many years the 'case count' or 'flat rate' system of purchasing eggs has prevailed. This system makes no discrimination whatever between good and bad eggs. It offers no inducement to the farmer to market his eggs regularly and frequently. It allows all kinds to be mixed together in the same case, in the same dozen, and to be bought and sold at the same price.

It is unusual that business men should have allowed such a system, so evidently unjust to all concerned, to hold sway so long; but undoubtedly in recent years competition in the egg trade has been so keen that it has been difficult to create a practicable substitute. It is true that legislation to prohibit the sale of bad eggs has been asked for at different times; but it has been evident that this would be of little value as regards an improved method of payment without some concerted action on the part of those buying the eggs.

The matter has now become so serious, and the loss to all concerned so large, that the wholesale egg dealers in the provinces of Ontario and Quebec have recently met together in Toronto and Montreal respectively to discuss ways and means of rectifying the difficulty. The opinion expressed was unanimous that legislation should be secured to prevent the sale of rotten eggs. Furthermore, full approval was given to the proposal to inaugurate a new system of payment.

The following resolutions were adopted at both meetings:

1 "That it is the consensus of opinion of those assembled in this meeting that the greatest need of the Canadian egg trade at the present time is the passage by the Federal Parliament of an Egg Marks Act, similar to the Fruit Marks Act; such act to make unlawful the buying, selling or trading in rotten eggs and to include such other regulations as may be thought advisable to promote the best interests to all concerned."

2 "That the egg dealers assembled here unanimously approve of the proposal to change on June 1 1913 from the present system of buying eggs to a system of buying only on the basis of quality, and, further, we disapprove of paying for any rotten eggs in our receipts after that date."

Quality payment on a graded basis has been adopted by the dealers in a number of States, notably Kansas and Michigan. The result has been a marked improvement in the quality. It has placed the marketing of eggs on a business basis and has given a financial impetus to the educational work that is being conducted in rural communities.

Mr. J. H. Hare, B.S.A., in charge of the egg trade investigational work of the Live Stock Branch, has just returned from Washington and the eastern markets of the United States where he has been studying the effect of methods recently adopted in the above connection by the Federal Government of that country.

JOHN BRIGHT, Commissioner.

Ottawa, April 19.

**Seed Branch.** Owing to the adverse weather conditions of the summer of 1912 the seed trade of 1913 has exhibited some rather exceptional features both with regard to cereals and small seeds. Throughout the West the grain has been on the whole of good quality, and there has been little shortage of good seed oats except possibly in a few districts. Owing however to the bad weather conditions that prevailed last summer the Quebec oat crop suffered severely. In consequence good seed oats in this province have been scarce, and this has resulted in the importation of considerable quantities of western oats, much of which has been low in vitality, foul with weed seeds and of poor general quality. The inferior quality of oats in Quebec this year is rather strikingly shown by the following figures for the month of March. During this period 127 samples of oats were received at the Seed Laboratory from the province of Quebec. Germination tests of these samples showed that only 44 p.c. of the samples gave a test of over 75 p.c. and of these only 15 p.c. of the samples were above 90 p.c. The average germination of the 127 samples was 68 p.c. The reasons for this low vitality were the excessive wet, which damaged the vitality of the Quebec grown seed, while much of the imported western oats had suffered from frost injury. Of the 127 samples mentioned above 73 were tested for purity as well as for germination. Of these only 18 p.c. were free from noxious seeds. The others averaged 72 noxious seeds to the pound, the principal impurities being wild oats, ball mustard and wild mustard, the two former being by far the most prevalent, particularly in oats of western origin.

The greater part of the No. 1 red clover seed offered for sale this year has been either of European or American origin. Much of the red clover seed produced in Ontario is foul with green foxtail, ribgrass and ragweed. Green foxtail is particularly prevalent, and there are few samples of Ontario grown red clover which do not contain this impurity. The majority of farmers' samples reported upon during the past year have graded "rejected" on account of the above mentioned seeds.

Although there is plenty of good seed timothy available throughout the country, a considerable quantity of the seed produced in certain districts of the province of Quebec was badly damaged by the excessive wet, and is worthless for seed purposes. Such damaged timothy seed is very dark in appearance, and much of it has a musty smell. Fifty-two samples of Quebec timothy were tested for germination during March; of these only seven samples germinated 90 p.c. or over, while 22 samples, or 42 p.c., germinated below 60 p.c. Much of the timothy sent to the Seed Laboratory by the farmers of Quebec is graded "rejected" on account of small weed seeds which might be readily cleaned out by any farmer who possesses a good fanning mill. Thus much Quebec timothy is rejected on account of cinquefoil and plantain, both of which may be easily removed by a 30 x 30 woven wire screen. Similarly with Prince Edward Island grown timothy most of the samples are rejected on account of sheep sorrel, an impurity which to a great extent may be removed by a 24 x 24 woven wire screen, although in this case some of the timothy will be lost in the cleaning.

Timothy seed of excellent purity, though badly hulled, grown during 1912 by the farmers of the middle western states on land that is valued at from eighty to one hundred and twenty-five dollars per acre, thoroughly re-



cleaned and marketed by the business men of Chicago, is everywhere on sale throughout Canada in districts where car loads of uncleaned timothy seed of superior quality remain in the farmers' hands. This condition of the trade in timothy seed has been productive of numerous complaints on the part of Canadian growers. It is a condition that is due largely to superior business methods of the middle west American farmers and business men and to the apparent want of the same on the part of Canadian farmers and business men.

The American grown seed of the 1912 crop was made ready for market in the early autumn months, and orders for this seed were solicited from Canadian retail seed merchants even before any considerable quantity of the Canadian timothy seed had been threshed. When coming into Canada the American seed is subject to a duty of 10 p.c. of its invoice value.

Timothy seed is harvested about the first of August in eastern Canada and two weeks later in the province of Alberta. Canadian timothy seed has free access to the American market. It is as a rule bolder and better seed than the American seed, and when properly re-cleaned will command a higher price in any market. The amount of waste in re-cleaning eastern Canada timothy seed is slightly greater, considering the condition in which it is received from farmers, than the American seed and occasional lots have to be rejected because of ox-eye daisy.

With the advantage of cheap land and free access to the American markets the conditions of the timothy trade which obtain at the present time should be reversed. To do this the Canadian farmer's timothy seed should be available for the market not later than October. There is no Canadian made fanning mill, fitted with a complete equipment of sieves for cleaning grass and clover seeds, conveniently available to farmers. If the proper sieves are available from the manufacturers very few of the agents who sell them have any definite knowledge of what is required or where they may be had. Farmers have this year suffered from the want of middle men to re-clean and market their timothy seed for them, and there has been very little attempt on their part to co-operate in an endeavour to clean and market their seeds themselves as is done in the packing and marketing of apples.

Because of the very low price a great deal of timothy seed has been stored on investment. If stored in a cool dry place its vitality does not rapidly deteriorate. Under the conditions and land values of both eastern and western Canada timothy seed may be grown quite successfully at \$3 per bushel in the average of years, provided that the men who are engaged in the seed business can be counted upon to copy the methods of their neighbours and find a market for it.

During March 2,853 samples of seed were received at the Ottawa Seed Laboratory for test, compared with 2,505 the same month last year. The samples of timothy, red clover, alsike and alfalfa tested for purity increased by over 15 p.c., and a considerable proportion of the timothy has also been

tested for germination. The samples graded under the Seed Control Act standards were as follows :

| Name of seed     | Extra<br>No. 1 | No. 1 | No. 2 | No. 3 | Rejected | Total |
|------------------|----------------|-------|-------|-------|----------|-------|
|                  | No.            | No.   | No.   | No.   | No.      | No.   |
| Timothy .....    | —              | 146   | 211   | 223   | 194      | 774   |
| Red clover ..... | —              | 74    | 173   | 292   | 248      | 787   |
| Alsike .....     | 1              | 36    | 92    | 128   | 119      | 376   |
| Alfalfa .....    | —              | 37    | 26    | 5     | 3        | 71    |

GEO. H. CLARK, Seed Commissioner.

Ottawa, April 21.

## CROP REPORTS FROM OTHER COUNTRIES.

**England and Wales.** The Board of Agriculture and Fisheries reports (April 1) that the wheat crop is generally healthy and promising, except on heavy soils or land which has been flooded, where prospects are poor ; also that the early sown wheat looks better than that got in later. The total area under wheat in England and Wales is expected to be some 3 to 4 p. c. below that of last year, although in the southeast of the country there is no material difference. The dry weather in the early part of the month generally enabled some progress to be made with the cultivation of the land for the spring crops ; but a recurrence of wet and stormy weather again hindered operations. In consequence spring sowings were generally very backward, although there are some exceptions. In many districts hardly any of the spring crops had been got into the ground. This work was perhaps more advanced in the eastern corn-growing counties than elsewhere, particularly on light soils ; indeed most of East Anglia is considered to be forward. Where showing, the young crops appear satisfactory.

**British India.** The second general memorandum on the wheat crop of the season of 1912-13, issued March 13, states that the total area sown is now reported to be 29,946,000 acres as compared with 29,187,500 acres at the same date last year and with 27,688,000 acres, the average of the five years ended 1910-11. There is thus an increase of 758,500 acres or 2.6 p.c., as compared with last year and one of 2,258,000 acres, or 8.2 p.c., as compared with the average. The memorandum relates to 99.7 p. c. of the total reported area under wheat in India. The condition and prospects of the crop were reported to be generally good.

**South Australia.** A revised forecast of the wheat harvest in South Australia, issued by the Government Statist on February 11 1913, places the grain area at 2,229,890 acres and the wheat hay area at 428,825 acres. The total yield of grain is estimated at 20,938,570 bushels, an average of 9.39 bushels per acre.

**France.** The French Department of Agriculture published (April 9) a statement as to the condition of winter crops on April 1. The following

comparative statement shows the condition of wheat for each of the ten regions into which the country is divided :

| No. | Region      | Jan. 1 | Feb. 1 | Mar. 1 | Apr. 1 | No. | Region       | Jan. 1 | Feb. 1 | Mar. 1 | Apr. 1 |
|-----|-------------|--------|--------|--------|--------|-----|--------------|--------|--------|--------|--------|
| 1   | Northwest.. | 77     | 66     | 71     | 78     | 6   | East.....    | 67     | 64     | 65     | 66     |
| 2   | North.....  | 79     | 78     | 80     | 81     | 7   | Southwest..  | 73     | 73     | 75     | 76     |
| 3   | Northeast.. | 68     | 67     | 67     | 71     | 8   | South.....   | 74     | 74     | 77     | 78     |
| 4   | West.....   | 68     | 65     | 66     | 75     | 9   | Southeast... | 71     | 71     | 74     | 72     |
| 5   | Centre..... | 68     | 72     | 71     | 73     | 10  | Corsica....  | 60     | 60     | 60     | 60     |

It will be seen that except for the southeast all the different parts of France show an improvement compared with the previous months and also an improvement generally over each of the first three months. Other crops show a similar improvement.

**Hungary.** A crop report issued by the Hungarian Department of Agriculture (March 10) states that the country suffered in the autumn from persistent rains which continued during November and December. It was not until January 10 that cold weather with snow was general. Owing to the rainy fall it is estimated that the area sown to winter wheat was 20 p. c. less than that usually sown under normal conditions, while the area sown to winter rye is less by 10 p. c. These percentages apply however to the whole country, including the mountainous districts, and the smallest proportion of areas unsown was in those parts devoted most largely to cereals, the percentage of areas not sown in these districts being not more than about 8 or 10 p. c. From about 10 to 15 p. c. of the grain sown late had not germinated before the arrival of the frosts; but the germinating capacity was not destroyed and the plants have sprung up during the mild weather of March. At the beginning of March conditions were very favourable, and the sowing of spring cereals had already begun, especially on the plains. In the districts that suffered most through the bad weather, and where agriculturists were needing seed, the Government granted assistance by distributing seed grain of wheat and other cereals. One fortunate result of the cold rains of autumn was the destruction of field mice, complaints as to which are now few. Live stock have wintered well and are in a healthy condition, though somewhat weak by having been obliged to remain too long within doors.

**Russia.** H. M. Consul at Nicolaieff reports (March 19) that field work in his district, namely, the governments of Kherson, Kharkov, Poltava, Kieff, Ekaterinoslav and Taurida, has now commenced under the most favourable conditions. In addition to this early spring, with warm sunny weather, enabling the seed to be got in early, the ground has a great store of moisture as a consequence of the continuous rains of last autumn and good falls of snow in the winter. As far therefore as prospects of this year's crops can be spoken of at this early date they may be said to be distinctly good. The area under spring grain will be greater than usual, for the autumn rains

effectually hindered the sowing of winter wheat and rye. Such grain as was sown has wintered well. As regards the stock of grain in the country that of wheat is very small and of bad quality. The stocks of barley are both fair in quantity and quality.

**United States.** The Crop Reporting Board of the U. S. Department of Agriculture reports that the average condition of winter wheat on April 1 was 91·6 p. c. of a normal, against 80·6 on April 1 1912, 83·3 on April 1 1911 and 86·3, the average condition for the last 10 years on April 1 1911. There was a decline in condition from December 1 1912 to April 1 1913, of 1·6 point, as compared with an average decline in the last 10 years of 3·6 points between these dates. The average condition of rye on April 1 was 89·3 p. c. of a normal, against 87·9 on April 1 1912, 89·3 on April 1 1911, and 90·1, the average condition for the last 10 years on April 1.

## FIELD CROPS OF THE UNITED KINGDOM, 1912.

The following are the final returns of acreage and estimates of yield of the principal field crops in the United Kingdom for the year 1912 compared with 1911, as published in Vol. XLVII, pt. II of the Agricultural Statistics of the Board of Agriculture and Fisheries [Cd. 6,636]. The figures are exclusive of the Channel Islands.

| Crops                       | 1911      | 1912      | 1911        | 1912        | 1911              | 1912              | Average<br>10 years<br>1902-11 |
|-----------------------------|-----------|-----------|-------------|-------------|-------------------|-------------------|--------------------------------|
|                             | acres     | acres     | bushels     | bushels     | bush.<br>per acre | bush.<br>per acre | bush.<br>per acre              |
| Wheat .....                 | 1,951,094 | 1,970,542 | 64,313,456  | 57,402,304  | 32·96             | 29·13             | 32·16                          |
| Barley .....                | 1,756,028 | 1,813,559 | 57,803,216  | 58,207,200  | 32·92             | 32·10             | 34·24                          |
| Oats .....                  | 4,050,856 | 4,075,054 | 162,933,336 | 164,800,632 | 40·22             | 40·44             | 42·45                          |
| Beans .....                 | 306,339   | 280,951   | 7,741,536   | 7,784,048   | 25·27             | 27·71             | 30·45                          |
| Peas .....                  | 140,484   | 173,956   | 3,705,576   | 3,924,496   | 26·38             | 22·56             | 27·25                          |
| Potatoes .....              | 1,163,060 | 1,207,855 | 280,753,000 | 213,783,434 | 241·39            | 176·96            | 203·09                         |
| Turnips and<br>swedes ..... | 1,834,195 | 1,784,306 | 800,018,000 | 898,309,327 | 441·08            | 503·63            | 546·56                         |
| Mangold .....               | 530,177   | 570,186   | 344,926,000 | 378,476,597 | 648·89            | 663·79            | 732·85                         |
|                             |           |           | long tons   | long tons   | long ton          | long ton          | long ton                       |
| Hay <sup>1</sup> .....      | 3,013,988 | 2,895,477 | 4,186,378   | 4,385,235   | 1·39              | 1·52              | 1·64                           |
| Hay <sup>2</sup> .....      | 6,575,437 | 6,678,642 | 7,470,193   | 9,638,987   | 1·14              | 1·44              | 1·47                           |
|                             |           |           | long cwt.   | long cwt.   | long cwt.         | long cwt.         | long cwt.                      |
| Hops .....                  | 33,056    | 34,829    | 328,023     | 373,438     | 9·92              | 10·72             | 8·68                           |

<sup>1</sup> From clover, sainfoin, etc.      <sup>2</sup> From permanent grass.

These results confirm generally the preliminary estimates which were published in the Census and Statistics Monthly for November last (pp. 275 and 276). For every crop, with the exception of meadow hay and hops, the yield in 1912 was below average. The most deficient crops were potatoes, peas and oats, which were 20, 17 and 15 p.c. respectively less than the average of the preceding decade. The yield of the potato crop was indeed the lowest on record. The weights per measured bushel in England and



Wales are 60 lb. for wheat, 52.2 lb. for barley and 36.8 lb. for oats and are the lowest since the records of weight were first collected in 1906, as those of 1911, viz. 63.5 lb. for wheat, 55.2 lb. for barley and 40.2 lb. for oats were the highest.

## INTERNATIONAL INSTITUTE OF AGRICULTURE.

The Bulletin of agricultural statistics for March 1913 gives the following statement of the world's cereal production in 1912 and 1912-13, which is complete with the exception of the figures for a few countries in both hemispheres :

**The World's Cereal Production in 1912 and 1912-13.**

| Crops               | Harvest area   |                |                         | Total production |                |                         | Yield per acre |                |
|---------------------|----------------|----------------|-------------------------|------------------|----------------|-------------------------|----------------|----------------|
|                     | 1911 & 1911-12 | 1912 & 1912-13 | p. c. of 1911 & 1911-12 | 1911 & 1911-12   | 1912 & 1912-13 | p. c. of 1911 & 1911-12 | 1911 & 1911-12 | 1912 & 1912-13 |
|                     | 000 acres      | 000 acres      | p. c.                   | 000 bush.        | 000 bush.      | p. c.                   | bush.          | bush.          |
| Wheat, 27 countries | 260,778        | 255,361        | 97.9                    | 3,399,054        | 3,658,067      | 107.6                   | 13.09          | 14.27          |
| Barley, 24 "        | 66,141         | 65,765         | 99.4                    | 1,349,121        | 1,454,973      | 106.3                   | 20.63          | 22.12          |
| Oats, 24 "          | 136,727        | 135,336        | 99.0                    | 3,623,634        | 4,367,973      | 120.5                   | 26.50          | 32.28          |
| Corn, 17 "          | 140,402        | 142,720        | 101.7                   | 3,445,563        | 3,998,707      | 116.1                   | 24.53          | 28.04          |

It will be seen that whilst the areas for all grains except corn are less, the total yields and the yields per acre are in all cases more, the total production of wheat being 7.6, of barley 6.3, of oats 20.5 and of corn 16.1 p. c. in excess of the previous year. The 27 countries for wheat comprise Germany, Austria, Belgium, Bulgaria, Denmark, Spain, France, Great Britain and Ireland, Hungary, Italy, Luxemburg, Norway, Netherlands, Rumania, Russia in Europe (63 governments), Switzerland, Canada, United States, India, Japan, Russia in Asia (10 governments), Algeria, Egypt, Tunis, Argentina, Australia and New Zealand. The countries for barley include all the wheat countries in the northern hemisphere, except India, and New Zealand in the southern hemisphere. For oats the countries include Argentina and New Zealand in the southern hemisphere and the same countries as for wheat in the northern hemisphere except India and Egypt. For corn the countries include Austria, Bulgaria, Spain, Hungary, Italy, Rumania, Russia in Europe (63 governments), Switzerland, Canada, United States, Japan, Russia in Asia (10 governments), Algeria, Egypt, Tunis, Argentina and New Zealand.

**CONDITION OF CROPS OF 1913.** In Belgium the condition of winter wheat, rye and barley was good on March 1. Spring sowing had begun in about half of the country and was being carried out under good conditions. In Denmark cold weather had retarded growth. Sowing of spring cereals had not begun. In Spain sowing had begun under good conditions. The farmers were complaining of very dry weather. In France during the first

fortnight of February winter sown cereals had been in good condition, particularly on light soils. In some regions however the crops had gone a little yellow. Spring cultivation was behindhand owing to the excessive dampness of the soil. During the second fortnight of February the weather was dry and cold and diminished the damage caused by the rains. On March 1 the condition of the four winter cereal crops was good. In Italy during the first part of February the temperature was mild, but falling later it arrested the early development of the crops. The condition of winter crops was good. Preparatory work had been carried out, and spring sowing had been begun under good conditions.

**NUMBERS OF LIVE STOCK IN BELGIUM.** The numbers of live stock in Belgium on December 31 1911 were returned as follows: Horses 261,967 compared with 255,229 in 1909; cattle 1,812,191 compared with 1,865,833 in 1909, and swine 1,229,428 compared with 1,116,500 in 1909.

## COST OF HORSE-BREEDING IN THE UNITED STATES.

Reports have been received from about 10,000 correspondents of the Bureau of Statistics of the U. S. Department of Agriculture upon the cost of raising colts on farms to the age of three years. The average for the United States is found to be \$104.06; or, if the value of the work done by the horse before he has passed his third year be deducted, viz., \$7.52, the net cost is \$96.54; this is 70.9 p.c. of the selling value of such horses, \$136.17. The cost varies widely by States from an average of \$69.50 for New Mexico, \$71.59 for Wyoming, and \$82.47 for Texas, to \$156.60 for Rhode Island, \$149.98 for Connecticut and \$141.80 for Massachusetts. Itemised the cost is made up as follows: Service fee, \$12.95; value of time lost by mare in foaling, \$10.06; breaking to halter, \$2.22; veterinary service, \$2.04; care and shelter, first year \$4.98, second year \$5.36, third year \$6.35; cost of grain fed, first year \$4.98, second year \$7.14, third year \$9.56; hay, first year \$4.14, second year \$6.61, third year \$8.48; pasture, first year \$2.56, second year \$5.41, third year \$6.21; other costs \$5.01; total \$104.06. The total cost for all feed is \$56.30, being \$21.68 for grain, \$19.23 for hay, \$14.18 for pasture, and \$1.21 for other feeds. The total cost of care and shelter is \$16.69. Of the total cost, 54 p.c. is charged to feeds, 16 p.c. to care and shelter and 30 p.c. to other items, as enumerated above. As more than half the cost of raising a three-year old horse on the farm is chargeable to feeds, it is readily observed how important is the influence of variation in prices of feedstuffs upon such cost.

**Canadian Flaxseed Harvest of 1912.** In view of the unfavourable harvesting conditions of last year correspondents were requested to report the percentage of areas sown to flax which were not harvested. Only a comparatively small number of correspondents replied to this question, and it may be assumed that upon the whole not more than an average loss was experienced.

## THE BARBERRY AND ITS RELATION TO BLACK RUST OF GRAIN.

By H. T. Gussow, Dominion Botanist, Central Experimental Farm, Ottawa.

Many years before the distinguished mycologist, Anton de Bary, of the University of Strassburg, had shown by scientific investigation (1865) that the barberry (*Berberis vulgaris* L.) played an important rôle in the spreading of black rust of grain (*Puccinia graminis*), practical farmers on the continent of Europe were convinced that the rust specks on the barberry had some connection with the grain rust. Naturally the interpretations of this observation were mainly fantastic.

Within recent years, and as the knowledge of the life history of these destructive grain parasites advanced, the fact that barberry rust and grain rust were closely related became more and more established. It was clearly proved that the barberry served as an intermediate host for the fungus on grain. There has however been entertained a considerable doubt or lack of appreciation as to the correctness or practical use of this observation, which was regarded as mere theory. It was pointed out by several investigators that in certain districts of Hungary and Sweden very few barberry bushes existed, and still black rust seemed to persist. Dr. Barclay, a famous Indian mycologist, cited a particularly interesting example, referring to grain growing districts of the East Indies where no barberry was to be found within 300 miles. Beyond this distance however, in the mountainous regions, barberry bushes were growing. We may note that although in these cases "there were hardly any barberries left" or "they were 300 miles away from the grain-growing district" yet there certainly existed some barberries all the time.

One of the first European countries which took the matter seriously was Denmark. By means of an Act this country enforced the systematic destruction of the barberry. It was stated by Dr. Lindau in 1908 that notwithstanding the destruction of the barberry, black rust of grain continued its devastations, although the intensity of infection varied to some extent. This latter observation may of course be commonly made in any one year, the rust varying considerably according to districts or climatic conditions.

In the report for 1911 of the Dominion Botanist, p. 239, our present knowledge of rusts was briefly summarised, and it was stated that it had been found, in Denmark for instance, that the compulsory destruction of the barberry had not brought about a reduction in the severity of rust attacks. This statement was eventually read in Denmark, and we are indebted to Dr. J. Lind of the Phytopathological Experimental Station, Lyngby, Denmark, for a letter in which he explains that "*Puccinia graminis* is quite perceptibly disappearing in Denmark year by year to the same degree as we get rid of the *Berberis*, and we are very satisfied with the results of the *Berberis* Act."

This communication contained important information of a more definite character than any we had been able to secure previously. We thought it desirable however to seek the opinion of another Danish plant pathologist, and we communicated therefore with Dr. F. Kølpin Ravn of the Pathologi-

cal Museum of Copenhagen. He very courteously wrote to us under date of March 26th, as follows:—

In your letter of February 27th you desire to know what my personal experience has been concerning the extermination of barberry bushes in this country. I have been able very often to observe early outbreaks of *Puccinia graminis* on rye and oats; in all such cases—without any exception—we have been able to find some barberry bushes near by; and some years after the removal of these bushes these early outbreaks of rust had disappeared.

Several of the local advisers in plant culture carried on a systematic fight against the barberry bushes, as required under the Act. And at present the early—and only dangerous outbreaks of black rust are rarely reported. I may add that the farmers practise for some recent years sowing spring grain earlier than before, which further helps in the fight against the rust. I think therefore that the present very slight infestations by *Puccinia graminis* are the result of the two named factors taken together.

From these two letters it would appear that the systematic destruction of the barberry, *Berberis vulgaris*—green and purple-leaved, for the æcidia of the rust fungus occur on both—would produce a very desirable effect, i.e., the checking of the severity at any rate of that most dangerous rust of grain culture.

The barberry shrub, it must be realised, is worthless as compared with the immense value of cultivated grain. In order to protect the grain industry as much as possible the destruction of the barberry wherever it grows is strongly advocated. In Ontario the planting and growth of the barberry shrub on farming lands has been illegal since 1900. The present law on the subject was passed last year. (See Statutes of Ontario, 2 Geo. V., c. 70).

**New Phytopathological Station in Belgium.** Under an Act of November 8 1912 the Belgian Government has established a new phytopathological station at Ghent with an inspector and five assistants stationed in different localities. Plants and other products for nurseries and gardens are subjected to inspection before exportation with a view to prevent the spread of insects and diseases. Plants destined for exportation to Canada and the United States must be accompanied by a certificate to the effect that the crops whence the plants are taken are free from insects and diseases.

## USEFUL WILD PLANTS OF CANADA.

By J. W. Eastham, B. Sc., Division of Botany, Central Experimental Farm, Ottawa.

With a flora so extensive and as yet so little studied from an economic point of view as that of Canada it is reasonable to expect that future investigation will bring to light many plants of economic value amongst those which at present we do not consider useful. A brief account indicating the richness of our flora in such useful plants, even with our present knowledge, may help to stimulate interest and inquiry in this direction.

**FOOD PLANTS.** Our supply of such important fruits as cranberries, blueberries and huckleberries is derived largely from plants growing without cultivation, while the wild raspberry and related species of *Rubus*, the wild strawberry and the June or Service-berry (*Amelanchier*) are also well known and appreciated. Such nuts as the Butter Nut and Hickory must not be



omitted. Most of our other wild fruits and nuts will not generally be considered as satisfactory substitutes for our common cultivated ones; but there is one large group of food plants almost ignored by the majority of people, namely, the fleshy fungi. Most persons classify these plants into one particular kind which they term "the mushroom" and lump the rest together under the name of "toadstools," a name intended to imply properties if not actually poisonous at any rate more or less disagreeable. This is unfortunate since many of these fungi are as good for table purposes as the common mushroom (*Agaricus campestris* L.), and some of them are much more abundant in many localities or at certain times of the year, e.g., the Morels (*Morchella*), the Fairy Ring mushroom (*Marasmius oreades*, Fr.), the *Lepiotas*, the Coral fungi (*Clavaria*), the Shaggy Mane *Coprinus* and others. No doubt the fact that certain fungi are very poisonous has caused the whole group to be viewed with suspicion, but with a very little trouble it is possible to recognise at sight at least a dozen common and delicious kinds.

Another plant which may be mentioned here is the Wild Rice (*Zizania*), the large seeds of which are esteemed by many as a delicacy. If due care is taken in the selection of a suitable locality, and in the introduction of the seeds or plants, it is fairly readily established, and apart from any value it possesses in supplying an article of human food, it affords food and shelter for water fowl wherever it may be desired to encourage them.

**FODDER PLANTS.** There are many situations in which the natural plants will probably always have to be depended upon for fodder purposes as being better adapted to their environment than any likely to be introduced, as, for example, the Marsh or Cord grasses (*Spartina*) of the salt marshes of the Maritime provinces and the Buffalo Grasses (*Bouteloua*), and Western Rye Grass (*Agropyron tenerum* Vasc.) of the West. It is also possible that amongst the great variety of western leguminous plants some will be found of special value as forage plants.

**DRUG PLANTS.** A large number of plants are credited in a greater or less degree with medicinal properties, from such popular remedies as Burdock and Dandelion to drug plants proper like Golden Seal (*Hydrastis canadensis* L.), Seneca Snake-root (*Polygala Senega* L.) and *Rhamnus Purshiana* D.C., a British Columbia plant from which the well-known Cascara Sagrada is obtained. In certain localities these drug plants may be sufficiently abundant to make the collection of them remunerative, although in most cases the plants are specially cultivated for the preparation of a drug on a commercial scale. In such cases it is necessary to reproduce as nearly as possible the natural environment of the plant. While there is a considerable demand for drug plants on the part of many wholesale firms and druggists, it may be said that with the present high price of labour in Canada the cultivation of drug plants is not likely to prove very remunerative, and the collecting and drying of the wild plants is in most cases a somewhat precarious source of income. In addition to these plants of established medicinal value we have in our native flora plants belonging to the same genera as certain drug plants of the old world, e.g., *Arnica*, *Aconitum*, and some of these may be found to be of value for the same purposes, while, again, other drug plants of foreign origin as the Henbane (*Hyoscyamus niger* L.) and the Thorn-

apple (*Datura Stramonium* L.) have become established in certain localities. In connection with medicinal plants mention must be made of the Ginseng (*Panax quinquefolium* L.). This plant is not now valued very highly by the medical practitioner of western countries, but it is regarded as possessed of almost supernatural virtue by the Chinese, with whom there is an extensive demand for it at very high prices. It is a native of the rich cool woods of eastern Canada; but owing to its scarcity and slowness of growth those who wish to profit by its high market value will find it necessary to cultivate it.<sup>1</sup>

**HONEY PLANTS.** As the desirability of bee keeping as a source of income receives greater recognition, the subject of honey-yielding plants becomes one of importance. While there are probably no wild plants in this country which occur in such masses as to influence the location of apiaries in the same way that the heather moors do in Britain, the basswood (*Tilia americana*, L.) is exceedingly valuable, and so to a less degree are the maples (*Acer*), and an adjacent "bush" of this kind is a valuable adjunct to an apiary. The planting of these trees for ornamental and shade purposes, where bee keeping is followed, can therefore be recommended. The boneset (*Eupatorium perfoliatum*, L.), a common plant of swampy ground, is a very heavy yielder of honey, and its growth in such places should be encouraged; but, although many other wild plants are valuable sources of honey, it is probably not worth while to cultivate or encourage the growth of them in preference to such plants as white clover, buckwheat or orchard trees and bushes, which are of so much more use in other ways.

In addition to those already mentioned there are other wild plants which find employment in various ways, as, for example, the sugar maple (*Acer saccharum*, Marsh), whose sap yields maple syrup and maple sugar, the Wild Bergamot (*Monarda fistulosa*, L.), often cultivated in gardens for its fragrant essential oil, Wintergreen (*Gaultheria procumbens*, L.), yielding the well known "oil of wintergreen," the Cherry or Sweet Birch (*Betula lenta*, L.), which yields the same oil and whose sugary sap when fermented gives birch beer, while closer study will possibly reveal amongst our native flora fibre plants of commercial value.

## PRICES OF CANADIAN COMMODITIES, 1912.

The Department of Labour has published the third of its annual reviews of wholesale prices, in the shape of a report for 1912 by Mr. R. H. Coats, B.A., F.S.S., Editor of the Labour Gazette. For 1912 the Department's index number representing the average prices of commodities in percentage of those of the base period 1890 to 1899 was 134.4, as compared with 127.3 in 1911. This represents an increase of seven points for the year and is again the

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<sup>1</sup> A description of this plant was given by the late J. Hoyes Pantton in his Report for 1891 as Professor of Natural History and Geology at the Ontario Agricultural College. See Seventeenth Annual Report of the College, 1891, pp. 23-26. Pamphlet No. 7 of the Central Experimental Farm, Ottawa, by W. T. Macoun, Dominion Horticulturist, contains an account of the methods of cultivating the plant.

highest number reached during the whole period of 23 years (1890-1912) for which records have been collected.

The following statement shows the monthly movement of prices during 1912 in four agricultural groups and for all commodities :

(Number of Commodities 272. Average prices 1890-1899 = 100)

| Month              | Group I<br>Grains and<br>fodder | Group II<br>Animals and<br>meats | Group III<br>Dairy<br>products | Group V (a)<br>Fruits<br>and<br>vegetables | All<br>commodities |
|--------------------|---------------------------------|----------------------------------|--------------------------------|--|--------------------|
|                    | p.c.                            | p.c.                             | p.c.                           | p.c.                                       | p.c.               |
| January .....      | 168.5                           | 144.6                            | 176.3                          | 149.9                                      | 133.1              |
| February .....     | 173.2                           | 150.8                            | 186.6                          | 158.2                                      | 134.7              |
| March .....        | 175.4                           | 153.5                            | 167.8                          | 161.2                                      | 134.8              |
| April .....        | 178.5                           | 161.2                            | 159.5                          | 164.4                                      | 136.0              |
| May .....          | 187.3                           | 169.5                            | 141.0                          | 169.6                                      | 136.3              |
| June .....         | 189.7                           | 172.9                            | 138.2                          | 138.1                                      | 136.6              |
| July .....         | 171.9                           | 168.8                            | 139.5                          | 135.1                                      | 134.1              |
| August .....       | 159.3                           | 162.0                            | 144.0                          | 135.1                                      | 133.3              |
| September .....    | 158.4                           | 162.4                            | 147.8                          | 119.8                                      | 132.7              |
| October .....      | 152.8                           | 162.0                            | 159.9                          | 121.8                                      | 135.0              |
| November .....     | 151.0                           | 160.7                            | 173.0                          | 124.2                                      | 136.6              |
| December .....     | 144.8                           | 162.2                            | 174.0                          | 128.0                                      | 136.8              |
| For the year ..... | 167.3                           | 160.8                            | 158.9                          | 134.1                                      | 134.4              |

The index numbers of some of the principal agricultural products, apart from their respective groups, are given for the three years 1910-1912, as follows :

(Average prices 1890-1899=100)

| Products                         | 1910  | 1911  | 1912  | Products                              | 1910  | 1911  | 1912  |
|----------------------------------|-------|-------|-------|---------------------------------------|-------|-------|-------|
|                                  | p. c. | p. c. | p. c. |                                       | p. c. | p. c. | p. c. |
| Wheat No. 1 northern..           | 129.5 | 123.7 | 126.1 | Apples .....                          | 134.1 | 197.0 | 150.3 |
| Wheat, No. 2 white Ontario ..... | 129.7 | 111.5 | 125.1 | Cattle, western prime ..              | 134.8 | 138.6 | 159.0 |
| Flour, straight rollers ..       | 129.7 | 116.6 | 121.0 | Cattle, butchers' choice steers ..... | 160.9 | 154.4 | 176.7 |
| Flour, strong bakers ..          | 117.5 | 107.1 | 114.0 | Beef, dressed hind qrs. ..            | 205.1 | 198.8 | 231.8 |
| Flour, winter wheat pat. ..      | 118.0 | 105.3 | 111.7 | Beef, dressed fore qrs. ..            | 172.1 | 159.1 | 182.2 |
| Flour, Man. 1st pat. ....        | 124.0 | 113.9 | 120.0 | Veal, dressed .....                   | 154.1 | 150.0 | 155.4 |
| Oats, No. 2 white western .....  | 115.2 | 120.6 | 134.8 | Mutton, dressed .....                 | 112.3 | 104.6 | 114.7 |
| Oats, white Ontario .....        | 119.0 | 129.1 | 154.2 | Hogs, selects .....                   | 176.9 | 138.0 | 160.4 |
| Oatmeal .....                    | 123.7 | 129.9 | 135.6 | Hogs, dressed .....                   | 186.0 | 153.3 | 175.2 |
| Barley, western .....            | 144.9 | 194.6 | 179.6 | Bacon .....                           | 179.7 | 149.7 | 158.4 |
| Barley, No. 2 Ontario ..         | 131.7 | 170.6 | 194.5 | Hams .....                            | 162.2 | 140.9 | 144.7 |
| Corn, No. 3 yellow .....         | 148.3 | 141.4 | 172.2 | Pork .....                            | 180.0 | 143.5 | 157.4 |
| Peas, No. 2 Ontario .....        | 142.8 | 155.4 | 202.4 | Fowls .....                           | 170.0 | 162.3 | 133.1 |
| Rye, No. 2 Ontario .....         | 131.4 | 144.6 | 168.3 | Turkeys .....                         | 169.8 | 185.8 | 191.9 |
| Hay, Montreal .....              | 141.3 | 135.1 | 178.9 | Butter creamery solids ..             | 116.2 | 114.6 | 141.3 |
| Hay, Toronto .....               | 138.5 | 133.0 | 164.6 | Butter, dairy prints .....            | 134.9 | 127.5 | 162.4 |
| Straw .....                      | 125.3 | 112.7 | 173.9 | Cheese, western coloured ..           | 131.1 | 129.6 | 143.4 |
| Flaxseed .....                   | 191.4 | 208.1 | 160.0 | Eggs, storage .....                   | 168.1 | 157.1 | 191.0 |
| Flax fibre .....                 | 122.4 | 133.6 | 141.7 | Milk at Montreal .....                | 127.9 | 127.9 | 134.5 |
| Potatoes, Montreal .....         | 160.8 | 200.4 | 219.4 | Milk at Toronto .....                 | 139.1 | 138.8 | 151.8 |
| Potatoes, Toronto .....          | 163.3 | 202.4 | 257.0 | Wool, Ontario, washed ..              | 113.5 | 106.9 | 105.7 |
| Turnips .....                    | 119.6 | 113.1 | 142.0 | Wool, " unwashed .....                | 119.0 | 124.5 | 121.5 |

"The effect," states the report, "of an advance like that of the past year, especially as coming on the top of nearly a decade and a half of mounting prices, and with the prospect of continuance, is necessarily far reaching. The rise in the cost of living has struck at the standard of comfort, often with serious results to many whose incomes have not similarly advanced, while business in many instances, notwithstanding a widespread prosperity, has been unsettled if not embarrassed by the unstable condition of values. Conditions specially noteworthy in Canada, though not in general peculiar to this country, which were regarded as factors in the very pronounced rise indicated by the above figures, were (1) the comparative world-crop failure of 1911, which raised the price of farm and food products; (2) the exceptionally severe winter of 1911-12, which intensified the effect of (1); and (3) the industrial and trade expansion which set in as the year advanced."

## PRICE OF COLONIAL AND FOREIGN PRODUCE IN BRITISH MARKETS, 1913.

WHEAT (per bushel of 60 lb.)

| Description               | March 3 |       | March 10 |       | March 17 |       | March 24 |       | March 31 |       |
|---------------------------|---------|-------|----------|-------|----------|-------|----------|-------|----------|-------|
|                           | £ s     | d     | £ s      | d     | £ s      | d     | £ s      | d     | £ s      | d     |
| Manitoba best.....        | 1.14    | -1.17 | 1.14     | -1.17 | 1.14     | -1.17 | 1.14     | -1.17 | 1.13     | -1.14 |
| " good.....               | 1.12    | -1.14 | 1.12     | -1.14 | 1.12     | -1.14 | 1.11     | -1.13 | 1.10     | -1.11 |
| " No. 3.....              | 1.09    | -1.11 | 1.09     | -1.11 | 1.09     | -1.11 | 1.08     | -1.10 | 1.07     | -1.08 |
| " feed.....               | .85     | - .88 | .85      | - .88 | .85      | - .88 | .82      | - .85 | .81      | - .83 |
| American best spring..... | 1.14    | -1.17 | 1.13     | -1.16 | 1.11     | -1.14 | 1.11     | -1.14 | 1.10     | -1.13 |
| " ordinary spring.....    | 1.11    | -1.14 | 1.10     | -1.13 | 1.08     | -1.11 | 1.08     | -1.11 | 1.07     | -1.10 |
| " red winter.....         | 1.11    | -1.14 | 1.10     | -1.13 | 1.08     | -1.10 | 1.08     | -1.11 | 1.07     | -1.10 |
| " hard winter.....        | 1.10    | -1.11 | 1.08     | -1.10 | 1.08     | -1.08 | 1.07     | -1.08 | 1.06     | -1.07 |
| Australia.....            | 1.17    | -1.20 | 1.20     | -1.21 | 1.20     | -1.21 | 1.22     | -1.23 | 1.22     | -1.23 |
| New Zealand.....          | 1.14    | -1.16 | 1.17     | -1.18 | 1.17     | -1.18 | 1.17     | -1.20 | 1.17     | -1.20 |
| Russian fine.....         | 1.08    | -1.11 | 1.08     | -1.11 | 1.07     | -1.11 | 1.08     | -1.11 | 1.08     | -1.11 |
| " good.....               | 1.03    | -1.06 | 1.03     | -1.06 | 1.03     | -1.06 | 1.03     | -1.06 | 1.03     | -1.06 |
| " common.....             | .97     | -1.00 | .97      | -1.00 | .97      | -1.00 | .97      | -1.00 | .97      | -1.00 |
| Californian.....          | 1.16    | -1.19 | 1.14     | -1.17 | 1.14     | -1.17 | 1.14     | -1.17 | 1.14     | -1.17 |
| Blue Stem.....            | 1.13    | -1.17 | 1.14     | -1.16 | 1.14     | -1.16 | 1.14     | -1.16 | 1.14     | -1.16 |
| White Walla.....          | 1.14    | -1.16 | 1.13     | -1.14 | 1.13     | -1.14 | 1.13     | -1.14 | 1.13     | -1.14 |
| Red Walla.....            | 1.13    | -1.14 | 1.11     | -1.13 | 1.11     | -1.13 | 1.11     | -1.13 | 1.11     | -1.13 |
| White Bombay.....         | 1.19    | -1.20 | 1.19     | -1.20 | 1.19     | -1.20 | 1.19     | -1.20 | 1.19     | -1.20 |
| " Calcutta.....           | 1.18    | -1.19 | 1.18     | -1.19 | 1.18     | -1.19 | 1.18     | -1.19 | 1.18     | -1.19 |
| " Karachi.....            | 1.18    | -1.19 | 1.18     | -1.19 | 1.18     | -1.19 | 1.18     | -1.19 | 1.18     | -1.19 |
| Red.....                  | 1.16    | -1.17 | 1.16     | -1.17 | 1.16     | -1.17 | 1.16     | -1.17 | 1.16     | -1.17 |
| Argentine.....            | 1.08    | -1.10 | 1.08     | -1.10 | 1.08     | -1.10 | 1.06     | -1.08 | 1.06     | -1.08 |
| Chilian.....              | 1.14    | -1.17 | 1.14     | -1.17 | 1.08     | -1.10 | 1.06     | -1.08 | 1.06     | -1.08 |

OATS (per bushel of 34 lb.)

|                   |     |       |     |       |     |       |     |       |     |       |
|-------------------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|
| Canadian.....     | .54 | - .56 | .54 | - .56 | .51 | - .54 | .51 | - .54 | .51 | - .54 |
| American.....     | .50 | - .51 | .50 | - .51 | .49 | - .51 | .49 | - .51 | .49 | - .51 |
| Chilian.....      | .62 | - .63 | .62 | - .63 | —   | —     | —   | —     | —   | —     |
| Bahia Blanca..... | .51 | - .53 | .49 | - .51 | .49 | - .50 | .47 | - .50 | .46 | - .49 |
| Buenos Aires..... | .50 | - .51 | .46 | - .47 | .46 | - .47 | .44 | - .46 | .43 | - .46 |
| Russian.....      | .51 | - .64 | .49 | - .64 | .49 | - .64 | .49 | - .64 | .49 | - .64 |

NOTE. The prices of grain are from the Market Supplements to the Mark Lane Express. The prices of meat and dairy produce are from the British official returns. Rate of conversion from English currency £1 = \$4.86.



## FLOUR (per 280 lb.)

| Description             | March 3 |       | March 10 |       | March 17 |       | March 24 |       | March 31 |       |
|-------------------------|---------|-------|----------|-------|----------|-------|----------|-------|----------|-------|
|                         | \$ c.   | \$ c. | \$ c.    | \$ c. | \$ c.    | \$ c. | \$ c.    | \$ c. | \$ c.    | \$ c. |
| Pillsbury's Best.....   | 7.06    | —     | 7.00     | —     | 6.93     | —     | 6.87     | —     | 6.81     | —     |
| Iron Duke.....          | 6.35    | —     | 6.39     | —     | 6.14     | —     | 6.14     | —     | 6.08     | —     |
| American Duluth.....    | 7.18    | -7.42 | 7.18     | -7.42 | 7.06     | -7.30 | 7.06     | -7.30 | 7.06     | -7.30 |
| " Minneapolis best..... | 7.42    | -7.66 | 7.42     | -7.66 | 7.30     | -7.54 | 7.30     | -7.54 | 7.30     | -7.54 |
| " " good.....           | 7.18    | -7.42 | 7.18     | -7.42 | 7.06     | -7.30 | 7.06     | -7.30 | 7.06     | -7.30 |
| " first patents.....    | 7.18    | -7.30 | 7.18     | -7.30 | 7.06     | -7.30 | 7.06     | -7.18 | 7.06     | -7.18 |
| " second patents.....   | 6.93    | -7.06 | 6.93     | -7.06 | 6.81     | -7.06 | 6.81     | -6.93 | 6.81     | -6.93 |
| " first bakers'.....    | 6.59    | -6.45 | 6.39     | -6.45 | 6.08     | -6.14 | 6.08     | -6.14 | 5.96     | -6.20 |
| " second bakers'.....   | 6.20    | -6.27 | 6.20     | -6.27 | 5.96     | -6.02 | 5.96     | -6.02 | 5.84     | -5.96 |
| " low grade.....        | 5.05    | -5.11 | 5.05     | -5.11 | 5.05     | -5.11 | 4.87     | -4.99 | 4.87     | -4.99 |
| Manitoba patents.....   | 7.06    | -7.30 | 7.06     | -7.30 | 7.06     | -7.18 | 6.93     | -7.07 | 6.81     | -6.93 |
| " straights.....        | 6.81    | -6.93 | 6.81     | -6.93 | 6.69     | -6.81 | 6.57     | -6.81 | 6.57     | -6.69 |
| Kansas best.....        | 6.81    | -7.06 | 6.81     | -7.06 | 6.81     | -6.93 | 6.57     | -6.81 | 6.57     | -6.81 |
| " firsts.....           | 6.57    | -6.81 | 6.57     | -6.81 | 6.57     | -6.69 | 6.38     | -6.57 | 6.38     | -6.57 |
| " seconds.....          | 6.33    | -6.57 | 6.33     | -6.57 | 6.33     | -6.45 | 6.08     | -6.33 | 6.08     | -6.33 |
| Californian.....        | 7.54    | -7.79 | 7.54     | -7.79 | 7.54     | -7.79 | 7.54     | -7.79 | 7.54     | -7.79 |
| Hungarian best.....     | 9.25    | -9.49 | 9.25     | -9.49 | 9.25     | -9.49 | 9.25     | -9.49 | 9.25     | -9.49 |
| " fine.....             | 9.00    | -9.25 | 9.00     | -9.25 | 9.00     | -9.25 | 9.00     | -9.25 | 9.00     | -9.25 |
| Australian.....         | 6.81    | -6.93 | 6.81     | -6.93 | 6.81     | -6.93 | 6.81     | -6.93 | 6.81     | -6.93 |
| French fine.....        | 7.79    | -7.91 | 7.79     | -7.91 | 7.54     | -7.79 | 7.54     | -7.79 | 7.54     | -7.79 |
| Belgian.....            | 7.66    | -7.79 | 7.66     | -7.79 | 7.54     | -7.66 | 7.66     | -7.79 | 7.66     | -7.79 |
| Galatz.....             | 8.15    | -8.27 | 8.15     | -8.27 | 8.27     | -8.52 | 8.27     | -8.33 | 8.27     | -8.33 |

## FRESH MEAT (per cwt. of 100 lb.)

| Description and Market |                | March 5 | March 12 | March 19 | March 26 |
|------------------------|----------------|---------|----------|----------|----------|
|                        |                | \$ c.   | \$ c.    | \$ c.    | \$ c.    |
| Argentine frozen—      |                |         |          |          |          |
| Birmingham.....        | { hind qrs.... | 7 86    | 7 86     | 7 86     | 7 86     |
|                        | { fore qrs.... | 6 84    | 6 84     | 6 84     | 6 84     |
| Leeds.....             | { hind qrs.... | 7 60    | 7 35     | 7 35     | 7 35     |
|                        | { fore qrs.... | 6 59    | 6 84     | 6 34     | 6 34     |
| Liverpool.....         | { hind qrs.... | 7 60    | 7 86     | 7 86     | 7 86     |
|                        | { fore qrs.... | 6 59    | 6 84     | 7 35     | 6 84     |
| London.....            | { hind qrs.... | 7 60    | 7 86     | 7 86     | 7 86     |
|                        | { fore qrs.... | 6 59    | 6 84     | 7 35     | 6 84     |
| Manchester.....        | { hind qrs.... | 7 60    | 7 86     | 7 86     | 7 86     |
|                        | { fore qrs.... | 6 59    | 6 84     | 7 35     | 6 84     |
| Dundee.....            | { hind qrs.... | 7 60    | 7 60     | 7 60     | 7 60     |
|                        | { fore qrs.... | 6 59    | 6 59     | 6 59     | 6 59     |
| Edinburgh.....         | { hind qrs.... | 7 85    | 7 60     | 7 60     | 7 60     |
|                        | { fore qrs.... | 6 85    | 6 25     | 6 59     | 6 59     |
| Glasgow.....           | { hind qrs.... | 7 85    | 7 85     | 7 60     | 7 60     |
|                        | { fore qrs.... | 6 59    | 6 59     | 6 59     | 6 59     |
| Argentine chilled—     |                |         |          |          |          |
| Birmingham.....        | { hind qrs.... | 10 65   | 10 65    | 10 65    | 10 39    |
|                        | { fore qrs.... | 7 35    | 7 35     | 7 35     | 7 35     |
| Leeds.....             | { hind qrs.... | 10 14   | 10 65    | 10 14    | 10 14    |
|                        | { fore qrs.... | 7 35    | 7 60     | 7 04     | 7 35     |
| Liverpool.....         | { hind qrs.... | 9 63    | 10 14    | 10 14    | 10 14    |
|                        | { fore qrs.... | 7 04    | 7 04     | 7 04     | 7 04     |

## FRESH MEATS (per cwt. of 100 lb.)—con.

| Description and Market |               | March 5 | March 12 | March 19 | March 26 |
|------------------------|---------------|---------|----------|----------|----------|
|                        |               | \$ c.   | \$ c.    | \$ c.    | \$ c.    |
| Argentine chilled—con. |               |         |          |          |          |
| London.....            | / hind qrs... | 10 65   | 10 65    | 10 65    | 9 63     |
|                        | / fore qrs... | 7 60    | 7 35     | 7 60     | 7 35     |
| Manchester.....        | / hind qrs... | 10 14   | 10 14    | 10 14    | 10 14    |
|                        | / fore qrs... | 7 04    | 7 04     | 7 04     | 7 04     |
| Dundee.....            | / hind qrs... | 10 65   | 10 95    | 10 95    | 10 95    |
|                        | / fore qrs... | 7 85    | 7 85     | 7 85     | 7 60     |
| Edinburgh.....         | / hind qrs... | 10 65   | 10 65    | 10 89    | 10 95    |
|                        | / fore qrs... | 7 85    | 7 85     | 7 85     | 7 85     |
| Glasgow.....           | / hind qrs... | 10 65   | 10 65    | 10 65    | 10 41    |
|                        | / fore qrs... | 7 60    | 7 60     | 7 60     | 7 60     |
| Australian frozen—     |               |         |          |          |          |
| Birmingham.....        | / hind qrs... | 7 35    | 7 35     | 7 35     | 7 35     |
|                        | / fore qrs... | 6 59    | 6 84     | 6 59     | 6 84     |
| Leeds.....             | / hind qrs... | 7 04    | 7 04     | 7 35     | 7 35     |
|                        | / fore qrs... | 6 59    | 6 59     | 6 34     | 6 08     |
| Liverpool.....         | / hind qrs... | 7 04    | 7 04     | 7 04     | 7 04     |
|                        | / fore qrs... | 6 08    | 6 59     | 6 59     | 6 59     |
| London.....            | / hind qrs... | 7 04    | 7 04     | 7 04     | 7 04     |
|                        | / fore qrs... | 6 34    | 6 34     | 6 59     | 6 34     |
| Manchester.....        | / hind qrs... | 7 04    | 7 04     | 7 04     | 7 04     |
|                        | / fore qrs... | 6 59    | 6 59     | 6 59     | 6 59     |
| Glasgow.....           | / hind qrs... | 7 60    | 7 60     | 7 35     | 7 35     |
|                        | / fore qrs... | 6 59    | 6 59     | 6 59     | 6 59     |

## GREEN BACON (per cwt. of 100 lb.)

| Description and Market    | March 5     | March 12    | March 19    | March 26    |
|---------------------------|-------------|-------------|-------------|-------------|
| Canadian sides—           |             |             |             |             |
| Bristol.....              | 15.86—15.21 | 16.08—15.43 | 16.08—15.73 | 16.08—15.73 |
| Liverpool.....            | 15.73—14.99 | 15.86—15.21 | 15.86—15.21 | 15.86—15.21 |
| London.....               | 15.86—15.43 | 16.08—15.73 | 16.29—15.73 | 15.86—15.43 |
| Glasgow.....              | - -         | - -         | - -         | 16.73 -     |
| Canadian Cumberland cuts— |             |             |             |             |
| Liverpool.....            | 16.29—15.73 | 16.51—15.73 | 16.51—15.73 | 16.51—15.73 |
| Glasgow.....              | - -         | 16.73 -     | 16.08—15.73 | 17 16 -     |
| Danish sides—             |             |             |             |             |
| Bristol.....              | 16.73—15.86 | 16.73—15.86 | 16.73—15.86 | 17.16—16.51 |
| Liverpool.....            | 16.08—15.73 | 16.29—15.73 | 16.51—16.08 | 16.73—16.29 |
| London.....               | 16.29—15.86 | 16.29—15.86 | 16.29—15.86 | 16.29—15.86 |
| Glasgow.....              | 16.51 -     | 16.51 -     | 16.51 -     | 16.51 -     |

## GREEN HAMS (per cwt. of 100 lb.)

| Description and Market  | March 5     | March 12    | March 19    | March 26    |
|-------------------------|-------------|-------------|-------------|-------------|
| Canadian long cut—      |             |             |             |             |
| Bristol.....            | 16.95—16.51 | 16.95—16.51 | 17.38—16.95 | 17.38—16.95 |
| Liverpool.....          | — 16.95     | 17.81—17.16 | 18.03—17.16 | 16.62—15.97 |
| London.....             | —           | —           | 18.14—17.38 | 17.38—16.51 |
| American long cut—      |             |             |             |             |
| Bristol.....            | 15.43—14.77 | 16.08—15.73 | 16.08—15.73 | 16.29—15.86 |
| Liverpool.....          | 15.97—15.43 | 16.40—15.80 | 16.62—15.97 | 16.62—15.97 |
| London.....             | 15.86—15.43 | 16.08—15.73 | 16.08—15.43 | 17.37—16.51 |
| Glasgow.....            | 17.81 —     | 18.47 —     | 17.38 —     | 18.47 —     |
| American short cut..... |             |             |             |             |
| Bristol.....            | 14.99—14.55 | 14.99—14.55 | 15.43—14.77 | 15.43—14.77 |
| Liverpool.....          | 15.32—14.55 | 15.43—14.88 | 15.54—14.88 | 15.84—15.10 |
| London.....             | 15.21—14.77 | 14.77 —     | 15.43—14.99 | 15.43—15.21 |
| Glasgow.....            | 16.51 —     | 17.38 —     | 17.38 —     | 17.38 —     |

## CHEESE (per cwt. of 100 lb.)

|                |             |             |             |             |
|----------------|-------------|-------------|-------------|-------------|
| Canadian—      |             |             |             |             |
| Bristol.....   | 14.12—13.47 | 14.12—13.47 | 14.12—13.47 | 14.12—13.47 |
| Liverpool..... | 14.02—13.58 | 14.02—13.58 | 14.02—13.58 | 14.02—13.58 |
| London.....    | 14.12—13.90 | 14.12—13.90 | 14.12—13.90 | 14.34—14.12 |
| Glasgow.....   | 14.12 —     | 14.12 —     | 14.12 —     | 14.12 —     |
| New Zealand—   |             |             |             |             |
| Bristol.....   | 13.37—13.15 | 13.47—13.25 | 13.47—13.25 | 13.47—13.25 |
| London.....    | 13.25—13.04 | 13.47—13.25 | 13.47—13.25 | 13.47—13.25 |
| Glasgow.....   | 13.69 —     | 13.80 —     | 13.80 —     | 13.80 —     |

## THE WEATHER DURING MARCH.

The Dominion Meteorological Service reports that unseasonably cold weather prevailed during March from the Pacific coast to Lake Superior, while elsewhere in Canada the temperature was in excess of the normal. Negative departures in Manitoba were large, being from 6° to 9°, and in Saskatchewan and central British Columbia reached 4° and 5°. Positive differences from Lake Huron to the Maritime provinces were generally above 2° and reached 5° in Nova Scotia. Precipitation exceeded the normal in the Cariboo district of British Columbia, southern districts of Alberta and Saskatchewan and from Ontario to the Maritime provinces, with the exception of the Gaspé peninsula of Quebec and Cape Breton Island in Nova Scotia, where the average value was not reached. In northern districts of Alberta and Saskatchewan and throughout Manitoba there was a marked deficiency, especially in the latter province where the total fall was a mere fraction of the normal amount. The excess from Ontario to the Maritime

provinces was pronounced. The depth of snow on the ground on the last day of March showed a diminution in most districts since the last of February ; but in the interior and higher levels of British Columbia the amount on the ground was practically unchanged, while in northern Ontario, the depth was considerably more. The ground in Alberta, western Saskatchewan, southern Ontario, southern New Brunswick, Nova Scotia and Prince Edward Island was bare of snow, but in other parts of Canada the depth was from 2 to 10 inches except in northern Ontario where there were more than four feet, and in the interior and higher levels of British Columbia where the depth exceeded five feet.

## PUBLICATIONS OF THE CENSUS AND STATISTICS OFFICE.

Copies of the undermentioned publications will so far as available be sent free on application to Archibald Blue, Chief Officer, Census and Statistics Office, Ottawa.

**THE CANADA YEAR BOOK.** Second Series, 1905-1910.

Each of these six Volumes contains a complete summary of the principal events of the year and the acts of the Dominion Parliament, with statistics of population, agriculture, forestry, minerals, manufactures, trade and commerce, public accounts, banking, post office, insurance, railways, canals, marine, fisheries, etc.

**LONGEVITY AND SANITATION.** Bulletin VIII. The substance of addresses delivered by Archibald Blue before the McMaster Convocation and the American Public Health Association.

**REPORT ON THE CENSUS OF POPULATION AND AGRICULTURE OF THE NORTHWEST PROVINCES.** Manitoba, Saskatchewan and Alberta, 1906.

**THE BEET SUGAR INDUSTRY.** Bulletin IX. The result of an investigation of Sugar Beet production in Canada and the manufacture of the roots into refined sugar, with Appendix A consisting of the Hearings of the Customs Tariff Committee, 1905, and Appendix B, Beet Sugar Production in Posen, Germany. 75 pp., 3 illustrations.

**OCCUPATIONS OF THE PEOPLE.** Bulletin XI. The figures in this Bulletin are compiled from data of the Census of 1901.

**BUL.** OF THE FIFTH CENSUS OF CANADA, 1911. i. Manufactures for the year 1910. ii. Lumbering Industries for the year 1910. iv. Agriculture of Nova Scotia. v. Agriculture of New Brunswick. xii. Religions of Canada. xiii. Origins of the People.



# CENSUS AND STATISTICS MONTHLY

Vol. 6

OTTAWA, MAY 1913.

No. 58

PUBLISHED BY AUTHORITY OF HONOURABLE GEORGE E. FOSTER, MINISTER OF TRADE AND COMMERCE. CORRESPONDENCE RELATING TO THE CENSUS AND STATISTICS MONTHLY SHOULD BE ADDRESSED TO ARCHIBALD BLUE, CHIEF OFFICER OF THE CENSUS AND STATISTICS OFFICE, DEPARTMENT OF TRADE AND COMMERCE, OTTAWA, CANADA.

## CROPS AND LIVE STOCK IN CANADA.

Report for the month ended April 30 1913.

From reports of agricultural correspondents at the end of April it is estimated that in Ontario about 18 per cent and in Alberta about 43·5 per cent of the areas sown to wheat last fall have been winter-killed. These percentages represent a deduction of 261,000 acres from the total area sown to fall wheat, viz., 1,086,800 acres; so that the area remaining to be harvested is now 825,800 acres.

The condition of fall wheat on April 30 was in Ontario 83·4 per cent and in Alberta 76 per cent of a standard representing the promise of a full crop, the corresponding percentages on the same date last year being 71·2 for Ontario and 76·8 for Alberta. For all Canada the condition on April 30 of this year was 82 per cent of the standard representing the promise of a full crop, or 101 per cent of the average yield of the past four years. Last year at the same date the corresponding figures were only 72·6 per cent of the full crop standard and 87 per cent of the average of the three previous years.

Spring seeding has made good progress throughout the greater part of Canada, and was much further advanced at the end of April than it was on the same date last year. In the Maritime provinces seeding does not begin until May, but the weather was favourable and the indications were for an early spring. In Quebec there was also the prospect of an early season, and about 12 per cent of the total seeding was completed by April 30. In Ontario conditions were more variable, but 40 per cent of the total seeding was reported as finished. In Manitoba and Saskatchewan over 50 per cent and in Alberta about 75 per cent of spring wheat had been sown during the favourable weather of April. In Saskatchewan there is an apparent tendency to sow less wheat and devote more attention to dairying and mixed farming. For Quebec, Ontario and the three Northwest provinces the proportion of seeding completed on April 30 was for wheat 43 per cent, for oats 20·5 per cent, for barley 13·7 per cent, and for all crops 34·7 per cent.

About 22 per cent of the area in hay and clover meadows is reported to have been winter-killed; but the average condition of these crops at the end of April was 89·6 per cent as compared with 74·6 per cent last year.

The condition of live stock remains generally satisfactory, being for all Canada over 90 per cent of a standard representing a healthy and thrifty condition.

Census and Statistics Office,  
Ottawa, May 14.

ARCHIBALD BLUE  
Chief Officer.

**I. Areas sown to Fall Wheat 1912 and areas winter-killed in Ontario and Alberta as estimated on April 30 1913.**

| Provinces             | Area sown<br>1912 | Area winter-killed |         | Harvest<br>area of<br>1913 |
|-----------------------|-------------------|--------------------|---------|----------------------------|
|                       |                   | Proportion         | Area    |                            |
|                       | acres             | p. c.              | acres   | acres                      |
| Ontario.....          | 696,000           | 18·0               | 125,000 | 571,000                    |
| Manitoba.....         | 3,900             | —                  | —       | 3,900                      |
| Saskatchewan.....     | 72,000            | —                  | —       | 72,000                     |
| Alberta.....          | 312,000           | 43·5               | 136,000 | 176,000                    |
| British Columbia..... | 2,900             | —                  | —       | 2,900                      |
| Total.....            | 1,086,800         | 25·9               | 261,000 | 825,800                    |

**II. Progress of Spring Seeding and Condition of Meadows, April 30 1913.**

| Provinces           | Spring<br>wheat: per<br>centage<br>sown<br>April 30 | Oats: per-<br>centage<br>sown<br>April 30 | Barley :<br>percentage<br>sown<br>April 30 | Percentage<br>of total<br>seeding<br>completed<br>April 30 |
|---------------------|---|---|--|--|
|                     | p. c.   | p. c.                                     | p. c.                                      | p. c.  |
| Quebec.....         | 12·3  | 10·7                                      | 7·0  | 12·2   |
| Ontario.....        | 22·0  | 40·9                                      | 36·0                                       | 40·0   |
| Manitoba.....       | 56·8  | 35·8                                      | 0·5  | 32·4   |
| Saskatchewan.....   | 65·0  | 8·0                                       | 1·4  | 40·5   |
| Alberta.....        | 74·2  | 25·2                                      | 10·5                                       | 43·2   |
| Five provinces..... | 43·0  | 20·5                                      | 13·7                                       | 34·7   |

**III. Condition of Meadows and Condition of Live Stock, April 30 1913.**

| Provinces             | Meadows :<br>condition<br>of the<br>growing<br>crop | Horses | Milch<br>cows | Other<br>cattle | Sheep | Swine |
|-----------------------|---|--------|---------------|-----------------|-------|-------|
|                       | p. c.   | p. c.  | p. c.         | p. c.           | p. c. | p. c. |
| Canada.....           | 89·60   | 94·43  | 92·03         | 90·77           | 93·47 | 92·46 |
| P. E. Island.....     | 89·72   | 98·23  | 89·79         | 91·73           | 94·24 | 92·21 |
| Nova Scotia.....      | 96·48   | 96·63  | 94·01         | 90·85           | 91·92 | 95·88 |
| New Brunswick.....    | 91·25   | 95·77  | 92·95         | 91·26           | 90·26 | 89·38 |
| Quebec.....           | 86·15   | 94·77  | 93·46         | 91·94           | 94·11 | 91·45 |
| Ontario.....          | 87·62   | 94·29  | 91·40         | 89·83           | 92·97 | 95·47 |
| Manitoba.....         | 93·18   | 93·84  | 91·41         | 90·38           | 94·37 | 97·87 |
| Saskatchewan.....     | 90·75   | 92·90  | 90·33         | 89·20           | 92·72 | 87·80 |
| Alberta.....          | 94·28   | 93·39  | 93·45         | 93·01           | 96·54 | 89·77 |
| British Columbia..... | 96·43   | 94·23  | 92·50         | 88·00           | 95·84 | 92·92 |

NOTE. For meadows 100=promise of a full crop. For live stock 100 = a healthy and thrifty state.

## NOTES OF REPORTS FROM THE PROVINCES.

**Maritime Provinces.** Spring seeding in the Maritime provinces is not begun much before the middle of May. Except in a few exceptional cases no seeding had been done in these provinces by the end of April. The weather was favourable, and there were everywhere indications of an early spring. It was anticipated that spring work and sowing would be general in the early part of May. From Queen's county in Prince Edward Island a correspondent reports that everything in rural life was in a prosperous condition, "not even excepting fox-farming which is increasing at the rate of 400 p.c."

**Quebec.** Conditions at the end of April were reported as generally favourable, and it was anticipated that seeding would begin about the 8th or 10th of May. The prospects were for an early season. In the Montreal counties the condition of the meadows was reported as especially favourable, being expressed in the majority of instances by 100 and 90 p. c. Scarcely any winter-killing was reported from this part of the province. Rain was however wanted in some parts. A Scottish farmer in the Eastern Counties wrote: "My own flock of 13 ewes have three sets of triplets, three pairs of ewes, three single lambs, and there are three or four more ewes to hear from."

**Ontario.** Fall wheat in western and southern Ontario looks well on the whole, especially that which was sown early last fall. Hay and clover have been badly winter-killed, and the old meadows have been badly heaved by the frost. Alfalfa has been in numerous instances completely killed. Conditions as to spring seeding are very variable. Some correspondents report an early spring and very favourable conditions for seeding and growth; others report late and backward conditions due to heavy rains and wet land. In Northern Ontario seeding at the end of April had either not begun or had only just started; yet from Muskoka one correspondent reports that seeding was mostly done in April.

**Manitoba.** The weather of April has been exceedingly favourable, and a great deal of spring seeding has been done where condition of the land has allowed of it; but in a large number of sections the wet fall left the soil so soaked that it had not dried sufficiently at the end of April to allow of seeding, and this had thrown operations into arrears. Also the wet season last year prevented fall ploughing, and this work had first to be overtaken in the spring. A full acreage of wheat is anticipated, but a good deal will be sown on summer fallow and new breaking. The long and severe winter was adverse to fall wheat in the Swan River district, and our correspondent there states that its present appearance is highly discouraging. It was hoped however that there was life in the root sufficient to bring the crop to some vitality. Another correspondent in a fall wheat district states that the entire crop will have to be re-sown. The area sown to fall wheat in Manitoba last year is estimated not to exceed 3,900 acres.

**Saskatchewan.** Excellent progress has been made with the seeding of wheat, weather and other conditions having been very favourable. At the end of April however the weather was cold, and the season generally was reported to be late. As in Manitoba, the wet season of last year has left the soil soaked with moisture, and in a large number of cases it had been impossible to work the land. Several correspondents report a falling off in the acreage to be devoted to wheat, the tendency being to increase the number of dairy cows and to give more attention to mixed farming. This applied to both north and south Saskatchewan. Thus one correspondent writes: "The wheat area is evidently to be greatly reduced in favour of coarser grains." Others write: "There will be 25 p. c. less wheat this season than last." "More oats and barley are being sown; our farmers are all trying to get into mixed farming." Some few cases of influenza and distemper amongst horses are reported.

**Alberta.** In many districts of northern Alberta the whole of the fall sown wheat has been winter-killed. The crop suffered greatly owing to the lack of snow protection. In some cases fall wheat came well through the winter, but died off fast towards the end of April. Generally speaking the spring was reported as backward; but in exceptional cases reports stated that it was from a week to ten days earlier than last year. In the Red Deer and Ponoka districts typhoid pneumonia and distemper are reported as prevalent amongst horses, causing fatalities and unfitness for work. There has also been a good deal of abortion amongst mares, and one correspondent attributes the cause to the large amount of ergot on the native grasses.

**British Columbia.** The spring is reported to be cold and backward, the season being about two weeks later than usual. Our correspondent at Inverness writes that there is a great demand for, say, 20 milch cows at prices of from \$80 to \$85 each.

## DEPARTMENT OF AGRICULTURE.

**Experimental Farms and Stations.** At the Central Farm, Ottawa, the temperatures recorded during April range much higher than during the corresponding period of 1912—the highest being 86.5, the lowest 21 and the mean 45.34, compared with extremes of 67 and 7 and a mean temperature of 39.07 in the previous year. Practically no snow has been recorded during the month, the precipitation consisting of 2 inches of rain; while a year ago the precipitation amounted to 2.8 inches, comprising 2.6 inches of rain and 2 inches of snow. The sunshine averages 7.32 hours a day as against 7.82 hours daily in April 1912.

At the Experimental Farm seeding was begun on the 17th and has continued under very favourable conditions to the end of the month, by which date fully one-half of the grain crop had been sown.

J. A. Clark, Superintendent of the Station at Charlottetown, P.E.I., reports: "April came in fine and mild. The second week was backward, eight inches of snow falling; this was followed by light showers of rain dur



ing the third week ; and then to the close of the month the weather was summer-like, the temperature rising to 78.75. The prospects as regards the hay crop are good, though frosts at night during the first half of April destroyed perhaps ten per cent of the clover and alfalfa. Quite a little work has been done on the land during the last week of the month, but seeding has not yet begun. The crocuses and squills and a species of daphne (*Daphne mezereum*) have been in full bloom, while the narcissus is just coming into flower at the time of writing. The trees and grasses are much more advanced than usual".

W. W. Baird, Acting Superintendent of the Farm at Nappan, N.S., reports: "April has been on the whole a typical one,—much broken weather, with alternate snow and rain, especially during the early and later parts. From the 21st to the 26th a very warm spell was experienced, making the land almost workable ; but it turned cold and wet again, with snow falling at the time of writing. All beef cattle were shipped to the Easter market ; they made very profitable gains ; also the lambs. Work on the Experimental Farm has included the repairing of roads and fences, ditching on the marsh, sawing and splitting wood and preparing hot-beds."

G. A. Langelier, Superintendent of the Station at Cap Rouge, Que., reports : "April has been much warmer than it was in 1912, when the mean temperature was 31.35, whilst it is 39.35 this year. This is one of the earliest springs in years, and some grain has been sown during the month. There was much less snow than usual, and it melted very fast with the exceptionally mild weather. Grass is greener than usual at this time of the year ; but rain is now needed, as everything is a little too dry. At the Station some of the crocuses were in bloom on the 15th, and most of the oats have been sown by the end of the month. The season is about four weeks earlier than last year".

W. C. McKillican, Superintendent of the Farm at Brandon, Man., reports : "The weather during April has been remarkably fine. The month began with a good deal of snow on the ground ; but the fine spell soon brought the land into condition for working. The rapid thaw left a large amount of water to be drained off. On the Experimental Farm seeding operations commenced on the 15th of April, and by the end of the month practically all the wheat has been sown. The Assiniboine River is in flood at the time of writing and a great deal of damage has been caused to farms in the valley. An area of some two hundred acres or more of the Experimental Farm is under water, including about thirty acres of land sown to wheat, twenty acres of alfalfa, and fifty acres of clover and grass hay."

Angus Mackay, Superintendent of the Farm at Indian Head, Sask., reports : "April has been extremely fine, the only exception being two days of high winds and frost on the 24th and 25th. No spring has ever been more favourable for seeding. The thermometer reached 80° on the 14th, while on several other days over 70° was registered. Wheat seeding in the district is about two-thirds completed, a good many farmers having finished, while some are being delayed awaiting a suitable day to burn off stubble. At the Experimental Farm seeding was begun on the 15th ; wheat and peas were all sown by the 25th, and a start was made with barley on the 28th—the land being in exceptionally good condition during

the latter half of the month. The three dwellings on the Farm have been given one coat of paint. The contractor has commenced work on the new barn and has the foundation well advanced. All classes of live stock are in good condition, and from eleven ewes there is an increase of seventeen lambs. Some one thousand 3-lb. samples of potatoes have been distributed to applicants, and the packages of young trees and shrubs are now being mailed."

Wm. A. Munro, Superintendent of the Station at Rosthern, Sask., reports: "Seeding began this year a week later than in 1912; but since starting has continued almost without interruption. The sowing of wheat and of most of the oats and barley was completed by the 29th of April, leaving only the large plots of oats and barley and the field roots and potatoes to be completed. Alfalfa has come through the winter in poorer condition than in any previous season since this Station was established. One reason seems to have been the large quantity of water left standing on the land for a few days when the snow was melting. Timothy and rye grass have come through in good shape, and there is now the first plot of winter rye. The winter wheat has been killed. There have been sent out from this office during April 433 samples of potatoes."

R. E. Everest, Superintendent of the Station at Scott, Sask., reports: "April came in fine and warm. This favourable weather continued until the 20th from which date to the end of the month it has been cool and cloudy. On the 7th work on the land, consisting of harrowing and disking, was commenced. On the 8th the first seed was sown, and on the 21st grain appeared above the ground. Growth since has been slow owing to cool weather. The grain, however, maintains a fresh, vigorous colour. Seeding at this Station is almost completed. During the month considerable work has been done in additional tree planting of an ornamental and an experimental nature. Throughout the district, seeding operations are being pushed with ox, horse, steam and gasoline power outfits. Wheat is going in largely on stubble-breaking and summer-fallow land. The soil this season held more water than usual, which to some extent has prevented the burning of stubble and also retarded seeding operations. The result of this moisture content is a favourable seed bed, with promise of constant growth throughout the growing period."

G. H. Hutton, Superintendent of the Station at Lacombe, Alta, reports: "April opened with comparatively warm weather, making it impossible to begin work on the land by the 8th. The first seeding of wheat at this Station was done on the 10th. The land is working very well this spring, but is drying out very slowly in the lower areas. The seeding of all the rotations has been completed. There is abundant moisture to carry the crop until June should the rainy season be delayed until then. Some 19,000 seedlings of Caragana and Manitoba Maple have been distributed during the month, and 670 samples of desirable varieties of potatoes have been sent out to applicants in central Alberta. All classes of live stock are in good condition. The dairy cows which have freshened are giving a satisfactory flow of milk."

W. H. Fairfield, Superintendent of the Station at Lethbridge, Alta., reports: "The weather during April has been rather dry, only about half an inch of moisture being recorded. There has also been considerable wind, which has had an unfavourable effect on the winter wheat in the immediate vicinity of Lethbridge and east along the Crow's Nest line, on account of drying out the soil too much. In the Magrath, Cardston and Pincher Creek districts wheat sown last fall is reported to be in excellent condition. From 80 p.c. to 90 p.c. of the spring wheat in the southern parts of the province has been seeded and the sowing of oats and flax has begun. At the Experimental Station seeding has been practically completed and most of the spring grain is up. Considerable winter-killing has occurred however in the plots of winter grain."

P. H. Moore, Superintendent of the Experimental Farm at Agassiz, B.C., reports: "April has been showery and backward, resulting in seeding operations generally being later than usual. No frost has been experienced during the month, and there is a fair growth of grass and clover. At the Experimental Farm nearly all the grain has been sown, including the test plots, while considerable cultivation has been done in connection with the hoed crops. At the present time there is an excellent stand of clover, about six inches high, on the hay section of the Farm. The cattle, swine and sheep are in excellent condition, with plenty of silage and fodder available for them, while the cows show very creditable returns, as compared with the corresponding time a year ago. The spring being cool and work rather intermittent, the teams are in very good shape."

The records of temperature, precipitation and sunshine at the several Experimental Farms and Stations for the month of April are given in the following table:

**Meteorological Record for April, 1913.**

| Experimental Farm<br>or Station at— | Degrees of temperature, F. |        |       | Precipitation<br>in<br>inches | Hours of sunshine |        |
|-------------------------------------|----------------------------|--------|-------|-------------------------------|-------------------|--------|
|                                     | highest                    | lowest | mean  |                               | possible          | actual |
| Ottawa, Ont. ....                   | 86.5                       | 21.0   | 45.84 | 2.00                          | 406               | 219.8  |
| Charlottetown, P.E.I. .             | 78.7                       | 17.5   | 40.06 | 3.86                          | 408               | 148.8  |
| Nappan, N.S. ....                   | 71.0                       | 14.0   | 40.03 | 3.46                          | 407               | 132.7  |
| Cap Rouge, Que. ....                | 83.0                       | 15.2   | 39.85 | 2.26                          | 409               | 199.8  |
| Brandon, Man. ....                  | 82.7                       | 18.1   | 43.70 | .35                           | 414               | 226.4  |
| Indian Head, Sask. ....             | 80.0                       | 12.0   | 42.63 | .13                           | 416               | 166.5  |
| Rosthern, Sask. ....                | 73.9                       | 14.8   | 40.45 | .26                           | 419               | 203.0  |
| Scott, Sask. ....                   | 79.0                       | 14.1   | 43.23 | .15                           | 418               | 238.1  |
| Lacombe, Alta. ....                 | 77.8                       | 17.4   | 42.20 | .15                           | 420               | 260.8  |
| Lethbridge, Alta. ....              | 81.2                       | 17.0   | 43.80 | .52                           | 413               | 223.4  |
| Agassiz, B.C. ....                  | 75.0                       | 33.0   | 51.27 | 4.72                          | 413               | 125.8  |

J. H. GRISDALE, Director, Experimental Farms.

Ottawa, May 10.

**Dairy and Cold Storage Branch.** The policy of granting assistance towards the erection of public cold storage warehouses in Canada was adopted by the Government in the season of 1906-07 by the introduction of an "Act to Encourage the Establishment of Cold Storage Warehouses for the Preservation of Perishable Food Products," which under its short title is known as the "Cold Storage Act." The Act and the regulations thereunder provide that the Government may grant a sum not exceeding 30 p.c. of the total cost of the site, equipment and construction of a public cold storage warehouse, the subsidy to be paid in instalments which are spread over a period of four years. No assistance is given to any company proposing to build in places where cold storage establishments already exist, and the rates and tolls to be charged for storage in the subsidised warehouses are subject to the approval of the Government.

In the six years that have elapsed since the passing of this Act 26 warehouses, costing nearly two million dollars, have been erected under its provisions and four more are now under contract. The following is a list of the warehouses erected under the terms of the Act:

| Name  | Refrigerated<br>Space | Cost         | Subsidy    |
|---|-----------------------|--------------|------------|
|   | Cubic feet            | \$           | \$         |
| The New Brunswick Cold Storage Co., St. John, N. B.       | 744,000               | 167,000 00   | 50,100 00  |
| Scott & Hugg, Peterborough, Ont.                          | 96,000                | 14,500 00    | 4,350 00   |
| The Halifax Cold Storage Co., Port Hawkesbury, N.S.       | 75,000                | 30,386 69    | 9,115 99   |
| Cold Storage Ltd., Woodstock, N.B.                        | 37,161                | 25,577 00    | 7,673 10   |
| The J. D. Moore Co., St. Mary's, Ont.                     | 105,000               | 36,019 62    | 10,805 88  |
| Lemon Bros., Owen Sound, Ont.                             | 33,600                | 20,000 00    | 6,000 00   |
| The Chatham Fruit Growers' Association, Chatham, Ont.     | 50,000                | 15,000 00    | 4,500 00   |
| The Palmerston Cold Storage Co., Palmerston, Ont.         | 169,984               | 35,000 00    | 10,500 00  |
| Davis & Fraser, Charlottetown, P.E.I.                     | 150,000               | 50,000 00    | 15,000 00  |
| The B. Wilson Co., Victoria, B.C.                         | 64,000                | 75,006 00    | 22,500 00  |
| The Trenton Cooperage Mills, Ltd., Trenton, Ont.          | 166,446               | 50,919 41    | 15,275 82  |
| The Dominion Fish & Fruit Co., Quebec, P. Q.              | 225,000               | 222,843 22   | 66,852 96  |
| The Lockport Cold Storage Co.                             | 59,940                | 60,000 00    | 18,000 00  |
| St. Lawrence Produce Co., Brockville, Ont.                | 106,000               | 52,000 00    | 15,600 00  |
| Flavelles Ltd., Lindsay, Ont.                             | 131,510               | 53,000 00    | 15,900 00  |
| Guans Ltd., Hurlston, Ont.                                | 37,069                | 40,000 00    | 12,000 00  |
| Campbell & Hamilton, Calgary, Alta.                       | 111,050               | 75,000 00    | 22,500 00  |
| The St. Thomas Cold Storage Co., St. Thomas, Ont.         | 174,141               | 123,700 00   | 37,110 00  |
| The Brandon Creamery & Supply Co., Brandon, Man.          | 27,500                | 32,000 00    | 9,600 00   |
| O'Keefe & Drew Abattoir Co., Chatham, Ont.                | 144,400               | 65,000 00    | 19,500 00  |
| The Canadian Fish & Cold Storage Co., Prince Rupert, B.C. | 781,000               | 345,000 00   | 103,500 00 |
| Moose Jaw Cold Storage Co., Moose Jaw, Sask.              | 189,764               | 90,000 00    | 27,000 00  |
| J. H. Sansregret, Joliette, Que.                          | 23,394                | 22,444 10    | 6,733 23   |
| City Cold Storage Co., Regina, Sask.                      | 100,672               | 50,000 00    | 15,000 00  |
| The Brantford Cold Storage Co., Brantford, Ont.           | 36,000                | 29,600 00    | 8,880 00   |
| The Whyte Packing Co., Mitchell, Ont.                     | 30,600                | 21,000 00    | 6,300 00   |
| Total   | -                     | 1,800,990 04 | 540,296 98 |



**Seed Branch.** The origin of seed testing was closely associated with the general advancement and application of science to agriculture in Europe about forty years ago. It was first employed to obtain precise data from which to compute the real monetary value of seed and to determine the actual cost of pure living seed. Thus a No. 1 red clover (1912 crop re-cleaned), sells at \$16 per bushel. Its percentage purity is 99 and vitality 96. Therefore its real worth is  $\frac{99 \times 96}{100}$ , or 95 p.c. and the actual cost per bushel of pure living seed is \$16.84. A No. 3 red clover (1912 crop uncleaned) sells at \$12 per bushel. Its percentage purity is 90 and vitality 85. Therefore its real worth is  $\frac{90 \times 85}{100}$  or 76½ p.c. and the actual cost per bushel of pure living seed is \$15.83.

This purpose has continued to be one of the most important factors in seed testing on the continent of Europe. The prevalence and nature of weed seed impurities is of less importance in countries where intense systems of agriculture are practised than in comparatively new countries having cheap lands and expensive farm labour.

The real worth of seeds in relation to their price in commerce commonly shows a wide variation with such seeds as cocksfoot, the rye grasses, brome grass, the fescues and others of the finer grasses, but as a rule comparatively little variation between samples of timothy, red clover, alsike or alfalfa. Red clover seed of the 1912 crop is an exception to the rule; most farmers' lots of red clover contained a large percentage of immature, non-vital seeds.

Under the Seed Control Act timothy, alsike, red clover and alfalfa seeds are each divided into four grades according to definite standards of quality for each of Extra No. 1, No. 1, No. 2 and No. 3, and apart from the noxious nature of the impurities the spread in the general quality of the seed between the grades usually approximates an equitable spread in the real worth of the seeds as shown by analysis.

Clover seeds that contain an excess of weed seeds that are noxious though otherwise of superior quality and timothy that shows a large percentage of hulled seeds are exceptions to the rule. Such seeds are virtually ruled out of the Canadian market, because, having to be graded No. 3, their value for the Canadian market is much less than their value for other countries, where such seeds give less trouble than they do under our soil and climatic conditions or where hulled timothy seed has a greater commercial value than in North America.

Sixty-eight per cent of the work done in the Ottawa seed laboratory during the past twelve months consisted of making purity tests and the grading of grass and clover seeds. Prior to the enforcement of the Seed Control Act of 1911 about one-half of the total number of samples received for test were from farmers. During the past year there were received at the Ottawa seed laboratory 3,007 samples from farmers and 8,208 from seed merchants; and at the Calgary seed laboratory 5,615 samples from farmers and 2,092 from seed merchants. Seventy per cent of the samples received at the Calgary laboratory were of cereal grains for germination test. Out of 3,678 samples of seed oats tested at Calgary 817 samples germinated less than 63 per cent, which is two-thirds of the standard percentage vitality for good seed oats.

A certificate of grading for all timothy, red clover, alfalfa and alsike seeds sent in for that purpose was issued within twelve working hours from the time they were received.

The great bulk of the work of seed testing has to be done during the winter and early spring months. Of the total number of samples received during the past year 13.24 per cent were received in January, 15.35 in February, 25.84 in March and 15.85 in April, leaving only 29.72 per cent of the seed testing work to be done during the remaining eight months.

During April 2,021 samples were received at the Ottawa seed laboratory for purity or germination. The following were graded according to Seed Control standards:

| Name of seed    | Extra<br>No. 1 | No. 1 | No. 2 | No. 3 | Re-<br>jected | Total |
|-----------------|----------------|-------|-------|-------|---------------|-------|
|                 | No.            | No.   | No.   | No.   | No.           | No.   |
| Timothy .....   | -              | 125   | 155   | 175   | 199           | 654   |
| Red clover..... | -              | 69    | 116   | 194   | 195           | 574   |
| Alsike.....     | -              | 25    | 48    | 67    | 54            | 194   |
| Alfalfa.....    | 1              | 25    | 8     | 7     | 2             | 43    |

During the month of March 634 samples were received at the Calgary seed laboratory, as compared with 341 for the corresponding month in 1912. The samples reported upon were: 341 germination only; 203 purity and germination; 90 purity only.

GEO. H. CLARK, Seed Commissioner.

Ottawa, May 20.

## CROP REPORTS FROM OTHER COUNTRIES.

**England and Wales.** The Board of Agriculture reports (May 1) that the wet weather, which prevailed during most of April, has very generally retarded field work. On heavy, wet lands wheat has had difficulty in maintaining its condition; but on the whole the crops already in the ground look fairly satisfactory. Wheat continues to look healthy, with the exception previously noted of that which was sown late or upon land which was flooded during the winter. As regards the spring crops a considerable area still remained to be sown at the end of the month in many districts all over the country; so that the season in this respect is very late. Where the plants had come up they were nearly everywhere looking healthy and quite satisfactory. Beans and peas are also mostly satisfactory, particularly the former. Potato planting was well advanced in most parts of the east of the country, except on heavy lands, and the work had then been done mostly under favourable conditions; but the rest of the country is much more behindhand, owing to the hindrance caused by the constant wet, and in many parts planting had hardly begun by the 1st of May. Good progress was however general south of the Thames.

**New Zealand.** The following are the estimated yields in New Zealand of the crops named for the season 1912-13, according to a report issued by the Government Statistician on February 25 last: Wheat 5,705,900 bushels, oats 14,870,445 bushels, barley 1,366,552 bushels, ryegrass 27,877,334 lb., cocksfoot 7,385,456 lb., potatoes 5,817,840 bushels, turnips 242,525,285 bushels and mangolds 15,983,968 bushels.

**Germany.** The Imperial Statistical Bureau reports (April 8) that the past winter was generally favourable to the autumn-sown crops. Up to the end of January the weather remained comparatively mild with fairly copious rains. Then sharp frosts prevailed over areas free of snow, but by this time the worst part of the winter was over. In March sharp night frosts prevailed, but the days were warm and springlike; consequently good progress was made with cultivation, and the seeding of spring crops was in most parts finished by the beginning of April. Many of the reports stated that rain was required. Early sown winter crops which had developed well in the autumn had not suffered materially from frosts, and presented generally a good appearance; but crops sown late owing to delay in the clearing of the fields had not sprung up or had only feebly developed when winter set in; so that their condition left much to be desired. On the average the numerical condition of winter crops was at the beginning of April as follows: Wheat 2·7 (2·3), spelt 2·9 (1·9), rye 2·7 (2·2). The scale employed is one in which 1 = very good, 2 = good and 3 = average or medium. The figures within parentheses are those of April 1912.

**Holland.** H. M. Consul at Rotterdam reports (April 15) that owing to the late harvest of 1912 and the wet weather in the autumn winter crops were sown under unfavourable circumstances. The mild weather during the winter assisted however in a rapid development, and on the whole the prospects are satisfactory, notwithstanding the chilly weather in the beginning of April, happily followed by warm and sunny days. The prospects for rye are good in general, some harm having been done by heavy rains during winter. For wheat the reports from all districts are from good to very good, although many fields are very backward. Barley is favourably reported on from all quarters, with the exception of Zeeland and the western part of North Brabant. The mild winter and the warm weather in the early part of the year is reported to have favoured the growth of grass, and cattle were turned out as early as March 27th. The chilly weather and night frosts in the beginning of April temporarily checked growth, but the favourable weather now prevailing is bringing about an improvement. In several districts of the country clover had to be re-sown. Reports are from moderate to good in most provinces.

**Hungary.** The Hungarian Department of Agriculture has published a special detailed report on the effects of the abnormal weather which prevailed in Hungary from April 11 to 17. On April 12 the Centigrade thermometer registered below zero throughout the greater part of the country and on the right and left banks of the Danube and in districts north of the Great Plain (Nagy-Alfold) the thermometer fell to -5° Centigrade (23° F.), whilst in some parts it fell as low as -8° Centigrade (20·8° F.) The suddenness of these frosts, which came after a series of warm days in

March, and the heavy snowfalls which followed, caused general consternation amongst the managers and superintendents of the great properties as well as amongst agriculturists generally; but happily their fears proved unfounded, and the damage caused by frost and snow was not so great as was at first believed. In some parts of the country there were however serious results, especially amongst agricultural products in flower. Thus early fruits such as apricots, almonds, peaches, nuts and cherries, which had flowered extra early, perished, and in some parts there will not be a single fruit. Clover, alfalfa and tares have also sustained considerable damage. On the other hand the principal agricultural products such as wheat and other grains have only suffered insignificant damage and in some cases no damage at all.

**South Russia.** H. M. Vice Consul at Nicolaieff reports (April 19) that the sowing of spring grain has been completed throughout the governments of Kherson, Kharkov, Poltava, Kieff, Ekaterinoslav, and Taurida, except in the most northern parts. The seed was got in under the most favourable conditions, and during the past few days, after a month's fine dry weather, splendid rains have fallen everywhere. The young plants are strong and have made good growth. With a great reserve of moisture in the soil, with the surface well watered by the rains of the last few days, and with an early season, the prospects at present are as good as could be desired.

**United States.** The Crop Reporting Board of the United States Department of Agriculture estimates that on May 1 the area of winter wheat to be harvested was about 30,938,000 acres, or 4.5 p.c. (1,449,000 acres) less than the area planted last autumn, but 16.4 p.c. (4,367,000 acres) more than the area harvested last year, viz. 26,571,000 acres. The average condition of winter wheat on May 1, was 91.9, compared with 91.6 on April 1, 79.7 on May 1 1912 and 85.6, the average for the past ten years on May 1. A condition of 91.9 p.c. on May 1 is indicative of a yield per acre of approximately 16.6 bushels, assuming average variations to prevail thereafter. On the estimated area to be harvested 16.6 bushels per acre would produce 513,571,000 bushels, or 28.4 p.c. more than in 1912, 19.3 p.c. more than in 1911, and 18.3 p.c. more than in 1910. The out-turn of the crop will probably be above or below the figures given above according as the change in conditions from May 1 to harvest is above or below the average change. The average condition of rye on May 1 was 91, compared with 89.3 on April 1, 87.5 on May 1 1912 and 89.6 the average for the past ten years on May 1. The average condition of meadow (hay) lands on May 1 was 88.5 compared with 85.7 on May 1 1912 and a ten-year average on May 1 of 88.5. Stocks of hay on farms May 1 are estimated as 10,828,000 tons (14.9 p.c. of crop), against 4,744,000 tons (8.6 p.c.) on May 1 1912 and 8,673,000 tons (12.6 p.c.) on May 1 1911. The average condition of pastures on May 1 was 87.1, compared with 81.7 on May 1 1912 and a ten-year average on May 1 of 86.1. Of spring ploughing 67.2 p.c. was completed up to May 1, compared with 52.8 p.c. on May 1 1912 and a ten-year average on May 1 of 65.7. Of spring planting 57.0 p.c. was completed up to May 1, compared with 48.9 p.c. on May 1 1912 and a seven-year average on May 1 of 54.3.



## INTERNATIONAL INSTITUTE OF AGRICULTURE.

The April Bulletin of Agricultural statistics repeats figures previously given as to areas sown to fall crops in the northern hemisphere and includes the following revisions or additional data: Croatia and Slavonia 618,000 acres of wheat (16·7 p.c. less than 1911-12); 136,000 acres of rye (15·4 p.c. less); 109,000 acres of barley (18·5 p.c. less); Rumania, 3,854,000 acres of wheat (23·6 p.c. less); 208,000 acres of rye (25·9 p.c. less); 110,000 acres of barley (21·1 p.c. more). Algeria (excluding the department of Algiers) 2,780,000 acres of wheat (1·3 p.c. more); 865 acres of rye (127·3 p.c. more); 2,545,000 acres of barley (5·5 p.c. less); 408,000 acres of oats (3·3 p.c. more).

Reports on spring cultivation and seeding are given for a large number of European countries, and as a rule these operations were proceeding under good conditions. In India the condition of the wheat crop is good generally. In the Punjab, in the United and Central Provinces and in Berar, which represent about two-thirds of the total area cultivated, the rains, generally abundant and well distributed, have greatly benefited the crops. In some regions development is backward, and the harvest will therefore be late.

The following are the definitive results of the cereal harvest in Denmark, Norway and Tunis for 1912 compared with 1911:

| Country and crop | 1911      | 1912      | p.c. of 1911 | 1911       | 1912       | p.c. of 1912 | 1911           | 1912           |
|------------------|-----------|-----------|--------------|------------|------------|--------------|----------------|----------------|
|                  | acres     | acres     | p.c.         | bush.      | bush.      | p.c.         | bush. per acre | bush. per acre |
| Denmark—         |           |           |              |            |            |              |                |                |
| Wheat.....       | 100,108   | 100,108   | 100          | 4,468,509  | 3,615,119  | 80·9         | 44·61          | 36·13          |
| Rye.....         | 682,035   | 682,035   | 100          | 19,712,756 | 18,893,728 | 95·8         | 28·83          | 27·72          |
| Barley.....      | 577,521   | 577,521   | 100          | 23,025,101 | 22,042,699 | 108·5        | 39·78          | 43·31          |
| Oats.....        | 995,686   | 995,686   | 100          | 47,353,584 | 48,765,229 | 103·0        | 47·50          | 49·07          |
| Norway—          |           |           |              |            |            |              |                |                |
| Wheat.....       | 12,407    | 12,407    | 100          | 270,114    | 330,833    | 122·5        | 21·71          | 26·62          |
| Rye.....         | 37,204    | 37,204    | 100          | 947,258    | 1,040,899  | 109·9        | 25·49          | 28·04          |
| Barley.....      | 88,753    | 88,753    | 100          | 2,682,399  | 3,246,842  | 121·0        | 30·30          | 36·62          |
| Oats.....        | 262,622   | 262,622   | 100          | 9,592,521  | 12,730,864 | 132·7        | 36·47          | 48·55          |
| Tunis—           |           |           |              |            |            |              |                |                |
| Wheat.....       | 1,402,327 | 1,410,185 | 100·6        | 8,634,766  | 3,858,087  | 44·7         | 6·10           | 2·68           |
| Barley.....      | 1,193,275 | 1,188,160 | 99·6         | 13,319,583 | 3,077,283  | 23·1         | 11·15          | 2·60           |
| Oats.....        | 148,264   | 134,327   | 90·6         | 4,376,822  | 2,334,305  | 53·3         | 28·39          | 17·32          |

The fourth General Assembly of the Institute opened in Rome, Italy, on May 6 under the presidency of the Marquis R. Cappelli, delegate of Italy. The following is a list of the subjects for discussion and of the reporters thereon: (1) Finance of the Institute. (2) Results of the inquiry on the measures adopted by the governments of adhering countries for the protection of birds (M. E. de Miklos de Miklosvar, Hungary). (3) Agricultural

Statistics (Dr. T. Mueller, Germany). (4) Live Stock Statistics (Chev. V. de Pozzi, Austria). (5) Commercial Statistics (His Exc. M. G. Zabiello, Russia). (6) Statistics of Fertilisers (M. J. B. Pioda, Switzerland.) (7) Meteorological Service (M. Louis Dop, France). (8) Questions relating to international co-operation for combating plant diseases, including the question of the eventual extension to plant diseases of the International Convention against the Phylloxera (Professor Cuboni, Ethiopia). (9) Economic and Social Institutions: Insurance against hail (M. O. Bolle, Luxembourg). (10) Statistics of Agricultural Co-operation (Chev. de Pozzi, Austria.) (11) Dry Farming (M. E. de Miklos Miklosvar, Hungary).

The Canadian delegation to the General Assembly consists of Mr. Philemon Cousineau, K.C., LL.D., (president), Mr. T. K. Doherty (Canadian Commissioner of the Institute) and Mr. R. F. Stupart (Director of the Dominion Meteorological Service at Toronto).

## FUR FARMING IN CANADA.

The Commission of Conservation have published a report on Fur Farming in Canada, written by Mr. J. Walker Jones, B.S.A., under the direction of the Committee on Fisheries, Game and Fur-bearing Animals. Canada has long been known as a happy hunting ground for wild fur-bearing animals; but attempts at domestication and the successful establishment of ranches for the breeding of fur-bearing animals in captivity for the sake of their fur are of quite recent origin. In 1912 a special investigation revealed numerous instances where animals of various species were being bred in captivity for their fur. Foxes of two species and of all colour varieties, and skunk, mink, racoon, fisher, beaver and muskrat were found upon fur farms, and the marten and otter were being domesticated for their fur. In one instance the wild cat was being retained in captivity for breeding purposes, and it was even reported that the common black house cat was being bred for its fur on pioneer Ontario farms.

Whilst the report covers a large area of Canada and embraces many kinds of fur-bearing and other animals from the skunk to the reindeer, its chief interest centres in the fox-breeding industry of the Maritime provinces, especially Prince Edward Island. Corporations and partnerships with a total capitalisation of several millions have been established for farming the black or silver fox, and many are attempting to breed fur-bearing animals as foundation stock. In 1912 more than 1,000 red and blue foxes were imported into the Maritime provinces, and the high prices for furs prevailing during recent years explain why fur-farming has lately made such rapid progress. The fur-value of a high grade black fox ranges from \$500 to \$2,500; but the demand for breeders has been so great that the price has risen to \$25,000 a pair for the best quality of breeding stock.

The species of fox in the Maritime provinces is the *Vulpes rubricosa*, and the finest foxes in captivity are stated to be descendants of foxes captured in Prince Edward Island. Some believe that the native fox of the Island is a distinct sub-species or geographical race.

Part of the report is devoted to an interesting discussion of the possibilities of obtaining at will black or silver foxes in breeding, the fur of this variety being the most prized and fetching the highest prices. And here comes to the assistance of the fox breeder an application of Mendel's principles of heredity<sup>1</sup>. High scientific authority is quoted, including that of Professor W. Bateson, F.R.S., of Cambridge University, England, and of Professor W. E. Castle, of Harvard University, to show that the black or silver colour is a Mendelian recessive to red, which means that it is always possible to breed silver foxes by mating them with red foxes according to the following plan. The pups of a first cross between a red and silver fox being all red but of a bastard type with blacker points—legs, muzzles and ears—there are two methods of obtaining silver pups in the next generation. One is by mating together the progeny of the first cross which produces on the average a silver pup to three reds; and the other is by mating a red first cross pup with a black or silver fox, when half of the resulting litter are pure black or silver. In some cases breeders have become discouraged when the first cross pups have come all red and have proceeded no further; but our present knowledge of the laws of heredity based on Mendelian principles shows the possibility of breeding silver foxes at will according to known laws instead of trusting to random chance.<sup>1</sup> Professor Bateson has even expressed the opinion that a strain of silver foxes can easily be fixed.

We give the following statistics from the report as to (1) the estimated number of foxes in captivity in 1912 and (2) the sales of Prince Edward Island fox skins from 1905 to 1912.

#### 1. Foxes In Captivity In Canada 1912.

| Province                             | Silver | Cross | Bastard and red | Ranches |
|--------------------------------------|--------|-------|-----------------|---------|
|                                      | No.    | No.   | No.             | No.     |
| Prince Edward Island.....            | 650    | 150   | 1,000           | 200     |
| Nova Scotia .....                    | 32     | 30    | 150             | 13      |
| New Brunswick .....                  | 30     | 10    | 50              | 8       |
| Quebec.....                          | 40     | 10    | 50              | 6       |
| Ontario.....                         | 30     | 40    | 150             | 14      |
| Other provinces and territories..... | 18     | 10    | 50              | —       |
| Total.....                           | 800    | 250   | 1,450           | 241     |

<sup>1</sup>Gregor Johann Mendel (1822-1884), of Brunn, Austria, communicated in 1865 and published in 1866 a detailed account of his now famous experiments in the *Verhandlungen des naturforschenden Vereins in Brunn*. There they remained, their scientific importance unrecognized until 1901, when attention was again called to them by the practically simultaneous re-discovery, by De Vries, Correns and Tschermak, of the laws now known as "Mendel's principles of heredity." In England, soon after this date, a translation of Mendel's Experiments was published in the *Journal of the Royal Horticultural Society*. Mendel's principles have opened up an entirely new field of research, and scientific workers all over the world are engaged in the investigation of problems of heredity based upon their application and having for object the production of fixed types of improved varieties of both plants and animals.

## 2. Sales of Prince Edward Island Silver Fox Skins, 1905-1912.

| Year        | Skins | Total value | Average value |
|-------------|-------|-------------|---------------|
|             | No.   | \$ c.       | \$ c.         |
| 1905.....   | 11    | 5,937 33    | 539 76        |
| 1906.....   | 8     | 9,733 33    | 1,216 67      |
| 1907.....   | 28    | 22,892 80   | 817 60        |
| 1910.....   | 27    | 36,748 20   | 1,361 05      |
| 1911.....   | 10    | 10,852 67   | 1,085 27      |
| 1912.....   | 1     | 1,995 33    | 1,995 33      |
| Total ..... | 85    | 88,159 66   | -             |

Those interested in the subject should obtain a copy of the complete Report from the Commission of Conservation at Ottawa. It is a work of 166 pages with six maps and 23 half-tone illustrations, as well as seven Appendices, the last of which gives statistics of fur production and prices over a long series of years.

## CONTAGIOUS ABORTION IN CATTLE.

From time to time our crop correspondents report cases of abortion in cattle, and a correspondent in northern Alberta this month refers to an outbreak of abortion in mares. Another correspondent attributed this evil to the large amount of ergot in the native grasses. It is well known that ergot, a species of fungus on grasses, causes abortion, and losses of the same kind may be occasioned by fright, accident, overwork, etc.; but the existence of a contagious form of abortion amongst cattle has long been recognised and has been the subject of special inquiries amongst the agriculturists and veterinarians of the old country.

In consequence of the prevalence more or less in different parts of Canada of a contagious form of abortion amongst cattle the Health of Animals Branch of the Department of Agriculture has recently circulated a Bulletin on the subject, which is reprinted from Leaflet No. 108 ('Epizootic Abortion in Cattle') published by the British Board of Agriculture and Fisheries. Copies of the Bulletin are obtainable from the Publications Branch of the Department. It describes the cause of the disease as due to a very small bacillus which may assume an oval or a rod shape; it gives the methods of infection, the symptoms and the means of prevention. Amongst the latter are recommended the isolation of the animal in a special shed, the disinfection of the vacated stall by means of a liberal quantity of quicklime, the destruction of virulent material by burning or burial and the disinfection of any tools and implements used. Care must also be used with regard to the bull. For disinfecting purposes a 3 p.c. solution of carbolic acid or a 1 in 2,000 solution of corrosive sublimate may be usefully employed. Infected litter should be removed from the cowshed, soaked in coal oil and burned. Finally the leaflet, which was published in Canada last February, refers to the possibility of immunisation methods which may eventually be of considerable service in getting rid of the disease.



In his annual report to the Royal Agricultural Society of England in the Society's Journal for 1912, just published, Sir John McFadyean states that the common if not the exclusive cause of multiple cases of abortion occurring in the same herd was found by the Board of Agriculture Departmental Committee of 1905 to be a minute bacillus identical with the one which Professor Bang of Copenhagen had previously found to be the cause of epizootic abortion in cattle in Denmark. The rest of the report on this subject deals with a method of diagnosis which will enable veterinary surgeons to distinguish between cases of contagious and non-contagious abortion. The Departmental Committee found that what is termed the agglutination method of diagnosis promised to be of great service; but their experiments were not sufficiently numerous to justify hard and fast conclusions as to the absolute reliability of the method in actual practice. Sir John now states that observations since made by him in conjunction with Sir Stewart Stockman, principal veterinary officer of the Board of Agriculture, have proved that the test is one of very great value. The reader must be referred to original sources for a full description of the method; but it consists briefly in the admixture with the bacterium of the disease of blood serum from the suspected animal. When the mixture shows the presence of 'agglutinins,' which are produced in association with the bacteria causing the disease, these combine with the bacteria and render the mixture perfectly clear where otherwise it would remain hazy or turbid. The test has shown positive results in a sufficient number of cases to justify the conclusion that 'in dealing with outbreaks of abortion the agglutination test will enable one to say with absolute certainty whether the disease is of the contagious kind or not.'

This is however a test which can only be carried out by specially trained experts in a properly equipped pathological laboratory, and the method has hardly yet passed beyond the experimental stage.

## THE TRADE IN REGISTERED SEED.

By L. H. Newman, B.S.A., Secretary, Canadian Seed Growers' Association, Ottawa.

Registered seed, that is seed which represents the progeny of 'Elite Stock Seed,' which has been grown according to the regulations and which has passed the inspection of the Canadian Seed Growers' Association, has been in greater demand during the past spring than during any other year in the history of the Association. This demand was due primarily to the very unfavourable season of 1912, when the crops produced on many farms were rendered useless for seeding purposes, thus necessitating the purchase of seed by the growers. Where formerly many of these growers would have been content to purchase 'just seed,' the spring of 1913, thanks to the educational propaganda of the Dominion Seed Branch and of provincial agencies, found them anxious to invest only in seed of the purest kind and of the very best quality and breeding. Unfortunately the supply of registered seed was inadequate to meet the demand, many purchasers having to obtain seed from sources not equipped to provide a first-class article in all practical particulars.

The superiority of registered seed over ordinary seed in regard to such matters as yield, purity and uniformity of growth and maturity has everywhere been demonstrated during the past season. In order to obtain definite information showing how these two classes of seed compare in regard to the points mentioned a special letter was sent in December 1912 to all persons who had purchased registered seed for seeding during the previous spring. The replies received have been exceedingly significant. Registered Banner oats purchased by thirty growers averaged 51 bushels per acre, as compared with 43.5 bushels obtained from ordinary Banner sown on the same farm. The weight per measured bushel of registered Banner was 41 lb., while that of the non-registered seed was 35.8 lb. All growers commented specially on the superiority of this seed as regards uniformity of growth and maturity; others referred also to its remarkable purity. The following is an extract from one of many letters received: 'The Toronto oats (non-registered seed) produced a straw which was a little shorter and very much weaker, fully one-third of the piece being down when I went to cut it, while practically every bit of registered oats stood upright, although sown side by side and under the same conditions. When I went to cut it I called the attention of my man to it, and I do not care to write the words he used, but one could see the difference clear across the field.'

Steps are now being taken by the Association to encourage the organisation of local seed centres which shall avoid a general shortage in supply due to unfavourable seasons. Many farmers at present grow crops which with a little extra care might produce seed of excellent quality and purity, but the work of growers who operate independently seldom becomes widely-known or properly recognised. It is therefore the aim of the Association so to co-operate with a large number of our best growers, that it may be in a position to vouch for and to recommend the product of these growers to purchasers. There is at present a splendid opportunity for the organisation of seed centres, especially in districts which are relatively free from noxious weeds such as wild oats, the seeds of which are difficult to separate from the sample. The rapid spread of these pests makes it more and more difficult to find districts covering any very considerable area which are free from bad weeds and where the growing of high-class seed grain might be made a profitable business. This fact makes it highly desirable that as many as possible of our best districts should take up the growing of grain for seeding purposes in order that the class of seed which passes through the ordinary channels of trade may be as pure as possible.

A few of the large seed dealers in Canada have purchased considerable quantities of registered seed and have proved themselves excellent media for its wide distribution. The policy of the Association is to encourage these and all others who desire to handle registered seed, since the greater the quantity that is produced and distributed the greater is the interest likely to become in the use of high class seed of all kinds. A number of seed centres have been organised, chiefly in Ontario and Quebec, during the past spring, and the Association confidently hopes to see many more established throughout Canada during the present year. All buyers of seed would do well to keep closely in touch with these developments.

## BRITISH TRIAL OF MILKING MACHINES<sup>1</sup>.

At the Council meeting of the Royal Agricultural Society of England, held on May 7 last, Mr. Ernest Mathews, Chairman of the Dairy Committee, announced the results of the trials of milking machines which were carried out by the Society at Grange Hill Farm, Bishop Auckland, co. Durham, from April 22-25, 1913. It was decided upon the report of the Judges to award the first prize consisting of the Society's Gold Medal and £25 (\$121.67) for the "Omega" Milking Machine sent over from Flen, Sweden, and the second prize consisting of the Society's Silver Medal and £10 (\$48.67) to Messrs. Vaccar, Ltd., of Denman Street, London, S.E. A complete official report of the trials will be published, and the prize machines will be exhibited at the Society's Annual Show to be held at Bristol from July 1-5 next.

## THE WEATHER DURING APRIL.

The Dominion Meteorological Office reports that April was on the whole a very mild month over the greater part of Canada. The mean temperature was everywhere above the normal, except over a large portion of British Columbia, where it was about normal or a little below. In the prairie provinces the positive departures were most marked, the excess ranging between 3 and 8 degrees, while from Lake Superior eastward it was between 1 and 4 degrees. With some local exceptions in the province of Alberta the rainfall for the month was below the normal from the Pacific coast to the Lake Superior district, the total fall being particularly light in Manitoba and the northern portion of Saskatchewan. In Ontario from Lake Huron eastward the rainfall was in most districts above the normal. In Quebec and also in New Brunswick the total fall was slightly less than normal, while in Nova Scotia and Prince Edward Island it was above in some places and below in others.

On the whole in British Columbia the weather of April, though rather backward, was favourable throughout the province. The weather in the North-west provinces, except for a few local snowfuries on the 6th and 7th, and some light scattered showers on the 16th, was fine and warm from the beginning of the month to the 22nd or 23rd, when a change to cooler conditions occurred with showers and snowfuries in many localities. Especially severe frosts also occurred nearly everywhere on the morning of the 26th. With the exception of a temporary change to milder conditions in the southern portions of Alberta and Saskatchewan on the 26th and 27th, and in Manitoba on the 28th, the cold weather still continued on the 30th. Light showers or snowfuries were fairly general on the 29th. In Ontario the weather of April was comparatively mild with showers at frequent intervals. Heavy rains occurred over a large portion of the province on the 3rd and 10th. Moderate temperatures prevailed the first few days, but a cold wave set in on the 5th and 6th which continued to the 10th. This was followed by a period of fine warm weather to the 18th, when a change to decidedly cooler weather again occurred with showers over the greater part of the province. The highest temperatures of the month were exper-

<sup>1</sup> Previous articles on Milking Machines appeared in vol. 5, 1912, pp. 189 and 247.

ience between the 23rd and 26th, after which more moderate temperatures prevailed. No severe storms occurred on the Great Lakes after the opening of navigation. In Quebec the weather was cold and mostly unsettled, with rain and snow until the 6th, after which it was for the most part fine, although comparatively cool until the 22nd. Very high temperatures for the season prevailed from the 24th to the 28th. In the Maritime provinces unsettled weather prevailed generally during the first and second decades of the month, some heavy rains occurring from the 11th to the 13th. It was fine in all districts from the 20th to the 28th, with very high temperatures in most places after the 24th. Showers occurred on the 28th and 29th, while the month ended fair and quite cool. No severe storms and only one or two moderate gales occurred.

## PRICES OF COLONIAL AND FOREIGN PRODUCE IN BRITISH MARKETS, 1913.

WHEAT (per bushel of 60 lb.)

| Description          | April 7 |        | April 14 |        | April 21 |        | April 28 |        |
|----------------------|---------|--------|----------|--------|----------|--------|----------|--------|
|                      | £ s     | £ s    | £ s      | £ s    | £ s      | £ s    | £ s      | £ s    |
| Canadian best        | 1.13½   | -1.14½ | 1.15½    | -1.17  | -        | -      | -        | -      |
| " good               | 1.10½   | -1.11½ | 1.12½    | -1.14  | -        | -      | -        | -      |
| " No. 1              | -       | -      | -        | -      | 1.20½    | -1.21½ | 1.21½    | -1.22  |
| " No. 2              | -       | -      | -        | -      | 1.18½    | -1.19½ | 1.19½    | -1.19½ |
| " No. 3              | 1.07½   | -1.08½ | 1.09½    | -1.11½ | 1.11½    | -1.15½ | 1.15½    | -1.16½ |
| " No. 4              | -       | -      | -        | -      | 1.11½    | -1.12½ | 1.12½    | -1.13½ |
| " No. 5              | -       | -      | -        | -      | .97      | -1.00½ | .98      | -1.00½ |
| " feed               | .81     | - .83½ | .83      | - .86  | .82½     | - .85½ | .82½     | - .85½ |
| American best spring | 1.10½   | -1.13½ | 1.12½    | -1.15½ | 1.14½    | -1.17½ | 1.14½    | -1.17½ |
| " ordinary spring    | 1.07½   | -1.10½ | 1.09½    | -1.12½ | 1.11½    | -1.14½ | 1.11½    | -1.14½ |
| " red winter         | 1.07½   | -1.10½ | 1.09½    | -1.12½ | 1.11½    | -1.14½ | 1.11½    | -1.14½ |
| " hard winter        | 1.06    | -1.07½ | 1.08½    | -1.09½ | 1.08½    | -1.11½ | 1.08½    | -1.11½ |
| Australian           | 1.22½   | -1.24½ | 1.22½    | -1.23½ | 1.22½    | -1.23½ | 1.22½    | -1.23½ |
| New Zealand          | 1.17½   | -1.20  | 1.17½    | -1.20  | 1.17½    | -1.20  | 1.17½    | -1.20  |
| Russian fine         | 1.08½   | -1.11½ | 1.08½    | -1.11½ | 1.08½    | -1.11½ | 1.08½    | -1.11½ |
| " good               | 1.03    | -1.06  | 1.03     | -1.06  | 1.03     | -1.06  | 1.03     | -1.06  |
| " common             | .97½    | -1.00½ | .97½     | -1.00½ | .97½     | -1.00½ | .97½     | -1.00½ |
| Californian          | 1.14½   | -1.17½ | 1.16½    | -1.19½ | 1.16½    | -1.19½ | 1.16½    | -1.19½ |
| Blue Stem            | 1.14    | -1.16½ | 1.15½    | -1.17½ | 1.15½    | -1.17½ | 1.15½    | -1.17½ |
| White Walla          | 1.13½   | -1.14½ | 1.14½    | -1.16½ | 1.14½    | -1.16½ | 1.14½    | -1.16½ |
| Red Walla            | 1.11½   | -1.13½ | 1.13½    | -1.14½ | 1.13½    | -1.14½ | 1.13½    | -1.14½ |
| White Bombay         | 1.19½   | -1.20  | 1.20½    | -1.22  | 1.20½    | -1.22  | 1.20½    | -1.22  |
| " Calcutta           | 1.18½   | -1.19½ | 1.19½    | -1.20½ | 1.19½    | -1.20½ | 1.19½    | -1.20½ |
| " Karachi            | 1.18½   | -1.19½ | 1.19½    | -1.20½ | 1.19½    | -1.20½ | 1.19½    | -1.20½ |
| Red "                | 1.16½   | -1.17½ | 1.17½    | -1.19½ | 1.17½    | -1.19½ | 1.17½    | -1.19½ |
| Argentine            | 1.06    | -1.08½ | 1.08½    | -1.10½ | 1.08½    | -1.11½ | 1.08½    | -1.11½ |

OATS (PER BUSHEL OF 34 LB.)

| Description  | April 7 |        | April 14 |        | April 21 |        | April 28 |        |
|--------------|---------|--------|----------|--------|----------|--------|----------|--------|
|              | £ s     | £ s    | £ s      | £ s    | £ s      | £ s    | £ s      | £ s    |
| Canadian     | 0.51½   | -0.54½ | 0.51½    | -0.54½ | 0.51½    | -0.54½ | 0.51½    | -0.54½ |
| American     | 0.49½   | -0.51½ | 0.49½    | -0.51½ | 0.49½    | -0.51½ | 0.49½    | -0.51½ |
| Bahia Blanca | 0.46½   | -0.49  | 0.46½    | -0.49  | 0.49     | -0.49½ | 0.49½    | -0.50½ |
| Buenos Aires | 0.43½   | -0.46½ | 0.44½    | -0.46½ | 0.46½    | -0.47  | 0.47     | -0.47½ |
| Russian      | 0.47½   | -0.64½ | 0.47½    | -0.64½ | 0.47½    | -0.64½ | 0.47½    | -0.64½ |



## FLOUR (PER 280 LB.)

| Description                 | April 7   | April 14  | April 21  | April 28  |
|-----------------------------|-----------|-----------|-----------|-----------|
|                             | \$ c.     | \$ c.     | \$ c.     | \$ c.     |
| Pillsbury best.....         | 6.81 -    | 6.81-6.87 | 6.81-6.87 | 6.87-6.93 |
| Iron duke.....              | 6.08 -    | 6.08-6.14 | 6.08-6.14 | 6.14-6.20 |
| Minnesota first.....        | - -       | 7.30-7.42 | 7.30-7.42 | 7.36-7.48 |
| " straights.....            | - -       | 6.69-6.81 | 6.69-6.81 | 6.75-6.87 |
| Minneapolis first.....      | - -       | 6.81-6.93 | 6.81-6.93 | 6.87-7.00 |
| Duluth first.....           | - -       | 6.75-6.81 | 6.75-6.81 | 6.81-6.87 |
| American first patents..... | 7.06-7.18 | 7.06-7.18 | 7.06-7.18 | 7.12-7.24 |
| " second patents.....       | 6.81-6.93 | 6.81-6.93 | 6.81-6.93 | 6.87-7.00 |
| " first bakers'.....        | 5.96-6.08 | 5.96-6.08 | 5.96-6.08 | 6.02-6.14 |
| " second bakers'.....       | 5.84-5.96 | 5.84-5.96 | 5.84-5.96 | 5.90-6.02 |
| " low grade.....            | 4.86-4.99 | 4.86-4.99 | 4.86-4.99 | 4.92-5.05 |
| American Duluth.....        | 7.06-7.30 | - -       | - -       | - -       |
| " Minneapolis best.....     | 7.30-7.54 | - -       | - -       | - -       |
| " " good.....               | 7.06-7.30 | - -       | - -       | - -       |
| Manitoba patents.....       | 6.81-6.93 | 6.81-6.93 | 6.81-6.93 | 6.87-7.00 |
| " straights.....            | 6.57-6.69 | 6.57-6.69 | 6.57-6.69 | 6.63-6.75 |
| Kansas best.....            | 6.57-6.81 | 6.57-6.81 | 6.57-6.81 | 6.63-6.87 |
| " firsts.....               | 6.33-6.57 | 6.33-6.57 | 6.33-6.57 | 6.39-6.63 |
| " seconds.....              | 6.08-6.33 | 6.08-6.33 | 6.08-6.33 | 6.14-6.39 |
| Californian.....            | 7.54-7.79 | 7.30-7.54 | 7.30-7.54 | 7.30-7.54 |
| Hungarian best.....         | 9.25-9.49 | 9.25-9.49 | 9.25-9.49 | 9.25-9.49 |
| " fine.....                 | 9.00-9.25 | 9.00-9.25 | 9.00-9.25 | 9.00-9.25 |
| Australian.....             | 6.81-6.93 | 7.06-7.12 | 7.06-7.12 | 7.06-7.12 |
| French fine.....            | 7.54-7.79 | 7.54-7.79 | 7.54-7.79 | 7.54-7.79 |
| Belgian.....                | 7.66-7.79 | 7.54-7.79 | 7.54-7.79 | 7.54-7.79 |
| Galatz.....                 | 8.27-8.52 | 8.27-8.52 | 8.27-8.52 | 8.27-8.52 |

## FRESH MEATS (per cwt. of 100 lb.)

| Description and Market | April 2        | April 9 | April 16 | April 23 | April 30 |
|------------------------|----------------|---------|----------|----------|----------|
|                        | \$ c.          | \$ c.   | \$ c.    | \$ c.    | \$ c.    |
| Argentine frozen—      |                |         |          |          |          |
| Birmingham.....        | hind qrs 7.60  | 8.11    | 8.62     | 8.62     | 8.11     |
| " fore qrs 6.59        | 7.04           | 7.35    | 7.04     | 6.59     |          |
| Leeds.....             | hind qrs 7.60  | 8.11    | 8.62     | 8.11     | 7.86     |
| " fore qrs 6.59        | 7.04           | 7.04    | 6.84     | 6.59     |          |
| Liverpool.....         | hind qrs 7.60  | 8.62    | 8.62     | 8.62     | 8.11     |
| " fore qrs 6.59        | 7.04           | 7.04    | 7.04     | 6.59     |          |
| London.....            | hind qrs 7.60  | 8.11    | 8.11     | 8.11     | 7.86     |
| " fore qrs 6.59        | 6.84           | 6.84    | 6.84     | 6.59     |          |
| Manchester.....        | hind qrs 7.60  | 8.62    | 8.62     | 8.62     | 8.11     |
| " fore qrs 6.59        | 7.04           | 7.04    | 7.04     | 6.59     |          |
| Dundee.....            | hind qrs 7.85  | 7.85    | 8.35     | 8.62     | 8.62     |
| " fore qrs 6.85        | 6.85           | 7.35    | 7.35     | 7.10     |          |
| Edinburgh.....         | hind qrs 7.60  | 7.85    | 8.62     | 8.62     | 8.35     |
| " fore qrs 6.59        | 6.85           | 7.60    | 7.35     | 6.85     |          |
| Glasgow.....           | hind qrs 7.60  | 8.62    | 8.62     | 8.62     | 8.62     |
| " fore qrs 6.59        | 7.10           | 7.10    | 7.10     | 7.10     |          |
| Argentine chilled—     |                |         |          |          |          |
| Birmingham.....        | hind qrs 10.14 | 11.15   | 11.15    | 11.15    | 10.65    |
| " fore qrs 7.04        | 7.60           | 8.11    | 8.11     | 7.86     |          |
| Leeds.....             | hind qrs 9.63  | 10.65   | 10.89    | 10.65    | 10.65    |
| " fore qrs 7.04        | 7.60           | 8.11    | 8.11     | 7.60     |          |
| Liverpool.....         | hind qrs 9.63  | 10.65   | 11.15    | 10.14    | 10.65    |
| " fore qrs 7.04        | 7.60           | 8.11    | 8.11     | 8.11     |          |

## FRESH MEATS (per cwt. of 100 lb.)—con.

| Description and Market      | April 2 | April 9 | April 16 | April 23 | April 30 |
|-----------------------------|---------|---------|----------|----------|----------|
| Argentine chilled—con.      | \$ c.   | \$ c.   | \$ c.    | \$ c.    | \$ c.    |
| London. .... { hind qrs     | 9 63    | 11 66   | 11 15    | 10 65    | 10 65    |
| { fore qrs                  | 6 84    | 8 37    | 8 11     | 7 86     | 7 60     |
| Manchester. .... { hind qrs | 9 63    | 11 15   | 11 15    | 10 14    | 10 65    |
| { fore qrs                  | 7 04    | 8 11    | 8 11     | 8 11     | 8 11     |
| Dundee. .... { hind qrs     | 10 65   | 10 95   | 10 95    | 10 95    | 10 95    |
| { fore qrs                  | 7 60    | 8 11    | 8 62     | 8 62     | 8 35     |
| Edinburgh. .... { hind qrs  | 10 14   | 10 95   | 11 42    | 10 95    | 10 89    |
| { fore qrs                  | 7 60    | 8 11    | 8 35     | 8 35     | 8 11     |
| Glasgow. .... { hind qrs    | 9 89    | 11 66   | 11 66    | 10 95    | 10 65    |
| { fore qrs                  | 7 35    | 8 11    | 8 35     | 8 11     | 7 60     |
| Australian frozen—          |         |         |          |          |          |
| Birmingham. .... { hind qrs | 7 35    | 7 86    | 8 11     | 8 11     | 7 86     |
| { fore qrs                  | 6 84    | 7 35    | 7 35     | 7 04     | 6 84     |
| Leeds. .... { hind qrs      | 7 35    | 7 60    | 8 37     | 8 11     | 7 86     |
| { fore qrs                  | 6 59    | 7 04    | 7 04     | 6 84     | 6 59     |
| Liverpool. .... { hind qrs  | 7 04    | 7 60    | 7 60     | 7 60     | 7 60     |
| { fore qrs                  | 6 59    | 6 59    | 7 04     | 7 04     | 7 04     |
| London. .... { hind qrs     | 7 04    | 8 11    | 8 11     | 8 11     | 7 60     |
| { fore qrs                  | 6 34    | 6 59    | 6 59     | 6 59     | 6 34     |
| Manchester. .... { hind qrs | 7 04    | 7 60    | 7 60     | 7 60     | 7 60     |
| { fore qrs                  | 6 59    | 6 59    | 7 04     | 7 04     | 7 04     |
| Glasgow. .... { hind qrs    | 7 35    | 8 11    | 8 11     | 8 11     | 8 11     |
| { fore qrs                  | 6 59    | 7 10    | 7 10     | 7 10     | 7 10     |

## GREEN BACON (per cwt. of 100 lb.)

| Description and Market | April 2 |       | April 9 |       | April 16 |       | April 23 |       | April 30 |       |
|------------------------|---------|-------|---------|-------|----------|-------|----------|-------|----------|-------|
|                        | \$ c.   | \$ c. | \$ c.   | \$ c. | \$ c.    | \$ c. | \$ c.    | \$ c. | \$ c.    | \$ c. |
| Canadian sides—        |         |       |         |       |          |       |          |       |          |       |
| Bristol. ....          | 16 08   | 15 64 | 16 08   | 15 64 | 16 08    | 15 64 | 16 08    | 15 64 | 16 08    | 15 64 |
| Liverpool. ....        | 15 86   | 15 21 | 15 86   | 15 21 | 15 64    | 14 99 | 15 64    | 14 99 | 15 86    | 15 21 |
| London. ....           | 16 08   | 15 86 | 16 08   | 15 64 | 15 86    | 15 21 | 16 29    | 15 86 | 16 08    | 15 64 |
| Glasgow. ....          | 16 73   | -     | 16 73   | -     | 16 73    | -     | 16 73    | -     | 16 73    | -     |
| Can. Cumberland cuts—  |         |       |         |       |          |       |          |       |          |       |
| Liverpool. ....        | 16 95   | 15 75 | 16 95   | 15 76 | 16 95    | 15 75 | 16 40    | 14 99 | 16 29    | 14 99 |
| Glasgow. ....          | 17 16   | -     | 17 16   | -     | 17 16    | -     | 17 16    | -     | 17 16    | -     |
| Danish sides—          |         |       |         |       |          |       |          |       |          |       |
| Bristol. ....          | 17 16   | 16 51 | 17 16   | 16 51 | 16 95    | 16 29 | 16 51    | 15 86 | 16 51    | 15 86 |
| Liverpool. ....        | 16 95   | 16 51 | 16 73   | 16 08 | 16 29    | 15 64 | 16 29    | 15 86 | 16 95    | 16 29 |
| London. ....           | 16 73   | 16 29 | 16 73   | 16 29 | 16 29    | 15 64 | 16 29    | 15 86 | 16 95    | 16 29 |
| Glasgow. ....          | 16 51   | -     | 16 51   | -     | 16 51    | -     | 16 51    | -     | 16 51    | -     |

## GREEN HAM (per cwt. of 100 lb.)

| Description         | April 2 |       | April 9 |       | April 16 |       | April 23 |       | April 30 |       |
|---------------------|---------|-------|---------|-------|----------|-------|----------|-------|----------|-------|
|                     | \$      | c.    | \$      | c.    | \$       | c.    | \$       | c.    | \$       | c.    |
| Canadian long cut—  |         |       |         |       |          |       |          |       |          |       |
| Bristol .....       | 18.03   | 17.38 | 18.69   | 18.25 | 18.69    | 18.25 | 19.13    | 18.69 | 19.13    | 18.69 |
| Liverpool .....     | 18.91   | 18.03 | 18.91   | 18.03 | 18.91    | 18.03 | 18.91    | 18.03 | 18.91    | 18.03 |
| London .....        | 18.91   | 18.69 | 19.13   | 18.91 | 16.29    | 15.64 | 19.13    | 18.91 | 19.13    | 18.69 |
| American long cut—  |         |       |         |       |          |       |          |       |          |       |
| Bristol .....       | 16.73   | 16.29 | 16.95   | 16.51 | 16.95    | 16.51 | 16.95    | 16.51 | 16.95    | 16.51 |
| Liverpool .....     | 16.84   | 16.19 | 16.84   | 16.19 | 16.84    | 16.19 | 16.62    | 15.97 | 16.84    | 16.19 |
| London .....        | 16.95   | 16.73 | 17.16   | 16.51 | 17.38    | 16.51 | 18.25    | 16.95 | 17.81    | 16.95 |
| Glasgow .....       | 19.13   | -     | 19.13   | -     | 19.13    | -     | 18.91    | -     | 18.91    | -     |
| American short cut— |         |       |         |       |          |       |          |       |          |       |
| Bristol .....       | 15.86   | 15.21 | 16.29   | 15.61 | 16.29    | 15.64 | 16.08    | 15.64 | 16.08    | 15.43 |
| Liverpool .....     | 16.29   | 15.59 | 16.29   | 15.54 | 16.19    | 15.43 | 15.97    | 15.10 | 15.97    | 15.10 |
| London .....        | 16.08   | 15.64 | 15.86   | 15.43 | 15.86    | 15.64 | 15.86    | 15.64 | 15.86    | 15.64 |
| Glasgow .....       | 17.60   | -     | 17.60   | -     | 17.60    | -     | 17.38    | -     | 17.38    | -     |

## CHEESE (per cwt. of 100 lb.)

|                 |       |       |       |       |       |       |
|-----------------|-------|-------|-------|-------|-------|-------|
| Canadian—       |       |       |       |       |       |       |
| Bristol .....   | 14.12 | 13.47 | 14.01 | 13.47 | 14.01 | 13.47 |
| Liverpool ..... | 14.01 | 13.47 | 14.01 | 13.47 | 13.90 | 13.47 |
| London .....    | 14.44 | 14.12 | 14.12 | 13.90 | 14.12 | 13.90 |
| Glasgow .....   | 14.12 | -     | 14.12 | -     | 14.12 | -     |
| New Zealand—    |       |       |       |       |       |       |
| Bristol .....   | 13.47 | 13.25 | 13.47 | 13.04 | 13.26 | 12.81 |
| London .....    | 13.36 | 13.04 | 13.26 | 13.04 | 13.04 | 12.81 |
| Glasgow .....   | 13.69 | -     | 13.69 | 13.47 | 13.47 | -     |

NOTE. The prices of grain are from the Market Supplements to the "Mark Lane Express". The prices of meat and dairy produce are from the British official returns. Rate of conversion from English currency £1=84.8.

## PUBLICATIONS OF THE CENSUS AND STATISTICS OFFICE.

Copies of the undermentioned publications will so far as available be sent free on application to Archibald Blue, Chief Officer, Census and Statistics Office, Ottawa.

THE CANADA YEAR BOOK. Second Series, 1905-1911.

Each of these seven Volumes contains a complete summary of the principal events of the year and the acts of the Dominion Parliament, with statistics of population, agriculture, forestry, minerals, manufactures, trade and commerce, public accounts, banking, post office, insurance, railways, canals, marine, fisheries, etc.

LONGEVITY AND SANITATION. Bulletin VIII. The substance of addresses delivered by Archibald Blue before the McMaster Convocation and the American Public Health Association.

REPORT ON THE CENSUS OF POPULATION AND AGRICULTURE OF THE NORTHWEST PROVINCES. Manitoba, Saskatchewan and Alberta, 1906.

THE BEET SUGAR INDUSTRY. Bulletin IX. The result of an investigation of Sugar Beet production in Canada and the manufacture of the roots into refined sugar, with Appendix A consisting of the Hearings of the Customs Tariff Committee, 1905, and Appendix B, Beet Sugar Production in Posen, Germany. 75 pp., 3 illustrations.

OCCUPATIONS OF THE PEOPLE. Bulletin XI. The figures in this Bulletin are compiled from data of the Census of 1901.

BULLETINS OF THE FIFTH CENSUS OF CANADA, 1911. i. Manufactures for the year 1910. ii. Dairying Industries for the year 1910. iv. Agriculture of Nova Scotia. v. Agriculture of New Brunswick. xii. Religions of Canada. xiii. Origins of the People.



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PUBLISHED BY AUTHORITY OF HONOURABLE GEORGE E. FOSTER, MINISTER OF TRADE AND COMMERCE. CORRESPONDENCE RELATING TO THE CENSUS AND STATISTICS MONTHLY SHOULD BE ADDRESSED TO ARCHIBALD BLUR, CHIEF OFFICER OF THE CENSUS AND STATISTICS OFFICE, DEPARTMENT OF TRADE AND COMMERCE, OTTAWA, CANADA.

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## FIELD CROPS OF CANADA.

Report for the month ended May 31 1913.

In this issue of the Census and Statistics Monthly preliminary estimates are given of the areas sown to the principal grain crops as well as reports on their condition at the end of May, according to the returns received from crop-reporting correspondents throughout Canada. The reports show that the month of May proved cold and dry with frequent night frosts and that these conditions, whilst favourable to seeding, retarded the growth of the crops sown and caused them to be unseasonably backward.

The total area under wheat in Canada is provisionally estimated at 9,816,300 acres, or 57,900 acres more than in 1912, the area in spring wheat being 8,990,500 acres, or 13,100 acres more. Oats occupy 9,608,500 acres compared with 9,216,900 acres in 1912, an increase of 391,600 acres; barley occupies 1,425,200 acres, an increase of 10,000 acres; and rye 126,500 acres, a decrease of 9,610 acres. For wheat, barley and oats taken together the increase represents 459,500 acres. The estimated acreage under hay and clover is 7,475,600 acres, compared with 7,633,600 acres last year.

For the three Northwest provinces of Manitoba, Saskatchewan and Alberta the total wheat area is estimated at 9,013,800 acres, as compared with 8,961,800 acres; that of oats at 5,207,700 acres compared with 4,913,900 acres; and that of barley at 852,600 acres compared with 809,800 acres, —these differences representing increases of 52,000 acres for wheat, 293,800 acres for oats and 42,800 acres for barley, or 388,600 acres for the three crops.

On May 31 the condition of the crops was reported as generally favourable throughout Canada. Expressed in percentage of the usual standard of 100, taken as representing the promise of a full crop, the condition on May 31 for the Dominion was as follows: Fall wheat 80.62, spring wheat 91.55, oats 91.72, barley 91.19, rye 87.70, peas 88.24, mixed grains 90.15, hay and clover 81.12, pasture 85.08 and alfalfa 77. At the corresponding date last year the condition of fall wheat was only 71.46. All the other crops were then above 90, excepting rye 87.24, peas 83.85 and mixed grains 87.72. The poor condition this year of alfalfa is due to the effects of the winter and cold spring.

**I. Statistics of Field Crops, with areas of 1913 as estimated on May 31.**

| Field crops         | Areas in crops |           | Per cent of standard condition<br>May 31 |        |       |        |       |
|---------------------|----------------|-----------|--|--------|-------|--------|-------|
|                     | 1913           | 1912      | 1913                                     | 1912   | 1911  | 1910   | 1909  |
| Canada—             | acres          | acres     | p.c.                                     | p.c.   | p.c.  | p.c.   | p.c.  |
| Fall wheat.....     | 825,800        | 781,000   | 80.62                                    | 71.46  | 80.63 | 87.65  | 82.15 |
| Spring wheat.....   | 8,990,500      | 8,977,400 | 91.55                                    | 94.21  | 96.69 | 91.49  | 92.15 |
| All wheat.....      | 9,816,300      | 9,758,400 | 88.80                                    | 86.99  | 92.19 | 90.44  | —     |
| Oats.....           | 9,608,500      | 9,216,900 | 91.72                                    | 91.67  | 94.76 | 93.95  | 92.32 |
| Barley.....         | 1,425,200      | 1,415,200 | 91.19                                    | 91.08  | 93.49 | 92.94  | 91.49 |
| Rye.....            | 126,500        | 136,110   | 87.70                                    | 87.24  | 90.26 | 88.12  | 87.90 |
| Peas.....           | 212,740        | 250,820   | 88.24                                    | 83.85  | 92.15 | 93.01  | 90.59 |
| Mixed grains.....   | 501,600        | 522,100   | 90.15                                    | 87.72  | 93.84 | 94.72  | 91.71 |
| Hay and clover..... | 7,475,600      | 7,633,600 | 81.12                                    | 96.10  | 91.45 | 97.64  | 90.36 |
| Alfalfa.....        | 103,250        | 111,300   | 77.01                                    | 90.65  | —     | —      | —     |
| Pasture.....        | —              | —         | 85.08                                    | —      | —     | —      | —     |
| P. E. Island—       |                |           |  |        |       |        |       |
| Spring wheat.....   | 29,500         | 30,700    | 97.33                                    | 100.88 | 95.89 | 102.04 | 92.81 |
| Oats.....           | 181,400        | 177,000   | 97.50                                    | 101.93 | 95.67 | 101.67 | 95.30 |
| Barley.....         | 4,300          | 4,400     | 97.00                                    | 101.56 | 97.66 | 96.46  | 95.20 |
| Peas.....           | 60             | 70        | 95.83                                    | 97.50  | 95.77 | 99.67  | 91.30 |
| Mixed grains.....   | 7,500          | 7,500     | 97.54                                    | 99.22  | 98.82 | 100.49 | 98.62 |
| Hay and clover..... | 193,000        | 188,000   | 96.84                                    | 91.51  | 82.28 | 109.71 | 90.30 |
| Alfalfa.....        | 20             | 30        | 40.00                                    | 90.00  | —     | —      | —     |
| Pasture.....        | —              | —         | 93.23                                    | —      | —     | —      | —     |
| Nova Scotia—        |                |           |  |        |       |        |       |
| Spring wheat.....   | 12,500         | 12,800    | 86.25                                    | 96.66  | 92.05 | 100.00 | 92.00 |
| Oats.....           | 98,300         | 97,600    | 93.47                                    | 96.67  | 93.84 | 101.64 | 90.04 |
| Barley.....         | 5,300          | 5,600     | 85.63                                    | 92.09  | 93.16 | 97.95  | 92.40 |
| Rye.....            | 900            | 910       | 91.25                                    | 75.78  | 96.00 | 92.31  | 86.00 |
| Peas.....           | 180            | 190       | 90.21                                    | 95.16  | 89.70 | 94.40  | 95.70 |
| Mixed grains.....   | 4,190          | 4,300     | 88.61                                    | 96.35  | 96.60 | 97.56  | 89.50 |
| Hay and clover..... | 478,400        | 478,000   | 95.81                                    | 99.47  | 86.45 | 105.20 | 89.00 |
| Alfalfa.....        | 30             | 30        | 100.00                                   | 83.89  | —     | —      | —     |
| Pasture.....        | —              | —         | 92.96                                    | —      | —     | —      | —     |
| New Brunswick—      |                |           |  |        |       |        |       |
| Spring wheat.....   | 11,800         | 12,400    | 91.65                                    | 97.50  | 92.46 | 99.55  | 90.00 |
| Oats.....           | 182,300        | 186,000   | 91.58                                    | 96.58  | 93.21 | 102.63 | 89.50 |
| Barley.....         | 2,200          | 2,500     | 83.53                                    | 94.44  | 85.59 | 93.60  | 82.80 |
| Peas.....           | 500            | 560       | 81.76                                    | 96.43  | 83.18 | 96.80  | 90.14 |
| Mixed grains.....   | 1,100          | 1,300     | 89.44                                    | 93.42  | 89.73 | 96.33  | 89.95 |
| Hay and clover..... | 479,000        | 558,000   | 88.35                                    | 100.00 | 86.66 | 108.11 | 79.80 |
| Alfalfa.....        | 100            | 140       | 63.75                                    | 81.25  | —     | —      | —     |
| Pasture.....        | —              | —         | 83.48                                    | —      | —     | —      | —     |
| Quebec—             |                |           |  |        |       |        |       |
| Spring wheat.....   | 68,800         | 63,100    | 89.16                                    | 82.27  | 95.04 | 94.76  | 90.15 |
| Oats.....           | 1,191,800      | 1,170,400 | 91.42                                    | 81.90  | 92.50 | 97.74  | 93.71 |
| Barley.....         | 86,200         | 91,300    | 85.36                                    | 86.43  | 91.60 | 94.33  | 93.00 |
| Rye.....            | 16,700         | 19,200    | 86.08                                    | 79.88  | 89.63 | 91.17  | 86.16 |
| Peas.....           | 25,600         | 29,000    | 86.73                                    | 78.07  | 90.95 | 91.53  | 88.80 |
| Mixed grains.....   | 115,700        | 120,000   | 90.06                                    | 79.33  | 92.15 | 96.15  | 93.58 |
| Hay and clover..... | 2,719,800      | 2,750,000 | 78.95                                    | 96.77  | 95.42 | 105.16 | 91.69 |
| Alfalfa.....        | 9,600          | 10,000    | 75.92                                    | 86.05  | —     | —      | —     |
| Pasture.....        | —              | —         | 78.51                                    | —      | —     | —      | —     |
| Ontario—            |                |           |  |        |       |        |       |
| Fall wheat.....     | 571,000        | 561,000   | 82.27                                    | 67.52  | 77.26 | 92.56  | 83.37 |
| Spring wheat.....   | 102,600        | 110,000   | 89.56                                    | 89.05  | 97.37 | 93.86  | 86.23 |
| All wheat.....      | 673,600        | 671,000   | 84.86                                    | 75.91  | 85.78 | 93.08  | —     |
| Oats.....           | 2,711,900      | 2,637,000 | 88.21                                    | 88.36  | 92.42 | 92.53  | 88.27 |
| Barley.....         | 473,100        | 500,000   | 90.30                                    | 87.96  | 93.09 | 92.15  | 87.72 |
| Rye.....            | 86,900         | 95,000    | 85.22                                    | 86.46  | 87.91 | 86.74  | 86.92 |
| Peas.....           | 185,500        | 220,000   | 88.52                                    | 83.16  | 92.91 | 93.59  | 90.22 |

**I. Statistics of Field Crops, with areas of 1913 as estimated on May 31—con.**

| Field crops       | Areas in crops |           | Per cent of standard condition<br>May 31 |        |        |        |        |  |
|-------------------|----------------|-----------|--|--------|--------|--------|--------|--|
|                   | 1913           | 1912      | 1913                                     | 1912   | 1911   | 1910   | 1909   |  |
|                   | acres          | acres     | p.c.                                     | p.c.   | p.c.   | p.c.   | p.c.   |  |
| Ontario—con.      |                |           |  |        |        |        |        |  |
| Mixed grains      | 373,200        | 389,000   | 89.14                                    | 81.26  | 94.42  | 93.11  | 90.59  |  |
| Hay and clover    | 3,167,400      | 3,240,000 | 80.36                                    | 92.08  | 87.92  | 95.44  | 90.51  |  |
| Alfalfa           | 77,100         | 85,000    | 72.77                                    | 90.96  | —      | —      | —      |  |
| Pasture           | —              | —         | 82.80                                    | —      | —      | —      | —      |  |
| Manitoba—         |                |           |  |        |        |        |        |  |
| Fall wheat        | 3,900          | 3,100     | 69.50                                    | 87.44  | 100.45 | 79.57  | —      |  |
| Spring wheat      | 2,600,700      | 2,650,000 | 94.06                                    | 96.67  | 98.20  | 91.42  | 98.30  |  |
| All wheat         | 2,604,600      | 2,653,100 | 92.27                                    | 95.70  | 98.33  | 90.76  | —      |  |
| Oats              | 1,301,600      | 1,269,000 | 94.22                                    | 97.47  | 96.49  | 91.53  | 96.90  |  |
| Barley            | 458,000        | 454,600   | 93.38                                    | 98.16  | 98.27  | 92.13  | 96.08  |  |
| Rye               | —              | —         | 100.00                                   | 93.56  | 96.00  | 80.71  | 91.30  |  |
| Peas              | —              | —         | 87.50                                    | 96.66  | 98.57  | 91.88  | 100.00 |  |
| Mixed grains      | —              | —         | 97.00                                    | 94.00  | 100.00 | 97.08  | 98.75  |  |
| Hay and clover    | 138,800        | 141,000   | 92.30                                    | 97.90  | 99.01  | 83.88  | 91.97  |  |
| Alfalfa           | 3,300          | 2,900     | 94.58                                    | —      | —      | —      | —      |  |
| Pasture           | —              | —         | 94.78                                    | —      | —      | —      | —      |  |
| Saskatchewan—     |                |           |  |        |        |        |        |  |
| Fall wheat        | 72,000         | 53,000    | 81.50                                    | 93.28  | 95.42  | 77.06  | —      |  |
| Spring wheat      | 4,962,800      | 4,838,500 | 91.96                                    | 95.60  | 97.92  | 95.91  | 98.90  |  |
| All wheat         | 5,034,800      | 4,891,500 | 91.21                                    | 95.54  | 97.84  | 85.65  | —      |  |
| Oats              | 2,430,100      | 2,285,600 | 92.71                                    | 96.08  | 98.46  | 91.77  | 99.34  |  |
| Barley            | 208,400        | 180,300   | 93.28                                    | 96.24  | 93.33  | 92.57  | 97.85  |  |
| Rye               | —              | —         | 97.22                                    | 96.25  | 91.11  | 95.27  | 96.25  |  |
| Peas              | —              | —         | 110.00                                   | 95.00  | 100.00 | 89.07  | 102.50 |  |
| Mixed grains      | —              | —         | 97.20                                    | 92.50  | 95.76  | 96.00  | 96.25  |  |
| Hay and clover    | 25,300         | 20,600    | 95.56                                    | 101.04 | 98.02  | 70.84  | 98.47  |  |
| Alfalfa           | 1,300          | 1,100     | 90.00                                    | 95.75  | —      | —      | —      |  |
| Pasture           | —              | —         | 91.17                                    | —      | —      | —      | —      |  |
| Alberta—          |                |           |  |        |        |        |        |  |
| Fall wheat        | 176,000        | 161,000   | 74.05                                    | 76.62  | 85.70  | 70.74  | 74.86  |  |
| Spring wheat      | 1,198,400      | 1,256,200 | 93.98                                    | 95.68  | 97.45  | 85.38  | 99.17  |  |
| All wheat         | 1,374,400      | 1,417,200 | 89.08                                    | 89.33  | 92.77  | 79.60  | —      |  |
| Oats              | 1,476,000      | 1,359,300 | 94.48                                    | 94.47  | 98.45  | 87.48  | 100.09 |  |
| Barley            | 186,200        | 174,900   | 94.86                                    | 97.59  | 97.60  | 90.10  | 98.61  |  |
| Rye               | 22,000         | 21,000    | 97.22                                    | 97.59  | 101.25 | 84.30  | 98.33  |  |
| Peas              | —              | —         | 92.78                                    | 96.81  | 101.11 | 89.17  | 102.00 |  |
| Mixed grains      | —              | —         | 97.93                                    | 98.94  | 99.23  | 80.35  | 94.66  |  |
| Hay and clover    | 169,000        | 174,000   | 92.57                                    | 99.19  | 99.95  | 81.00  | 111.5  |  |
| Alfalfa           | 8,200          | 8,300     | 86.47                                    | 91.60  | —      | —      | —      |  |
| Pasture           | —              | —         | 92.82                                    | —      | —      | —      | —      |  |
| British Columbia— |                |           |  |        |        |        |        |  |
| Fall wheat        | 2,900          | 2,900     | 97.00                                    | 94.15  | 95.38  | 91.11  | —      |  |
| Spring wheat      | 3,400          | 3,700     | 98.75                                    | 99.94  | 95.81  | 94.86  | —      |  |
| All wheat         | 6,300          | 6,600     | 98.31                                    | 97.52  | 95.62  | 93.13  | —      |  |
| Oats              | 35,100         | 35,000    | 98.07                                    | 99.56  | 96.25  | 90.35  | —      |  |
| Barley            | 1,500          | 1,600     | 95.00                                    | 99.50  | 96.42  | 91.00  | —      |  |
| Rye               | —              | —         | —  | 100.00 | 100.00 | 100.00 | —      |  |
| Peas              | 900            | 1,000     | 100.00                                   | 93.67  | 94.28  | 95.33  | —      |  |
| Mixed grains      | —              | —         | 91.67                                    | 103.33 | 100.00 | 83.18  | —      |  |
| Hay and clover    | 84,900         | 84,000    | 95.86                                    | 100.63 | 97.50  | 88.54  | —      |  |
| Alfalfa           | 3,600          | 3,800     | 82.86                                    | 99.09  | 98.33  | 102.9  | —      |  |
| Pasture           | —              | —         | 94.55                                    | —      | —      | —      | —      |  |

**Interpretation of Crop Reports.** A conversion of the figures representing the condition of wheat, rye, barley and oats on May 31 from the standard of 100 as representing a full crop to a standard in which 100 represents the average yield per acre of the four years 1909-12 gives 98 for wheat, spring wheat and rye and 99 for barley and oats. That is to say, the yields anticipated of these crops according to their appearance on May 31 are respectively 2 and 1 p.c. less than those of the four-year average, assuming that conditions between now and harvest will be equal to the average conditions during the same period of the four years 1909-12.

## NOTES OF REPORTS FROM THE PROVINCES.

**Prince Edward Island.** The weather during May has been cold, and vegetation is generally backward. Fruit trees were not in blossom at the end of May; but conditions indicate good crops. A correspondent writes: "I have only four small apple trees in bearing, and have apples the whole year because I spray, while neighbours have five times the number and no apples half the year. They will not spare the time to spray during cropping or even later."

**Nova Scotia.** May has been cold, with frosts. The season consequently is very backward. In many places there has also been much rain. The prospects of the fruit crops, especially apples, appear to be good. A correspondent at Kingston sums up the situation in his district as follows: "From April 15 to May 1 very warm and vegetation advanced rapidly. May decidedly cold and backward, otherwise favourable to seeding. On May 1 fruit conditions were never more favourable; later heavy frosts occurred on several nights, particularly from the 14th to the 19th inclusive, and many think the bloom seriously affected thereby; the higher and lower altitudes seem most affected." A correspondent at Concession speaks of the establishment of a flour mill at Meteghan and states that the farmers of Clare sowed 400 bushels of fall wheat. That sown in August has a good appearance, whilst that sown later suffered from the cold.

**New Brunswick.** The month has been very cold and backward. One correspondent describes it as the coldest May in 50 years. Night frosts have done a certain amount of damage; in some cases potatoes planted were frozen where lightly covered. The pastures are backward. The fruit crops are very late, and it is feared that the frosts have damaged them in some places. It was rather too soon to judge of the fruit prospects, but the opinions expressed vary from poor to healthy and favourable.

**Quebec.** The cold, dry weather of May, whilst favourable for seeding, has considerably hindered growth; but on the whole the grain crops promise well. Frosts have damaged a good deal of the hay and clover crops; clover and alfalfa in many cases have been completely destroyed. A great deal of damage has been done to fruit trees by frosts during May, apple trees especially having suffered to such an extent that in numerous cases there will be no crop. The effects of the frosts of May were particularly disastrous in the counties of the Montreal district; a frost about the



middle of the month struck fruit trees in full bloom and destroyed all hope of a crop. Added to this, complaints of the ravages of the tent caterpillar are universal throughout the province. They have played havoc not only with forest trees, but also with the fruit trees, to which they have done incalculable damage as regards this year's fruit harvest. One correspondent however reports a fine appearance on trees treated with "Bouillie Bordelaise," and another writes: "Some farmers spray and others will do nothing, so all are destroyed."

**Ontario.** Cold weather during May has checked growth. Pastures have also been kept back. Alfalfa was killed by the frost. In eastern Ontario the caterpillars have done great damage, and much harm was done to fruit trees by frost. In central Ontario the fruit trees hold out a fine promise, the injury from frost, though reported in places, not being of very extensive character. One correspondent writes that if the frost did not hurt the fruit trees it was because the wind was always with the frost. In western Ontario frost towards the end of the month did some damage, but to what extent could not be stated. In southern Ontario fruit prospects, especially of apples, were generally good. A correspondent in Essex co. states that orchards are being ruined by the San José scale and that no efforts are being made to eradicate it. Another correspondent at Bothwell states that this pest is denuding the country of the orchards where they are not sprayed. In northern Ontario the frost caught the plum trees in blossom and destroyed any prospects of fruit.

**Manitoba.** Cold weather up to about May 20 retarded growth, but warm weather since brought on the grain crops very rapidly. They showed excellent promise at the end of the month. Garden and fruit crops, having generally escaped frost, also promise well.

**Saskatchewan.** Owing to the cold weather of the first fortnight or three weeks of May germination has been very slow. In one instance wheat sown April 19 did not come up until May 19. But when warm weather set in towards the end of the month growth was exceedingly rapid, and on May 31 the condition of the grain crops was generally very promising. Fall wheat in some sections of the northern parts of the province proved an entire failure, and the land was resown to oats and barley. Some correspondents, also in northern Saskatchewan, report a large decrease in the land cropped, giving as a reason that the soil was too wet to enable farmers to work it. The sowing of oats and barley was in arrear owing to the delay caused by spring ploughing. At Holdfast a correspondent reports that large quantities of tame grasses were being sown. In another district a considerable acreage had been sown to millet for hog pasture.

**Alberta.** The crops generally, though about a fortnight later than usual, are doing well. Several correspondents report a decrease in the wheat acreage sown this year and an increase in the areas sown to oats and barley. The decrease of wheat is attributed to the poor price and poor crop, and barley and oats are being sown with the intention of feeding to stock.

**British Columbia.** The season is backward, but crops are looking well. There has been a good show of blossoms on the fruit trees, which on the whole promise a good yield.

## DEPARTMENT OF AGRICULTURE.

**Experimental Farms and Stations.** At the Central Farm, Ottawa, the temperatures recorded during May range slightly lower than for last year, the highest being 89, the lowest 28.8 and the mean 53.73, compared with extremes of 82 and 33 and a mean temperature of 56.25 in the corresponding period of 1912. The rainfall amounts to less than half of the total in the same month last year, viz., 2.39 inches as against 5 to 15 inches in 1912. The bright sunshine averages 7.88 hours a day, compared with 6.59 hours a day for the previous May.

Mangolds were sown during the first week of May, and a four-acre field of potatoes was got in about the middle of the month, when a start was made in preparing the land for Indian corn. The planting of the corn, which was begun on the 20th, was nearly all finished by the 31st.

The apple crop at the Experimental Farm promises to be a good one this year. Owing to the cool weather the blooming season has been a long one; and the fruit appears to have set well, notwithstanding spring frosts. Every year there are many new varieties coming into bearing. Plums and small fruits suffered from the spring frosts and, as a result, the crop of these will be much reduced. The work of the Horticultural Division in the breeding of new varieties of fruits for special purposes, has been continued this season. Attention is also being given to the development of early strains of vegetables likely to prove valuable to market gardeners and to be welcomed by the people of the colder parts of Canada. Small quantities of seed, ripened here, of improved strains of tomatoes and corn have been distributed to applicants for test this spring, and these are now being grown on a larger scale for the same purpose. Beans, peas and other vegetables are also receiving attention. The work in ornamental gardening is developing, and large collections of hardy plants, including roses, phloxes, irises, pæonies, etc., have been got together for special study.

J. A. Clark, Superintendent of the Station at Charlottetown, P.E.I., reports: "The weather during May has been cool throughout; rain fell on twenty different days, vegetation being quite as backward as last season. The first seeding at this Station was done on the 13th. The early grain has been very slow in germinating, but, at the close of the month, looks strong and vigorous. The hay and pasture fields give promise of an abundant crop. The cool, moist weather has been ideal for transplanting. Tulips and narcissi have made a very fine showing this season, remaining in full bloom for a long period. At the end of the month about 75 p.c. of the seeding is completed, and many have their potatoes planted and part of the root crop in."

W. W. Baird, Superintendent of the Farm at Nappan, N.S., reports: "May for the first ten days was warm and dry. Seeding began on the 6th, and, although all grain intended for threshing has now been sown, what is

up is growing very slowly on account of much cold, wet weather. Since the 10th the prevailing winds have been north and northeast and rain has fallen on ten different dates during this time. Generally speaking a fair percentage of the cereal crop is now sown, and at the close of the month the weather has become more favourable. Clover wintered satisfactorily; but the grass crop, which appeared very encouraging at the beginning of May, has not advanced and the pastures are not very promising as yet. All live stock at the Experimental Farm is doing well. The work engaged in at this Farm, other than seeding, has included pruning and spraying orchards, cleaning up lawns and shrubs, clearing up new land, repairing roads and ditching marsh lands."

G. A. Langelier, Superintendent of the Station at Cap Ronge, Que., reports: "The mean temperature for May is more than two degrees lower than for the corresponding month of 1912, whilst the precipitation amounts to nearly five inches less. It has been an ideal month for seeding operations, and everything looks as encouraging as could be wished. There is promise of a bumper crop all around. All grain was put in during the month, and farmers will have more time than usual to attend to such work as the fixing of roads and the repairing of fences. At this Station the horticultural work has been receiving special attention, and the young orchard is in fine shape. The first pure-bred French Canadian colt was foaled on the 31st, and is quite lively."

W. C. McKillican, Superintendent of the Farm at Brandon, Man., reports: "The first three weeks of May were quite cool, frost being recorded on numerous occasions, the thermometer reaching as low as 18 degrees on the 8th. Growth during this time was very slow. The closing week, however, has been quite warm, maximum temperatures of over 80° being registered on five days; this forced a very rapid growth and at the end of the month general crop conditions are very good. There has been comparatively little rain; but much precipitation has not been needed, as the season started with a plentiful supply of moisture in the ground. About two hundred acres of the Experimental Farm have been under water, owing to the overflow of the Assiniboine River. Up to the end of the month it has been impossible to do any work on the flooded land. All crops have been got in on the land above the flooded area."

Angus Mackay, Superintendent of the Farm at Indian Head, Sask., reports: "May was cold and backward up to the 25th; then very warm weather set in, which has since resulted in grain making rapid growth. The precipitation of the month, which totals 1.9 inch, has been ample for the crops. In this district some oats are still being sown, chiefly for fodder; while fallows are being planted and disked to a large extent. Grain seeding was completed at the Experimental Farm on the 7th, and that of flax on the 8th; while potatoes were got in on the 20th and roots and corn on the 23rd. Fruit blossoms are very abundant, and the crop prospects are very promising. The cement foundation for the barn was finished early in the month and the sides and ends are being prepared for erection."

Wm. A. Munro, Superintendent of the Station at Rosthern, reports: "May has been unusually cool, and on several occasions up to the middle

of the month the temperature went down to nearly ten degrees below freezing. Notwithstanding these low temperatures there is no indication of any injury to grain, shrubs or vegetables. Corn sown on May 3rd has developed a strong root system, and has not suffered in any way from cold weather. Seeding at the Experimental Station was completed by the third week of the month and prospects so far indicate that under normal conditions the crop should be above the average. A large barn, which is being erected at the Station, is now nearing completion."

R. E. Everest, Superintendent of the Station at Scott, Sask., reports: "May, on the whole, has been fine and cool, the precipitation amounting to less than one inch, all recorded between the 17th and 31st. Growth was slow in the early part of the month; but the weather has been warmer and less dry the past fortnight, and the crops have been making excellent progress. About the middle of the month vegetable seeds were sown at this Station; and potatoes, corn and roots were got in during the week ended May 24th. Considerable time all through the month has been given to breaking; also to tree and ornamental planting."

G. H. Hutton, Superintendent of the Station at Lacombe, Alta., reports: "The first twelve days of May were cool; but since that date the temperatures have been higher, and the latter half of the month has been quite warm and growth remarkably rapid. The precipitation recorded amounts to only 0.48 of an inch; but the liberal supply of moisture which was stored up in the ground last season has carried the crops along thus far without injury from lack of rain. However, rain will be needed before long for the crops on spring ploughing and for gardens. The seeding of grain, both for threshing and green feed, has been completed. The early-sown crops are practically as far advanced as at this date in any previous year. Spring wheat now stands ten inches high on an average. Contagious abortion in mares has reduced the colt crop of the district to quite an extent. No trouble with cattle has been reported. In general the various classes of live stock at this Station are doing well."

W. H. Fairfield, Superintendent of the Station at Lethbridge, Alta., reports: "From the 1st to the 19th of May there were a number of rainy days, although the precipitation during this period amounted to only 1.64 inch. For the last ten days of the month the weather has been clear and warm, and growth has been very rapid. At the time of writing (May 31st) the winter wheat and early-sown grain crops, and particularly hay, are beginning to indicate that they are in need of moisture. However, grain throughout the district is still looking particularly well. Damage from cut-worms is being reported from a number of localities, although the loss up to the present time is not nearly so great as it was at this date a year ago. On the irrigated farms through the district alfalfa is being irrigated. At the Station the crops are looking well, although those of early grain on the non-irrigated portion are beginning to suffer for want of moisture. The trees and shrubs have come through the winter particularly well. Nearly one hundred apple trees have blooms, and the fruit appears to be setting well."

P. H. Moore, Superintendent of the Farm at Agassiz, B.C., reports: "On the whole May has been cool and showery, without much sunshine, but no frost has been recorded. The closing week, however, has been fine



and warm. The sowing of the major portion of the crops has been accomplished. The water in the Fraser River is rising rapidly, but is still below the danger mark. At the Experimental Farm the various classes of stock are in excellent condition and there is good pasture for all. At the end of the month clover is just beginning to head out, but hay will be somewhat later than last year. Mangolds and other field roots are making an excellent showing; while the grain crops are all about the average. At the date of writing only part of the corn has been planted, but the land has been put in good condition for the remainder of the crop. By careful handling it has been possible to provide enough manure to give a dressing of 16 tons per acre to the hoed crop rotations."

The records of temperature, precipitation and sunshine at the several Experimental Farms and Stations for the month of May are given in the following table:

**Meteorological Record for May, 1913.**

| Experimental Farm<br>or Station at— | Degrees of temperature, F. |        |       | Precipitation<br>in<br>inches | Hours of sunshine |        |
|-------------------------------------|----------------------------|--------|-------|-------------------------------|-------------------|--------|
|                                     | highest                    | lowest | mean  |                               | possible          | actual |
| Ottawa, Ont. ....                   | 89.0                       | 28.8   | 53.73 | 2.39                          | 462               | 244.8  |
| Charlottetown, P.E.I. .             | 68.7                       | 28.5   | 45.07 | 3.00                          | 465               | 195.6  |
| Napan, N.S. ....                    | 67.0                       | 26.0   | 47.75 | 2.38                          | 463               | 169.1  |
| Cap Rouge, Que. ....                | 85.0                       | 25.2   | 48.95 | 3.27                          | 468               | 207.4  |
| Brandon, Man. ....                  | 88.0                       | 18.0   | 48.50 | 1.04                          | 478               | 199.8  |
| Indian Head, Sask. ....             | 90.0                       | 23.6   | 48.39 | 1.90                          | 481               | 174.6  |
| Rosthern, Sask. ....                | 78.7                       | 22.1   | 46.30 | 1.26                          | 505               | 227.1  |
| Scott, Sask. ....                   | 84.9                       | 18.2   | 45.60 | .92                           | 492               | 247.3  |
| Lacombe, Alta. ....                 | 77.4                       | 18.1   | 46.81 | .48                           | 489               | 277.1  |
| Lethbridge, Alta. ....              | 83.3                       | 19.2   | 48.45 | 1.70                          | 477               | 244.8  |
| Agassiz, B.C. ....                  | 78.0                       | 33.0   | 52.22 | 6.08                          | 476               | 120.1  |

J. H. GRISDALE, Director, Experimental Farms.

Ottawa, June 10.

**Dairy and Cold Storage Branch.** At this date (June 19), owing to the unusually cool and dry weather, pastures in Ontario and Quebec are backward, and the flow of milk is below the usual standard for June. In western Ontario it is estimated that the make of cheese since May is at least 25 p.c. less than during the same period in 1912. In eastern Ontario the reduction is probably 15 p.c. and in Quebec at least 10 p.c. In the latter province, in addition to unfavourable weather conditions, more of the combined factories are making butter than was the case a year ago, and this has proved a factor in the decrease referred to.

From time to time during the past thirteen years this Branch has endeavoured to impress upon the minds of cheese-makers, factory owners and patrons the importance of using strong, well-made and well fitting boxes for their cheese; so that the risk of injury and loss during transporta-

tion to the English markets might be reduced to a minimum. Inspectors in the employ of this department have been stationed at Montreal and at other ports to see that cheese and other perishable products are carefully handled by the steamship and railway employees, and at the present time there is not much to complain of in this connection. Last summer, however, receivers of cheese at Montreal noticed that a considerable proportion of the boxes in cheese shipments arriving by rail were broken, and an investigation set on foot by this branch revealed the fact that improper piling of the boxes in the cars at the shipping points was the cause of the greater part of the breakage. Our inspectors reported that it was a common practice to pile the cheeses high in each end of the car with a vacant space across the centre into which the boxes pitched at the first heavy jolt the car received. In other cars the boxes were not stowed closely together and the knocking about they received in transit was sufficient to break a considerable percentage. As cheeses are generally hauled to the railway stations and loaded in the cars by patrons of the factory, this Office sent out a circular to newspapers and agricultural publications in eastern Ontario and Quebec calling the attention of the patrons to this matter and pointing out that all losses and expenses caused by broken boxes is ultimately paid for by them. A number of copies of this circular was sent to cheese boards for distribution and a copy was also sent direct to each cheese factory. The railways have been asked to co-operate in this movement by instructing their agents at shipping points to supervise the loading of the cheese so far as it may be possible for them to do so, and we hope that a considerable improvement will manifest itself in the condition of the boxes reaching Montreal this season.

At the end of 1912 14 dairy record centres had been organised by this Branch, and since the beginning of the year seven more have been established, making 21 in all. The following is a list of the points where the centres are located: **ONTARIO**: Alexandria, Avonmore, Oxford Mills, Frankford, Kingston, Mallorytown, Perth, Peterboro, Listowel, Woodstock, North Gower. **QUEBEC**: Way's Mills, St. Hyacinthe, St. Prosper, Shawville, Ste. Hénédine, St. George. **NOVA SCOTIA**: Scotsburn. **PRINCE EDWARD ISLAND**: Kensington. **NEW BRUNSWICK**: Sussex, St. Joseph.

J. A. RUDDICK, Commissioner.

Ottawa, June 19.

**Seed Branch.** Numerous complaints are at hand from agricultural districts in eastern Canada, particularly from Quebec and the Maritime provinces, that the losses from the unwitting use of frosted seed oats are quite general. In these districts the oat crop of 1912, because of climatic conditions, was inferior for seed, and a much larger proportion than usual has been obtained by the farmers from grain and seed merchants. Not less than 700 carloads of oats from the prairie provinces have this year been used for seeding in eastern Canada. Probably as much as 25 p.c. of the farmers, when purchasing seed, endeavoured to obtain the best and of definite varieties; but the great bulk of their seed was obtained from grain

merchants who carry No. 2 Canada Western and inferior grades of oats that have been officially graded for milling or feeding under the Canada Grain Act.

Although a considerable percentage of the total yield of oats in Canada is required for seed, and, taking the whole of Canada in an average year, nearly ten per cent of the total seed required is handled in commerce, the Canada Grain Act does not establish a separate grade of grain for seed. The grain is all graded on the basis of its value for milling or feeding. In fact the Grain Act operates in a way to destroy the value of grain that comes forward in a condition suitable for seeding. Probably 20 p.c. of the car lots of oats, when officially graded for milling, could, by slight recleaning be made sufficiently clean for seeding. But when these carlots of relatively clean grain are mixed with other car lots that are equally valuable for milling or feeding but which contain from 20 to 100 grains per lb. of wild oats, mustards and other noxious weed seeds, it is impossible thereafter, by any process of cleaning, to restore its value for seeding.

Under the present conditions it is not possible to employ the Seed Control Act in a way to secure the purpose for which it is intended, for the simple reason that there is no adequate supply of clean, sound seed grain, particularly of seed oats, available to the retail seed merchant from whom the great bulk of the seed grain is obtained by the farmers who have to purchase their supplies. It is estimated that the total loss in the oat crop of eastern Canada due to the use of inferior frosted seed will amount to several per cent of the total value of the whole crop.

The seed laboratory staff has been employed during the past month in analysing the few samples received for that purpose, in the preparation of reference collections of weed and other economic seeds for distribution to the science departments of high schools in which botany is taught, and in investigation work. Ten years ago an investigation was conducted to ascertain the quality of seeds used by farmers. This year again, at the completion of the seed testing season, each seed inspector collected a number of samples from representative localities within his district. The seed was obtained by the inspector from farmers' lots at the time of sowing, many of the samples being taken out of the grain drills or seeders in operation. More than 2,000 samples have been collected and are being examined. The results will be interesting, especially when compared with the resolutions frequently received from agricultural organisations recommending further restrictions in the commerce of seeds.

Ottawa, June 20.

GEO. H. CLARK, Seed Commissioner.

**Flea Beetles and their Control.** The Division of Entomology of the Dominion Experimental Farms has just issued as Entomological Circular No. 2 a 12 page pamphlet on Flea Beetles and their Control, prepared by Mr. Arthur Gibson, Chief Assistant Entomologist. The pamphlet describes and illustrates eleven of these beetles, some of which are particularly destructive, including Spinach, Alder, Grape Vine, Strawberry, Potato, Turnip, Radish and Hap Flea Beetles, whose names indicate the plants they attack. Copies of the pamphlet may be obtained from the Publications Branch of the Department of Agriculture.

## CROP REPORTS FROM OTHER COUNTRIES.

**England and Wales.** The Board of Agriculture and Fisheries reports (June 1) that the warmth at the end of May was generally of great benefit to all classes of crops, although it would seem that the dry weather has now lasted long enough and further rain would be desirable. Wheat is in most places looking well; the cold weather in the first part of May was by no means beneficial, but much improvement took place at the end of the month. On heavy lands a good deal is thin and still of poor colour. The area sown with barley is almost the same as last year; there is a very slight increase in acreage in the northern half of the country and a slight decrease in the south. Sowing was generally very late, and a large proportion of the crop, especially in the north, is only just showing above ground. The appearance of the crop is fair, though very variable; and, on heavy lands particularly, a good deal is thin and patchy and sometimes of poor colour. Much the same may be said of oats, of which the area is perhaps a little—1 or 2 p.c.—less than a year ago. The appearance of this crop is in most places less satisfactory than barley, the plant being often thin, while a certain amount has been ploughed up and re-sown. Beans and peas are satisfactory, particularly the former. The area under potatoes will probably prove about 1 p.c. less than last year, although a slightly increased acreage is reported in the chief potato-growing districts of Lincolnshire and Lancashire. Planting is very late and is not everywhere completed. Where showing, the young crops are very generally healthy and quite satisfactory, but this can only be said of early varieties as in most districts very little of the main crop is yet above ground. With very few exceptions all kinds of hay promise to be unusually large crops, especially seeds hay. The latter will probably yield quite 10 to 15 p.c. or more above the average, while meadow hay should also be nearly 10 p.c. above the mean. Pastures are also full of grass, and stock have generally thriven well during the month.

**Ireland.** The Irish Department of Agriculture reports (June 1) that winter sown wheat and oats are described as healthy and vigorous. Spring sowing of the oat crop was general from May 10-17, though in some counties it was not completed until near the closing days of the month. Rye is now widely sown in some counties as a catch crop for green feeding in early spring, and this season it proved of great service to the smaller stock owners. The crop promises to be up to the average. Planting of the potato crop was begun in some places early in March, but the biggest area was not put in until the middle of May. Not for many years has such a large proportion of the crop been planted so late. From every county reports state that the result of the cold and wet weather during March and April has been to cause rotting of the sets, and more especially, it is remarked, among the Up-to-Date varieties. On the other hand the nature of the season had very strongly emphasised the advantage of the boxing system. Sprouted seed planted under good conditions are now well over ground in some of the counties, and are much further advanced than those planted unsprouted.



**France.** The French Department of Agriculture published (May 22) the usual statement of areas sown to cereal crops, with notes on their condition on May 1. The following table gives the areas of these crops for the season of 1913 as compared with 1912:

| Crop        | 1912       | 1913       | Crop        | 1912      | 1913      |
|-------------|------------|------------|-------------|-----------|-----------|
|             | acres      | acres      |             | acres     | acres     |
| Wheat.....  | 16,179,000 | 16,175,000 | Barley..... | 1,869,000 | 1,867,000 |
| Maslin..... | 321,000    | 310,000    | Oats.....   | 9,896,000 | 9,881,000 |
| Rye.....    | 2,998,000  | 2,946,000  |             |           |           |

The condition of wheat on May 1 was represented by the average note for all France of 74, as compared with 75 on May 1, 1912. Winter wheat has improved in condition from 71 on January 1 to 73 on May 1. These points come within the range of 60 to 79 which in the French scale adopted signifies "fairly good".

**Germany.** The Imperial Statistical Bureau reports (May 6) that the weather of April was fairly uniform, but unfortunately the condition of the crops was not so favourable as had been hoped for from the exceedingly fine weather of March. About April 10 severe cold with stormy wind, keen night frosts and extraordinarily low day temperatures brought growth to a standstill. Then conditions changed gradually, and towards the end of the month summer weather reappeared. This fairly restored the winter sown crops; but on light soils rye remained thin and yellow tipped. On the whole however the winter crops were reported as favourable. Of the areas sown to winter crops the following percentages represented the re-ploughing necessary in consequence of winter killing: wheat 1.3, spelt 2.5, rye 0.6, clover 1.5, alfalfa 2.8. Last year the percentage re-ploughed was 4.1 for wheat and 13.7 for clover. The condition of the winter crops on May 1, with the figures of April 1 within parentheses, was as follows: wheat 2.5 (2.7), spelt 2.7 (2.9), rye 2.7 (2.7), clover 2.5 (3.5), alfalfa 2.8 (2.9), water meadows 2.3 (2.5), other meadows 2.6 (3.0). The report for the beginning of June stated that the condition of winter wheat was generally satisfactory, Spring sown crops, especially oats, were occasionally reported as damaged by drouth, animals and weeds; but on the whole the condition was satisfactory. The numerical notes for June 1 were: winter wheat 2.4, spring wheat 2.5, winter spelt 2.4, rye (winter and spring) 2.6, barley 2.4, oats 2.5, potatoes 2.7, clover 2.7, alfalfa 2.6, water meadows 2.1, other meadows 2.6. Scale 1 = very good, 2 = good, 3 = average, 4 = poor.

**Austria.** The Austrian Department of Agriculture reports (May 1) that from the end of March to April 10 the weather was warm and sunny; but then followed a period of frosts and heavy snows. Wheat and rye, which were not directly damaged by the frost, were hindered in growth, and barley and oats were yellow-tipped to a considerable extent. Warmer weather has however restored these crops, although those sown late are somewhat thin. The following statement shows the average condition of the

crops at the beginning of April and May 1912 and 1913, as expressed numerically :

| Crop              | April<br>1912 | May<br>1912 | April<br>1913 | May<br>1913 |
|-------------------|---------------|-------------|---------------|-------------|
| Wheat.....        | 2·0           | 2·4         | 2·8           | 2·6         |
| Rye.....          | 1·8           | 2·5         | 2·8           | 2·8         |
| Barley.....       | -             | 2·5         | -             | 2·2         |
| Oats.....         | -             | 2·6         | -             | 2·3         |
| Clover.....       | 3·1           | 3·4         | 2·7           | 2·6         |
| Mixed grains..... | 2·1           | 2·8         | 2·5           | 2·3         |
| Pastures.....     | 2·3           | 3·1         | 2·7           | 2·6         |

NOTE. 1=very good, 2=over average, 3=average, 4=under average, 5=poor.

**Hungary.** The Hungarian Department of Agriculture reports (May 26) that the weather during the second half of May was for the most part cool and rainy. The growth of wheat was somewhat retarded by the long duration of cool weather and the rainy season. The earlier sown spring crops are in good condition; but the later sown are generally poor, thin and weedy. Warmer weather however is effecting an improvement. Rye is coming into ear and flower; in some parts it has ceased flowering. Barley is fairly thick and growing well. Oats have recovered from the spring frosts, and owing to the late rains are growing splendidly, though in many places yellow patches caused by the cold are still to be seen. Corn in most parts of the country is reported as growing well. The qualitative valuation of the principal crops, by counties, expressed by points signifying 1 excellent, 2 good, 3 medium, 4 poor and 5 bad, is as follows :

| Crops       | Excellent (1)      | Good (2)           | Good<br>Medium<br>(2-3) | Medium<br>(3)      | Poor<br>Medium<br>(3-4) | Poor<br>(4)        |
|-------------|--------------------|--------------------|-------------------------|--------------------|-------------------------|--------------------|
|             | No. of<br>counties | No. of<br>counties | No. of<br>counties      | No. of<br>counties | No. of<br>counties      | No. of<br>counties |
| Wheat.....  | -                  | 9                  | 11                      | 39                 | 2                       | 2                  |
| Rye.....    | -                  | 7                  | 8                       | 42                 | 3                       | 3                  |
| Barley..... | 2                  | 29                 | 14                      | 18                 | -                       | -                  |
| Oats.....   | 1                  | 32                 | 15                      | 15                 | -                       | -                  |

Thus it will be seen that in the majority of counties the wheat and rye were of "medium" quality, whilst barley and oats were in most of the counties "good".

**Russia.** The Journal of Trade and Industry reports that on April 25 [o.s.] crop conditions in central and south Russia were on the whole quite satisfactory, and a good average yield was anticipated. The winter sown crops were in most districts good, and were only unsatisfactory in certain governments of Little Russia and the southwest. In the remaining districts of central and south Russia the winter sown crops were satisfactory.

H. M. Consul General at Odessa summarises official reports on the condition of the grain crops in European Russia about the middle of May (M 2 15-20 n.s.) as follows. The wet and cold autumn of 1912 had caused insufficient development of the winter grain, and also less land than usual was sown with winter grain. The mild winter, the adequate snow cover and the early spring, prospered the growing of the grain, except in limited areas on hilltops where the snow had been blown off and the growth exposed to bleak winds, and in depressions where water had damaged the plants. There was also damage from cold weather. But returning warm weather and sufficiency of winter moisture in the ground restored the plants, and on the whole the winter grain gives fair promise. The early thawing of the snows and the dry winds made it possible to till the ground and sow the spring grain earlier than usual, and the grain sprouted evenly. There is no over-development of weeds nor are insect pests reported from any large areas. All this combined makes the condition of the whole grain crop appear as decidedly above average. But there are areas where the rainfall has been very short. To bring the report up to date as regards south Russia it should be added (June 2) that more and widespread rain fell during the last days of the month. There have been considerably increased spring sowings, which to some degree make up for the serious shortages in autumn sowings; but no statistics are available to show with any exactness how the matter stands.

According to a consular report from Riga (May 13) the Russian hemp crop promises to be rather smaller than that of last season and of poorer quality.

H. M. Consul at Riga reports (June 6) that, according to the "Rigasche Rundschau" of May 22/June 4, the state of the sowings in lower Courland is unsatisfactory. The winter sowings are for the most part not "good", and in some places scarcely even "satisfactory". The summer sowings are also suffering from the drouth and the night frosts. The farmers say that fruit-trees have suffered greatly through the frost, and a satisfactory fruit crop can scarcely be hoped for.

H. M. Consul at Warsaw reports (June 4) that the rye harvest of Poland promises to be good everywhere; the prospects are less favourable for wheat, which in many districts has suffered from wet and cold weather. The same may be said of oats, which in many places will have to be ploughed in and re-sown. As regards potatoes the wet weather has prevented planting in several areas. On the other hand the hay crop promises to be good and abundant; in fact it is so large that a big surplus can be reckoned on. The heavy rains prevailing at present have disturbed the normal movement of field labour.

**United States.** The Crop Reporting Board of the U.S. Department of Agriculture estimates (June 9) that the total area sown to wheat for 1913 is 49,601,000 acres of which 18,663,000 acres are spring wheat and 30,938,000 acres are winter wheat. As compared with last year these figures represent an increase of 8.3 p.c. for all wheat and of 16.4 p.c. for winter wheat. The acreage of spring wheat is 3 p.c. less. The acreage under oats is reported as 38,341,000, or 1.1 p.c. more than last year, and of barley

7,255,000 acres, or 3·7 p.c. less than last year. The following table gives the indicated yields for 1913, with comparative figures of condition and yield:

| Crops          | Condition in per cent of normal |             |                   |            | Yield per acre    |            |                 | Total yield in millions of bushels |            |            |             |
|----------------|---------------------------------|-------------|-------------------|------------|-------------------|------------|-----------------|------------------------------------|------------|------------|-------------|
|                | June 1 1913                     | June 1 1912 | June 10 yr. aver. | May 1 1913 | 1913 <sup>1</sup> | 1912 final | 1908-1912 aver. | 1913 <sup>1</sup>                  | 1912 final | 1911 final | 1909 census |
|                | p. c.                           | p. c.       | p. c.             | p. c.      | bush.             | bush.      | bush.           | bush.                              | bush.      | bush.      | bush.       |
| Spring wheat.. | 93·5                            | 95·8        | 93·8              | —          | 13·5              | 17·2       | 13·3            | 252                                | 330        | 191        | 265         |
| Winter wheat.. | 83·5                            | 74·3        | 80·7              | 91·9       | 15·9              | 15·1       | 15·2            | 492                                | 400        | 430        | 418         |
| All wheat...   | 87·2                            | 83·3        | 86·1              | —          | 15·0              | 15·9       | 14·5            | 744                                | 730        | 621        | 683         |
| Oats.....      | 87·0                            | 91·1        | 88·4              | —          | 28·8              | 37·4       | 29·7            | 1,104                              | 1,418      | 922        | 1,007       |
| Barley.....    | 87·1                            | 91·1        | 90·5              | —          | 24·4              | 29·7       | 24·5            | 177                                | 224        | 160        | 173         |
| Rye.....       | 90·9                            | 87·7        | 89·7              | 91·0       | 16·5              | 16·8       | 16·2            | —                                  | 36         | 33         | 30          |

<sup>1</sup> Interpreted from condition reports.

The condition of hay on June 1 was 87·5 against 88·5 on May 1 and 89·8 on June 1 1912, and of pastures it was 89·2 on June 1 against 87·1 on May 1, 93·7 on June 1 1912, and 89·5 the ten-year average.

The average of prices received by producers of the United States for staple crops increased about 4·3 p.c. from May 1 to June 1, which compares with an increase of 1·2 p.c. in the same period a year ago and an average increase of 3·4 p.c. during May of the past five years. On June 1 prices of staple crops averaged about 28 p.c. lower than on like date of 1912, 5·1 p.c. lower than in 1911, 9·2 p.c. lower than 1910, and 17·3 p.c. lower than 1909 on like date. The average prices for meat animals decreased about 3·7 p.c. from April 15 to May 15, which compares with an increase of 1·5 p.c. in the same period a year ago. On May 15 prices of meat animals averaged about 10·7 p.c. higher than on like date a year ago, 27·7 p.c. higher than two years ago, and 4 p.c. lower than three years ago.

## INTERNATIONAL INSTITUTE OF AGRICULTURE.

The Bulletin of agricultural statistics for May publishes the following information respecting the area of winter-sown crops and their condition on May 1, compared with April 1 1913 and May 1 1912. Condition is expressed numerically by a percentage scale in which 100 represents the promise of a yield equal to the average yield of the past ten years, supposing the crop not to be subjected to the effects of any extraordinary phenomena up to the time of harvest.



## I. Area and Condition of Winter Crops, 1912 and 1913.

| Countries            | Winter wheat        |                |             |                  |            | Winter rye           |                |             |            |            |
|----------------------|---------------------|----------------|-------------|------------------|------------|----------------------|----------------|-------------|------------|------------|
|                      | area sown           |                | condition   |                  |            | area sown            |                | condition   |            |            |
|                      | 1912-13             | p.c. of 1911-2 | Apr. 1 1913 | May 1 1913       | May 1 1912 | 1912-13 <sup>1</sup> | p.c. of 1911-2 | Apr. 1 1913 | May 1 1913 | May 1 1912 |
|                      | 000 acres           | p.c.           | p.c.        | p.c.             | p.c.       | 000 acres            | p.c.           | p.c.        | p.c.       | p.c.       |
| Belgium              | 408                 | 100.2          | -           | -                | -          | 645                  | 102.4          | -           | -          | -          |
| Denmark              | 100                 | 100.0          | 91          | 93               | 95         | 682                  | 100.0          | 95          | 93         | 94         |
| Spain <sup>1</sup>   | 9,115               | 99.4           | 93          | 95               | 100        | 1,887                | 95.4           | 93          | 95         | 100        |
| France               | 15,568              | 99.8           | -           | -                | -          | 2,856                | 102.9          | -           | -          | -          |
| England and Wales    | 1,800 <sup>2</sup>  | 96.6           | -           | -                | -          | -                    | -              | -           | -          | -          |
| Scotland             | -                   | 90.0           | 100         | 100              | -          | -                    | -              | -           | -          | -          |
| Croatia & Slavonia   | 618                 | 83.3           | -           | -                | -          | 136                  | 84.6           | -           | -          | -          |
| Luxemburg            | 27                  | 100.0          | 110         | 136              | 100        | 26                   | 99.1           | 108         | 117        | 100        |
| Norway               | -                   | -              | -           | -                | -          | 37                   | 100.0          | -           | -          | -          |
| Netherlands          | -                   | -              | -           | 111              | -          | -                    | -              | -           | 97         | -          |
| Rumania              | 3,854               | 76.0           | 120         | 120              | 120        | 208                  | 74.1           | 120         | 120        | 120        |
| Switzerland          | 94                  | 100.4          | 94          | 94               | 100        | 54                   | 100.0          | 95          | 87         | 101        |
| Canada               | 1,087 <sup>3</sup>  | 93.0           | -           | 101 <sup>4</sup> | -          | -                    | -              | -           | -          | -          |
| United States        | 32,387 <sup>5</sup> | 97.9           | 106         | 107              | 93         | 2,443                | 98.6           | 99          | 102        | 98         |
| India                | 29,946              | 102.5          | -           | -                | -          | -                    | -              | -           | -          | -          |
| Japan                | 1,159               | 99.6           | -           | -                | -          | -                    | -              | -           | -          | -          |
| Algeria <sup>6</sup> | 2,180               | 101.7          | -           | -                | -          | 864                  | 227.3          | -           | -          | -          |
| Lower Egypt          | -                   | -              | 103         | 105              | 115        | -                    | -              | -           | -          | -          |
| Upper Egypt          | -                   | -              | 100         | 116              | 115        | -                    | -              | -           | -          | -          |
| Tunis                | 1,254               | 88.9           | 130         | 120              | 90         | -                    | -              | -           | -          | -          |

| Countries            | Winter barley |                |             |            |            | Winter oats          |                |             |            |            |
|----------------------|---------------|----------------|-------------|------------|------------|----------------------|----------------|-------------|------------|------------|
|                      | 1912-13       | p.c. of 1911-2 | Apr. 1 1913 | May 1 1913 | May 1 1912 | 1912-13 <sup>1</sup> | p.c. of 1911-2 | Apr. 1 1913 | May 1 1913 | May 1 1912 |
| Belgium              | 86            | 109.4          | -           | -          | -          | -                    | -              | -           | -          | -          |
| Spain <sup>1</sup>   | 3,496         | 111.9          | 93          | 95         | 100        | 1,052                | 96.9           | 93          | 95         | 100        |
| France               | 381           | 95.0           | -           | -          | -          | 2,037                | 102.9          | -           | -          | -          |
| Croatia & Slavonia   | 169           | 81.5           | -           | -          | -          | -                    | -              | -           | -          | -          |
| Luxemburg            | 7             | 135.1          | 130         | 102        | 101        | -                    | -              | -           | -          | -          |
| Netherlands          | -             | -              | -           | 109        | -          | -                    | -              | -           | -          | -          |
| Rumania              | 110           | 121.1          | 120         | 120        | 120        | -                    | -              | -           | 120        | 120        |
| Switzerland          | 3             | 100.0          | 94          | 93         | 102        | 82                   | 100.0          | -           | 97         | -          |
| Japan                | 3,042         | 100.1          | -           | -          | -          | -                    | -              | -           | -          | -          |
| Algeria <sup>6</sup> | 2,545         | 94.5           | -           | -          | -          | 408                  | 103.3          | -           | -          | -          |
| Lower Egypt          | -             | -              | 99          | 94         | 110        | -                    | -              | -           | -          | -          |
| Upper Egypt          | -             | -              | 100         | 117        | 100        | -                    | -              | -           | -          | -          |
| Tunis                | 1,118         | 94.1           | 120         | 120        | 80         | 148                  | 110.4          | 110         | 110        | 100        |

<sup>1</sup> Of the area sown 1.5 p.c. has been winter-killed. <sup>2</sup> Including spring wheat. <sup>3</sup> Of which 24 p.c. has been winter-killed. <sup>4</sup> 100=average for last four years. <sup>5</sup> Of which 4.5 p.c. has been winter-killed. <sup>6</sup> Not including the Department of Algiers. <sup>7</sup> 123 acres.

Table II gives the available data of areas sown and condition on May 1 1912 and 1913 of spring sown wheat, rye, barley and oats:

## II. Area and Condition of Spring Crops, 1912 and 1913.

| Countries.       | Spring wheat  |                          |            |            | Spring rye  |                          |            |            |
|------------------|---------------|--------------------------|------------|------------|-------------|--------------------------|------------|------------|
|                  | area sown     |                          | condition  |            | area sown   |                          | condition  |            |
|                  | 1913          | Per cent of area of 1912 | May 1 1912 | May 1 1913 | 1913        | Per cent of area of 1912 | May 1 1912 | May 1 1913 |
|                  | 000 acres     | p.c.                     | p.c.       | p.c.       | 000 acres   | p.c.                     | p.c.       | p.c.       |
| Belgium.....     | 2             | 50.0                     | -          | -          | -           | -                        | -          | -          |
| Spain.....       | 38            | 221.4                    | 100        | 100        | 2           | 16.7                     | 100        | 100        |
| Luxemburg.....   | 1             | 73.3                     | 104        | 112        | 2           | 40.0                     | 110        | 133        |
| Switzerland..... | 10            | 100.0                    | 96         | 97         | 6           | 100.0                    | 99         | 96         |
|                  | Spring barley |                          |            |            | Spring oats |                          |            |            |
|                  |               |                          |            |            |             |                          |            |            |
|                  | 1913          | Per cent of area of 1912 | May 1 1912 | May 1 1913 | 1913        | Per cent of area of 1912 | May 1 1912 | May 1 1913 |
|                  | 000 acres     | p.c.                     | p.c.       | p.c.       | 000 acres   | p.c.                     | p.c.       | p.c.       |
| Belgium.....     | 7             | 52.6                     | -          | -          | 704         | 111.8                    | -          | -          |
| Denmark.....     | 578           | 100.0                    | 100        | 100        | 996         | 100.0                    | 100        | 100        |
| Spain.....       | 136           | 161.8                    | 100        | 100        | 284         | 298.7                    | 100        | 100        |
| Scotland.....    | -             | -                        | -          | 100        | -           | -                        | -          | 100        |
| Luxemburg.....   | 3             | 117.3                    | 108        | 122        | 77          | 99.4                     | 100        | 117        |
| Rumania.....     | -             | -                        | -          | -          | -           | -                        | 120        | 120        |
| Switzerland..... | 10            | 100.0                    | 98         | 96         | 82          | 100.0                    | 100        | 97         |

<sup>1</sup> 272 acres. <sup>2</sup> 19 acres.

FLAX. In Austria all the flax seed sown before the frosts which occurred during the middle of April has been destroyed, and re-sowing was necessary; the seed has now germinated and development is regular. In Belgium the condition of the flax crop was good on May 1. In France rains have retarded flax sowing. The condition of the crop was average on May 1. The condition of the Irish flax crop was average on May 1. The braids are late but healthy. In Hungary the flax plants have developed vigorously in the beds, and in some regions transplanting has commenced. The condition of the flax crop in Italy is good in some provinces; in others poor. In Rumania the condition of the flax crop on May 1 1913, expressed according to the Institute's system of notation, was equal to 120 — similar to the condition last year at the same date.

AUSTRALIAN WHEAT HARVEST. According to preliminary figures concerning the wheat harvest of 1912-13 in Australia the total production is 81,207,000 bushels from 5,669,000 acres, as compared with 71,867,000 bushels from 7,438,000 acres in 1911-12. The average yield per acre is 14.27 bushels, compared with 9.67 bushels in 1911-12. The area sown is 23.7 less this year than last; but the total production is 13 p. c. more.

## POINTERS ON PRACTICAL AGRICULTURE.

In the schedules of instructions issued to crop-reporting correspondents it is announced that the Census and Statistics Office will be glad to receive short articles on subjects of practical agriculture for publication in the "Census and Statistics Monthly", such articles to relate to practical farming difficulties successfully overcome, to methods proved to be efficacious against weeds, insect attacks and fungi, to the care and treatment of live stock, and generally to any methods of successful agriculture or homestead management employed by individual farmers the more general adoption of which would prove advantageous to Canadian agriculture. The following notes in response have already been communicated. It is hoped that others will follow, and that this section of the Census Monthly may increase in usefulness and interest.

**Winter Rearing of Calves.** It is generally supposed that calves are liable to suffer from the severe cold during their first winter. An experience of the last winter tends to indicate that given suitable food they can thrive in spite of cold. We had a calf which had only half the milk of its dam in summer that proved so wild in the stable in December that we let it out again and it remained out all winter feeding around the straw pile. It got a feed of milk each day when the dam was turned out to water, and in addition it was fed about a quart of barley each day. This calf is now a better animal than those wintered in the stable getting similar treatment minus milk. It seems that cold does not hurt young stock much after all.—W. A. CODLING, Prince Albert, Sask.

**Farm Management.** I always like to get all my ploughing done in the fall, as this plan gives a chance of killing some of the small weeds in the spring. Having a small bed of Sow Thistle (*Sonchus oleraceus* L.) I sowed the field with clover and timothy, and next spring covered the bed with hardwood ashes about six inches thick. This killed all the thistle. For wild oats (*Avena fatua* L.) I cultivate as soon as possible, let the land lie for a while, then work it again and sow barley. This ripens quickly and gives a chance of getting the oats off the field. For twitch (*Agropyron repens*) I use the big cultivator two or three times and harrow the twitch to the top. Light work for brood mares keeps them in fair condition. Cattle should be turned out once daily in the winter if not too stormy. They should be fed regularly, and their stables should be kept well ventilated. They should have salt once daily on their roots when fed at noon, as well as a pinch of sulphur to keep down vermin. Sheep should be kept by themselves; they should not be too warm, but should be free from draughts.—W. PUDSEY, Fraserville, Ontario.

**Eradication of Russian Thistle.** Russian Thistle (*Salsola kali* L.) is the hardest weed to keep down in this part. Owing to its size and nature it lends itself to the sport of winds and consequently infests new fields previously clean. A fifty-acre field of my own became infested with this weed, and harvesting was made very difficult. After threshing I burned the straw, raked the field with an ordinary hay rake, got the thistles into

windrows and burned them. Then I went over the field with a weeder using narrow points. As the weather was fine a number of weeds started growing and I ploughed them under. In the spring I left this piece until everything else was seeded. Some weeds showed and I went over it again with the cultivator, this time using broad shovel points. The lever harrows followed and then the land was seeded. The result was a nice, clean field, as the grain started first and grew rapidly. This year I am summer tilling the field.—ALFRED MILLAR, Bow Island, Alberta.

**Rose Bushes as Farm Pests.** The wild rose bush and the badger bush are bad pests in this district. My plan to get rid of these is to harrow the summer fallow before ploughing. The harrowing checks the small weeds and starts other bad seeds in time to grow for the plough. By no means use the disk, as this cuts the bushes and starts three or four plants where only one plant grew before. For summer fallow ploughing use a 14 single furrow sulky plough, with four or even five horses according to strength and size. By taking plenty of time with the levers the furrow should be not less than six inches deep, or seven if you have the power. About the first week in July start to cultivate the land already ploughed and at the end of July use the packer. This I find leaves the land in excellent shape until spring when I use the flat harrow before the drill. Burn the bush and rubbish about harvest time.—ARCHIBALD STACEY, Lorie, Sask.

**Sowing of Bad Seed.** I find it very regrettable that many farmers do not yet understand the injury they do themselves by infesting their land with weeds through the use of bad seed. Who can make the majority of farmers understand how greatly it would be to their advantage to profit by the offer of the Department of Agriculture to analyse each year the seeds we wish to sow, and this with no expense on our part? We might possibly achieve better results if every year in February or March the secretaries of the farmers' clubs would procure samples of seed and send them for analysis to the Seed Branch. They could then advise the members of their clubs that those who wish to buy seed certified by the Government can procure it from such and such merchants and could indicate the numbers of the seed certified and recognised as good. On our farm at Juvenat we have few weeds or none, because every year we have analysed the seeds that we desire to sow.—FRÈRE CHRYSOTÈLE, Juvenat St. Anne des Frères Maristes, N.-D. de Lévis, Que.

**Purchase of Seed Oats.** Oats purchased in Prince Edward Island for seed have germinated well and are giving good satisfaction so far. Some who purchased western oats complain that they do not germinate, and in one case I know of, the fields had to be sown this year a second time. White oats grown in New Brunswick and Prince Edward Island have a yellow cast of colour in the hull, while the western oats complained of have a very white hull and a nice plump appearance. Farmers in this section have been in the habit in former years of sowing any kind of oat that came to hand at seeding time; but after the experience of last year they should be more particular.—S. J. SHANKLIN, St. John, N. B.



## AGRICULTURE IN THE PROVINCE OF QUEBEC.

Census Bulletin VI, dated April 9 1913, gives, subject to final revision, the results of the agricultural census of 1911 for the province of Quebec, with comparative data of the census of 1901. The areas and production of the field crops of Quebec relate to the years 1900 and 1910, while the details collected as to tenure and live stock relate to the year of the census 1911. The tables in the Bulletin are prefaced by historical particulars relating to former censuses. From these we learn that the first nominal census in the province of Quebec, that is to say, a record of each individual and of his belongings the results of which are known, took place in 1665. At this date the population of Quebec, then called New France, was returned as 3,215, of whom 2,034 were males and 1,181 were females. Other censuses were taken at frequent intervals between 1665 and 1851, and since the latter date a census has been taken in the first year of each decade. The total population of the province, as returned in 1911, was 1,032,618, an increase of 39,951 since 1901. Out of a total land area of 218,723,687 acres, which does not include the new territory added by the Extension of Boundaries Act of 1912, 15,576,809 acres are in agricultural occupation, of which 14,800,074 acres are owned and 776,735 acres are leased or rented, the proportions being 95 p.c. owned and 5 p.c. leased or rented. The land occupied as farm land in 1911 was only 7.12 p.c. of the total land area of the province.

The total number of holdings in 1911 was 159,554 as against 150,599 in 1901, and the average size per holding was therefore 97.63 acres as against 95.90 acres in 1901. Occupiers number 159,554, compared with 150,599 in 1901, and the following table shows their distribution in 1901 and 1911 according to size of holding :

| Occupiers of             | 1901   | 1911   | Occupiers of           | 1901    | 1911    |
|--------------------------|--------|--------|------------------------|---------|---------|
|                          | No.    | No.    |                        | No.     | No.     |
| Under 1 acre .....       | 10,489 | 9,938  | 51 to 100 acres .....  | 45,813  | 49,040  |
| 1 to under 5 acres. .... | 9,352  | 11,169 | 101 to 200 acres.....  | 44,216  | 46,104  |
| 5 to 10 acres .....      | 3,708  | 4,742  | 201 acres and over.... | 16,374  | 16,373  |
| 11 to 50 acres.....      | 20,047 | 22,188 | Total. ....            | 150,599 | 159,554 |

Field crops occupied a total of 5,275,990 acres in 1910 and of 5,399,223 acres in 1911, as compared with 4,704,396 acres in 1901. The following

table shows the area, total yield and yield per acre of the principal field crops of the province for the years 1900 and 1910 :

| Crop                    | Area      |           | Total yield |            | Yield per acre |        |
|-------------------------|-----------|-----------|-------------|------------|----------------|--------|
|                         | 1900      | 1910      | 1900        | 1910       | 1900           | 1910   |
|                         | acres     | acres     | bush.       | bush.      | bush.          | bush.  |
| Fall wheat.....         | 482       | 1,517     | 6,627       | 24,584     | 13.77          | 16.20  |
| Spring wheat.....       | 139,344   | 61,143    | 1,961,576   | 907,991    | 14.08          | 14.85  |
| All wheat.....          | 139,826   | 62,660    | 1,968,203   | 932,575    | 14.08          | 14.88  |
| Barley.....             | 104,135   | 101,728   | 2,535,597   | 2,378,372  | 24.34          | 23.38  |
| Oats.....               | 1,350,031 | 1,387,961 | 33,536,677  | 33,734,172 | 24.84          | 24.30  |
| Rye.....                | 19,546    | 11,039    | 211,287     | 148,925    | 10.81          | 13.41  |
| Corn for husking.....   | 28,506    | 18,802    | 1,384,331   | 575,360    | 48.56          | 30.60  |
| Buckwheat.....          | 102,673   | 124,220   | 1,849,596   | 2,468,479  | 18.01          | 19.87  |
| Beans.....              | 2,886     | 4,196     | 61,376      | 76,582     | 21.27          | 18.25  |
| Peas.....               | 77,982    | 30,303    | 908,656     | 432,098    | 11.65          | 14.25  |
| Flax.....               | 1,881     | 1,361     | 19,309      | 13,350     | 10.26          | 9.80   |
| Mixed grains.....       | 143,729   | 94,237    | 3,523,507   | 2,192,770  | 24.52          | 23.26  |
| Potatoes.....           | 127,205   | 124,598   | 17,135,739  | 15,547,671 | 134.71         | 124.78 |
| Turnips, mangolds, etc. | 9,029     | 13,964    | 3,526,187   | 3,381,599  | 390.54         | 242.17 |
|                         |           |           | tons        | tons       | tons           | tons   |
| Hay.....                | 2,548,450 | 3,224,122 | 2,581,823   | 4,726,694  | 10.10          | 1.46   |
| Alfalfa.....            | -         | 4,046     | -           | 6,520      | -              | 1.61   |
| Corn for forage.....    | 39,740    | 41,082    | 200,827     | 377,014    | 5.05           | 9.17   |
|                         |           |           | lb.         | lb.        | lb.            | lb.    |
| Tobacco.....            | 8,661     | 12,094    | 7,665,975   | 10,095,901 | 833.86         | 834.78 |
| Hops.....               | 116       | 34        | 62,930      | 17,128     | 542.50         | 503.76 |
| Grass seeds.....        | -         | -         | 2,669,856   | 1,969,656  | -              | -      |
| Clover seeds.....       | -         | -         | 144,120     | 127,100    | -              | -      |

In the next statement are given the numbers and values of the principal descriptions of farm live stock and poultry in Quebec for 1901 and 1911 :

| Description            | 1901      | 1911      | 1901       | 1911       | Increase   | Increase per cent |
|------------------------|-----------|-----------|------------|------------|------------|-------------------|
|                        | No.       | No.       | \$         | \$         | \$         | p.c.              |
| Horses.....            | 320,673   | 369,237   | 24,164,149 | 47,255,444 | 23,091,295 | 95.56             |
| Milch cows.....        | 767,925   | 753,134   | 20,757,611 | 28,265,216 | 7,507,605  | 36.22             |
| Other cattle.....      | 598,004   | 697,860   | 6,629,784  | 8,707,931  | 2,078,147  | 31.35             |
| Sheep.....             | 654,503   | 637,062   | 2,376,471  | 2,714,386  | 337,915    | 14.22             |
| Swine.....             | 404,163   | 793,348   | 3,142,925  | 6,035,468  | 2,892,543  | 92.03             |
| Turkeys.....           | 80,769    | 166,209   | -          | -          | -          | -                 |
| Geese.....             | 62,679    | 102,949   | -          | -          | -          | -                 |
| Ducks.....             | 28,080    | 60,098    | -          | -          | -          | -                 |
| Hens and chickens..... | 3,066,304 | 4,823,472 | 1,166,314  | 2,743,370  | 1,577,056  | 94.64             |

Reviewing the broad results of the census as summarised in the foregoing tables we find an increase of about 9,000 in the number of holdings ; and in their distribution the increase is spread over holdings of all sizes, except in the smallest and the largest categories. The number of occupiers of "under one acre" has diminished by 551 and that of "201 acres and over" has remained stationary. There is a noteworthy decrease in

the area under wheat, the figures being 62,660 acres as compared with 139,826 acres, or less than half the area of ten years ago. Other grain crops show decreased acreages, excepting oats, buckwheat and beans. Peas occupy less than half the acreage of ten years ago.

Satisfactory increases are shown in the numbers of all descriptions of live stock, excepting milch cows and sheep; but, as in the case of the Maritime provinces, the census results as to which were given in the March issue (Vol. 6 pp. 27-30), the most remarkable feature is the great increase in the values. This is shown in the table in relation to the increase or decrease in numbers; but the average value per unit is for horses \$127.98 in 1911 against \$75.35 in 1901, for milch cows \$37.51 against \$27.03 and for other cattle \$12.48 against \$11.08, for sheep \$4.26 against \$3.63 and for swine \$7.61 against \$7.78. For swine there is therefore a small decrease in average value; but in this case the numbers show an increase of 92 p.c.

It is stated in the Bulletin that the average wage for hired labour on farms was \$7.40 per week in 1910 as compared with \$5.04 in 1900, an increase of over 47 p.c. per week in the 10 years.

## CANADIAN FORESTRY STATISTICS.

By F. W. H. Jacombe, M.A., M. F., Ottawa.

The area of the forest-bearing land in the Dominion of Canada has been variously estimated, and even now it is not exactly known. A few years ago Mr. R. H. Campbell, Dominion Director of Forestry, after careful study and correspondence with authorities, placed the total forest area at 535,000,000 acres. The present uncertainty as to the actual extent of the forest areas of Canada bids fair, however, soon to be dispelled. Already the Government of Nova Scotia has made a rapid survey of its timber-lands, and the returns, which may be regarded as approximately correct, show that the area in that province at present actually forested is about 6,600,000 acres. The amount of coniferous (or softwood) saw-timber is in the neighbourhood of 10,000,000,000 feet, board measure, and that of pulpwood is about 24,000,000 cords. Every summer for some years past the Dominion Department of the Interior, through its Forestry Branch, has had several parties in the field investigating the resources of areas reported to be forested. During the summer of 1912, and again in the present summer, the Forestry Branch of the British Columbia Government has energetically investigated the vast forest wealth of that province. Quebec, too, has an efficient and active forest service working along similar lines.

The forests of Canada consist mostly of coniferous species: pine and spruce, with hemlock, balsam fir and tamarack in the east and Douglas fir, Western Hemlock and Western Larch in the west. In the east the hardwoods comprise poplar, birch, beech and maple with some elm, ash and a few other minor species. Only in southern Ontario is there anything like the variety of hardwoods that is to be found in the Appalachian region of the United States.

In the report for 1911 of the Dominion Director of Forestry, Mr. H. R. MacMillan, now Chief Forester for the province of British Columbia, estimated from statistics collected by the Forestry Branch that the quantity of wood actually taken from the forests of Canada in 1909 was 2,896,000,000 cubic feet, with a total value of \$166,000,000. Of this quantity about one-half (estimated at 1,430,000,000 cubic feet) was used for firewood, and of the remainder, owing to the great waste of material in the woods, only about one-half was likely to be actually used.

The Forestry Branch of the Department of the Interior has established a system for the collection of statistics relating to the different wood-manufactures of the Dominion. The first figures were published in 1908, and since then the returns have annually gained in completeness and accuracy. Returns published for the year 1911 show the following as the quantities and values of wood used :

| Description                                | Quantity      | Value      |
|--|---------------|------------|
|  |               | \$         |
| Lumber.....bd. ft.                         | 4,918,202,000 | 75,830,954 |
| Square timber for export..... tons         | 34,847        | 766,406    |
| Lath..... pieces                           | 965,235,000   | 2,212,226  |
| Shingles..... "                            | 1,838,474,000 | 3,512,078  |
| Pulpwood manufactured in Canada..... cords | 672,288       | 4,338,024  |
| Pulpwood exported (unmanufactured)..... "  | 847,939       | 5,340,592  |
| Cooperage (slack)..... pieces              | 147,374,000   | 1,465,702  |
| Cooperage (tight)..... "                   | 5,762,000     |            |
| Railway ties..... "                        | 13,683,770    | 5,237,424  |
| Poles..... "                               | 585,793       | 1,056,277  |

The statistics collected by the Forestry Branch since 1908 reveal an increasing scarcity of the more valuable species, and show that species once practically ignored are now being adopted for lumbering purposes. Even in 1908 white pine (once practically the only kind of wood used) still led in lumber manufacture ; but for some years the quantity of spruce used has exceeded that of pine, and it is now the most largely used species in the Dominion. The Douglas fir of the western provinces has made rapid progress and now stands third on the list of lumber woods. Hemlock, once entirely passed by the log-maker, stands fourth in point of quantity sawn for lumber. Similarly while spruce still easily leads among woods used for pulp, balsam fir (or "balsam")—which once had to bear the blame for nearly every poor "run" of paper manufactured—is more and more being used for pulp, though the consumption is still only one-fourth that of spruce. For railway ties jack pine (*Pinus Banksiana*) has replaced cedar, and it is first on the list, though for poles the cedar is still easily first.

**Immigration Statistics.** For the first four months of the present year the number of immigrant arrivals in Canada was 141,634, as compared with 107,609 for the corresponding period of 1912—an increase of 32 p.c.



## BRITISH TOWN LADS ON CANADIAN FARMS.

Insufficiency of labour constitutes one of the greatest of the difficulties of Canadian farming. Labour saving inventions and appliances have been adopted to an extent formerly undreamed of; but still, both east and west, the demand in Canada for farm help remains constant and unsatisfied. Consequently any well advised scheme for increasing the supply of farm helpers in Canada should and doubtless would receive every possible encouragement and support. During the past three years experimental efforts have been put forth in England to place on farms in the Overseas Dominions carefully selected lads who are willing to exchange town life in England with its low wages and uncertain prospects for the more healthy conditions (combined with hard work) and the brighter prospects of farm life in the new countries of the empire. The movement is directed by a committee in the east of London, composed largely of persons specially interested in social schemes for the welfare of young men. In 1911, fifty lads of ages ranging from 16 to 20 years were placed on farms in New Zealand under arrangements made with the New Zealand Government. The experiment is reported to have proved a success, the lads, with few exceptions, "making good" to the mutual satisfaction of employers and employed. During their first year the lads were reported to have earned a total sum of \$5,413, an average of about \$2.50 per week per head, and in addition 35 of them were found in clothes and lodging by their employers. All the boys, with the exception of three who absconded, repaid the amount of their fares to New Zealand from the earnings of their first year's work.

Last year 50 lads were brought out to Canada and placed on farms in Ontario, and letters received from many of them indicate satisfaction with their new life.

The classes of lads available for migration from large cities and towns in Great Britain to other parts of the empire include telegraph messengers, van boys and lads employed in shops, offices, warehouses and factories, who often are unable to obtain any increase of wages after 16 or 17 and whose prospects of permanent employment of a remunerative character lessen when they most need it. Although having no practical acquaintance with farm life, the city experiences of the lads have quickened their intelligence, and they are able speedily to adapt themselves to the conditions of life in a new country. The results of the more or less tentative experiments already made would seem to indicate the desirableness of concerted action on a larger scale with a view to securing a properly organised migration to Canada of eligible British lads as farm workers. The fact that the chief inspector of British immigrant children reports the receipt in one year of over 31,000 applications for the services of children sent to Canada by charitable organisations, as compared with only 2,669 children actually emigrated, shows how welcome to farmers would be some effective scheme for the placing out of lads in Canada. The secretary of the committee above referred to is Mr. T. E. Sedgwick of 33 Oriental Street, Poplar, London, E.

## THE WEATHER DURING MAY.

The Dominion Meteorological Service reports that the mean temperature for May was from one to three degrees below normal over practically the whole of the Dominion. However, on the Pacific Coast and in the vicinity of Toronto, the normal was slightly exceeded. The rainfall during the month was below normal throughout the greater part of the Dominion.

Throughout southern British Columbia the weather during the first part of May was unseasonably cool, but the latter half was much warmer. Vegetation is generally from ten days to over three weeks behind last year. Occasional heavy rains have provided ample moisture.

In the western provinces the month was somewhat cooler than average, mean temperatures being more than three degrees below normal in northern Alberta, and from one to three degrees below normal in other parts of the west. There was a large deficiency in precipitation in nearly all districts, in some sections amounting to 70 p.c. and over. In Ontario the month was somewhat cooler than average, mean temperatures ranging from one to three degrees below normal. Precipitation was deficient over most of the province, the shortage amounting in many districts to from 50 to 75 p.c. of the normal. The month was slightly colder than average throughout Quebec, temperatures being from one to two degrees below normal. The rainfall for the month was slightly less than the normal. In New Brunswick May was unseasonably cold with an excess of dull, wet days. Temperatures well below freezing were general on the 2nd, and between the 15th and 17th. In Nova Scotia at Halifax the weather was generally cool and cloudy, with comparatively few clear days. Rain occurred on nineteen days, although the aggregate fall was not excessive. At Yarmouth May proved to be a month of heavy and frequent rains and was generally cloudy and cool. Ice formed frequently. At Nappan the weather has been cool and damp. In Prince Edward Island the weather during May has been unsettled and cold, with much light rain and mist, but precipitation was scant. Snow fell on the 1st. Frosts were frequent throughout the month.

## PRICES OF COLONIAL AND FOREIGN PRODUCE IN BRITISH MARKETS, 1913.

WHEAT (per bushel of 60 lb.)

| Description               | May 5             |                     | May 12            |                     | May 19            |                     | May 26            |                     |
|---------------------------|-------------------|---------------------|-------------------|---------------------|-------------------|---------------------|-------------------|---------------------|
|                           | \$                | c                   | \$                | c                   | \$                | c                   | \$                | c                   |
| Canadian No. 1.....       | 1.22              | - 1.22              | 1.21 <sup>3</sup> | - 1.22              | 1.19 <sup>4</sup> | - 1.20 <sup>3</sup> | 1.17              | - 1.17 <sup>3</sup> |
| " No. 2.....              | 1.19 <sup>4</sup> | - 1.20 <sup>3</sup> | 1.19 <sup>1</sup> | - 1.19 <sup>3</sup> | 1.17 <sup>2</sup> | - 1.18 <sup>4</sup> | 1.13 <sup>1</sup> | - 1.14 <sup>2</sup> |
| " No. 3.....              | 1.16 <sup>1</sup> | - 1.17              | 1.15 <sup>3</sup> | - 1.16 <sup>2</sup> | 1.14              | - 1.14 <sup>3</sup> | 1.10 <sup>1</sup> | - 1.11 <sup>2</sup> |
| " No. 4.....              | 1.13 <sup>1</sup> | - 1.14              | 1.12 <sup>3</sup> | - 1.13 <sup>2</sup> | 1.11 <sup>1</sup> | - 1.11 <sup>3</sup> | 1.08 <sup>1</sup> | - 1.09 <sup>2</sup> |
| " No. 6.....              | .98 <sup>1</sup>  | - 1.01 <sup>1</sup> | .98               | - 1.00 <sup>3</sup> | .96 <sup>1</sup>  | - .99 <sup>1</sup>  | .94               | - .97 <sup>1</sup>  |
| " feed.....               | .82 <sup>2</sup>  | - .85 <sup>1</sup>  | .81 <sup>3</sup>  | - .84 <sup>1</sup>  | .81 <sup>1</sup>  | - .84 <sup>1</sup>  | .79 <sup>1</sup>  | - .82 <sup>1</sup>  |
| American best spring..... | 1.16 <sup>1</sup> | - 1.19 <sup>1</sup> | 1.16 <sup>1</sup> | - 1.19 <sup>1</sup> | 1.14 <sup>2</sup> | - 1.17 <sup>1</sup> | 1.14 <sup>1</sup> | - 1.16 <sup>1</sup> |
| " ordinary spring.....    | 1.13 <sup>1</sup> | - 1.16 <sup>1</sup> | 1.13 <sup>1</sup> | - 1.16 <sup>1</sup> | 1.11 <sup>1</sup> | - 1.14 <sup>1</sup> | 1.11 <sup>1</sup> | - 1.13 <sup>1</sup> |
| " red winter.....         | 1.13 <sup>1</sup> | - 1.16 <sup>1</sup> | 1.13 <sup>1</sup> | - 1.16 <sup>1</sup> | 1.11 <sup>1</sup> | - 1.14 <sup>1</sup> | 1.10 <sup>1</sup> | - 1.11 <sup>1</sup> |
| " hard winter.....        | 1.10 <sup>1</sup> | - 1.13 <sup>1</sup> | 1.10 <sup>1</sup> | - 1.13 <sup>1</sup> | 1.08 <sup>1</sup> | - 1.11 <sup>1</sup> | 1.08 <sup>1</sup> | - 1.10 <sup>1</sup> |

## WHEAT (per bushel of 60 lb.)—con.

| Description        | May 5 |        | May 12 |        | May 19 |        | May 26 |        |
|--------------------|-------|--------|--------|--------|--------|--------|--------|--------|
|                    | \$ c  | \$ c   | \$ c   | \$ c   | \$ c   | \$ c   | \$ c   | \$ c   |
| Australian .....   | 1.22½ | -1.23½ | 1.22½  | -1.23½ | 1.20½  | -1.23½ | 1.20½  | -1.23½ |
| New Zealand .....  | 1.20½ | -1.22  | 1.20½  | -1.22  | 1.20½  | -1.22  | 1.20½  | -1.22  |
| Russian fine ..... | 1.08½ | -1.11½ | 1.08½  | -1.11½ | 1.08½  | -1.11½ | 1.08½  | -1.11½ |
| " good .....       | 1.03  | -1.06  | 1.03   | -1.06  | 1.03   | -1.06  | 1.03   | -1.06  |
| " common .....     | .97½  | -1.00½ | .97½   | -1.00½ | .97½   | -1.00½ | .97½   | -1.00½ |
| Californian .....  | 1.17½ | -1.20½ | 1.17½  | -1.20½ | 1.17½  | -1.20½ | 1.16½  | -1.19½ |
| Blue Stem .....    | 1.17  | -1.19½ | 1.17   | -1.19½ | 1.17   | -1.19½ | 1.15½  | -1.17½ |
| White Walla .....  | 1.16½ | -1.17½ | 1.16½  | -1.17½ | 1.16½  | -1.17½ | 1.14½  | -1.16½ |
| Red Walla .....    | 1.14½ | -1.16½ | 1.14½  | -1.16½ | 1.14½  | -1.16½ | 1.13½  | -1.14½ |
| White Bombay ..... | 1.20½ | -1.22  | 1.20½  | -1.22  | 1.19½  | -1.20½ | 1.19½  | -1.20½ |
| " Calcutta .....   | 1.19½ | -1.20½ | 1.19½  | -1.20½ | 1.18½  | -1.19½ | 1.18½  | -1.19½ |
| " Karachi .....    | 1.19½ | -1.20½ | 1.19½  | -1.20½ | 1.18½  | -1.19½ | 1.18½  | -1.19½ |
| Red Karachi .....  | 1.17½ | -1.19½ | 1.17½  | -1.19½ | 1.16½  | -1.17½ | 1.16½  | -1.17½ |
| Argentine .....    | 1.11½ | -1.12½ | 1.11½  | -1.12½ | 1.11½  | -1.12½ | 1.10½  | -1.11½ |

## OATS (per bushel of 34 lb.)

| Description        | May 5 |        | May 12 |        | May 19 |        | May 26 |        |
|--------------------|-------|--------|--------|--------|--------|--------|--------|--------|
|                    | \$ c. | \$ c.  | \$ c.  | \$ c.  | \$ c.  | \$ c.  | \$ c.  | \$ c.  |
| Canadian .....     | 0.51½ | -0.54½ | 0.51½  | -0.54½ | 0.51½  | -0.54½ | 0.51½  | -0.56½ |
| American .....     | 0.49½ | -0.51½ | 0.49½  | -0.51½ | 0.49½  | -0.51½ | 0.49½  | -0.51½ |
| Bahia Blanca ..... | 0.51  | -0.51½ | 0.51   | -0.51½ | 0.51   | -0.51½ | 0.47½  | -0.49  |
| Buenos Aires ..... | 0.48½ | -0.49  | 0.48½  | -0.49  | 0.48½  | -0.49  | 0.45½  | -0.46½ |
| Russian .....      | 0.47½ | -0.64½ | 0.47½  | -0.64½ | 0.47½  | -0.64½ | 0.47½  | -0.64½ |

## FLOUR (per 280 lb.)

| Description                  | May 5 |       | May 12 |       | May 19 |       | May 26 |       |
|------------------------------|-------|-------|--------|-------|--------|-------|--------|-------|
|                              | \$ c. | \$ c. | \$ c.  | \$ c. | \$ c.  | \$ c. | \$ c.  | \$ c. |
| Pillsbury's best .....       | 7.00  | -7.06 | 7.00   | -7.06 | 6.93   | -7.00 | 6.87   | -6.93 |
| Iron Duke .....              | 6.27  | -6.33 | 6.14   | -6.20 | 6.08   | -6.14 | 6.02   | -6.08 |
| Minnesota first .....        | 7.48  | -7.60 | 7.48   | -7.60 | 7.42   | -7.54 | 7.36   | -7.48 |
| " straights .....            | 6.87  | -7.00 | 6.87   | -7.00 | 6.81   | -6.93 | 6.75   | -6.87 |
| Minneapolis first .....      | 7.00  | -7.12 | 7.00   | -7.12 | 6.93   | -7.06 | 6.87   | -7.00 |
| Duluth first .....           | 6.93  | -7.00 | 6.93   | -7.00 | 6.87   | -6.93 | 6.81   | -6.87 |
| American first patents ..... | 7.24  | -7.36 | 7.24   | -7.36 | 7.18   | -7.30 | 7.12   | -7.24 |
| " second patents .....       | 7.00  | -7.12 | 7.00   | -7.12 | 6.93   | -7.06 | 6.87   | -7.00 |
| " first bakers' .....        | 6.14  | -6.27 | 6.08   | -6.84 | 6.02   | -6.08 | 5.96   | -6.02 |
| " second bakers' .....       | 6.02  | -6.14 | 5.84   | -5.90 | 5.78   | -5.84 | 5.72   | -5.78 |
| " low grade .....            | 5.05  | -5.17 | 4.87   | -5.11 | 4.81   | -5.05 | 4.75   | -4.99 |
| Manitoba patents .....       | 7.00  | -7.12 | 7.00   | -7.12 | 6.93   | -7.06 | 6.87   | -7.00 |
| " straights .....            | 6.75  | -6.87 | 6.75   | -6.87 | 6.69   | -6.81 | 6.63   | -6.75 |
| Kansas best .....            | 6.75  | -7.00 | 6.75   | -7.00 | 6.51   | -6.75 | 6.45   | -6.69 |
| " firsts .....               | 6.51  | -6.75 | 6.33   | -6.57 | 6.27   | -6.51 | 6.20   | -6.45 |
| " seconds .....              | 6.27  | -6.51 | 6.08   | -6.33 | 6.02   | -6.27 | 5.96   | -6.20 |
| Californian .....            | 7.30  | -7.54 | 7.30   | -7.54 | 7.30   | -7.54 | 7.30   | -7.54 |
| Hungarian best .....         | 9.25  | -9.49 | 9.25   | -9.49 | 9.25   | -9.49 | 9.25   | -9.49 |
| " fine .....                 | 9.00  | -9.25 | 9.00   | -9.25 | 9.00   | -9.25 | 9.00   | -9.25 |
| Australian .....             | 7.06  | -7.18 | 7.00   | -7.06 | 7.00   | -7.06 | 7.00   | -7.06 |
| French fine .....            | 7.54  | -7.79 | 7.54   | -7.79 | 7.54   | -7.79 | 7.54   | -7.79 |
| Belgian .....                | 7.54  | -7.79 | 7.54   | -7.79 | 7.54   | -7.79 | 7.54   | -7.79 |
| Galatz .....                 | 8.27  | -8.76 | 8.27   | -8.76 | 8.27   | -8.76 | 8.27   | -8.76 |

## FRESH MEATS (per cwt. of 100 lb.)

| Description and Market | May 7 | May 14 | May 21 | May 28 |
|------------------------|-------|--------|--------|--------|
|                        | \$ c. | \$ c.  | \$ c.  | \$ c.  |
| Argentine, frozen—     |       |        |        |        |
| Birmingham. hind qrs.  | 7 86  | 7 86   | 8 11   | 8 11   |
| Birmingham. fore qrs.  | 6 59  | 6 59   | 6 59   | 6 59   |
| Leeds. hind qrs.       | 7 86  | 7 86   | 8 62   | 8 11   |
| Leeds. fore qrs.       | 6 59  | 6 59   | 6 84   | 6 84   |
| Liverpool. hind qrs.   | 7 60  | 7 60   | 7 60   | 8 11   |
| Liverpool. fore qrs.   | 6 08  | 6 59   | 6 59   | 6 59   |
| London. hind qrs.      | —     | 7 86   | 7 60   | —      |
| London. fore qrs.      | —     | 6 59   | 6 59   | —      |
| Manchester. hind qrs.  | 7 60  | 7 60   | 7 60   | 8 11   |
| Manchester. fore qrs.  | 6 08  | 6 59   | 6 59   | 6 59   |
| Dundee. hind qrs.      | 8 62  | 8 11   | 8 11   | 8 62   |
| Dundee. fore qrs.      | 6 85  | 6 85   | 6 85   | 6 85   |
| Edinburgh. hind qrs.   | 7 60  | 8 11   | 7 85   | 8 11   |
| Edinburgh. fore qrs.   | 6 59  | 6 08   | 6 33   | 6 59   |
| Glasgow. hind qrs.     | —     | 8 11   | 8 11   | 8 11   |
| Glasgow. fore qrs.     | —     | 6 59   | 6 59   | 6 59   |
| Argentine, chilled—    |       |        |        |        |
| Birmingham. hind qrs.  | 9 12  | 9 12   | 10 65  | 9 63   |
| Birmingham. fore qrs.  | 6 84  | 6 59   | 6 84   | 6 34   |
| Leeds. hind qrs.       | 8 62  | 9 63   | 10 65  | 9 12   |
| Leeds. fore qrs.       | 6 59  | 6 34   | 7 04   | 6 08   |
| Liverpool. hind qrs.   | 8 62  | 9 12   | 10 14  | 9 12   |
| Liverpool. fore qrs.   | 6 08  | 6 08   | 7 04   | 6 59   |
| London. hind qrs.      | 8 11  | 9 12   | 10 14  | 9 12   |
| London. fore qrs.      | 6 08  | 5 83   | 7 04   | 6 08   |
| Manchester. hind qrs.  | 8 62  | 9 12   | 10 14  | 9 12   |
| Manchester. fore qrs.  | 6 08  | 6 08   | 7 04   | 6 59   |
| Dundee. hind qrs.      | 9 64  | 9 64   | 10 65  | 9 64   |
| Dundee. fore qrs.      | 6 85  | 6 08   | 7 35   | 6 59   |
| Edinburgh. hind qrs.   | 9 12  | 9 64   | 10 65  | 9 12   |
| Edinburgh. fore qrs.   | 6 85  | 6 59   | 7 10   | 6 33   |
| Glasgow. hind qrs.     | 8 62  | 9 12   | 10 14  | 9 18   |
| Glasgow. fore qrs.     | 6 59  | 7 10   | 7 10   | 6 59   |
| Australian, frozen—    |       |        |        |        |
| Birmingham. hind qrs.  | 7 60  | 7 35   | 7 60   | 7 86   |
| Birmingham. fore qrs.  | 6 84  | 6 59   | 6 84   | 6 84   |
| Leeds. hind qrs.       | 7 60  | 7 60   | 8 11   | 7 86   |
| Leeds. fore qrs.       | 6 59  | 6 59   | 7 04   | 6 59   |
| Liverpool. hind qrs.   | 7 04  | 7 04   | 7 04   | 7 04   |
| Liverpool. fore qrs.   | 6 59  | 6 08   | 6 08   | 6 08   |
| London. hind qrs.      | —     | 7 60   | 7 60   | —      |
| London. fore qrs.      | —     | 6 84   | 6 59   | —      |
| Manchester. hind qrs.  | 7 04  | 7 04   | 7 04   | 7 04   |
| Manchester. fore qrs.  | 6 59  | 6 08   | 6 08   | 6 08   |
| Glasgow. hind qrs.     | —     | 8 11   | 8 11   | 8 11   |
| Glasgow. fore qrs.     | —     | 6 59   | 6 59   | 6 59   |
| Dundee. hind qrs.      | —     | —      | —      | 8 11   |
| Dundee. fore qrs.      | —     | —      | —      | —      |



## GREEN BACON (per cwt. of 100 lb.)

| Description and Market    | May 7 |       | May 14 |       | May 21 |       | May 28 |       |
|---------------------------|-------|-------|--------|-------|--------|-------|--------|-------|
|                           | \$    | c.    | \$     | c.    | \$     | c.    | \$     | c.    |
| Canadian sides—           |       |       |        |       |        |       |        |       |
| Bristol.....              | 16.73 | 16.29 | 16.73  | 16.29 | 16.95  | 16.29 | 16.95  | 16.51 |
| Liverpool.....            | 16.73 | 16.08 | 16.73  | 16.08 | 16.73  | 16.08 | 16.29  | 15.64 |
| London.....               | 16.51 | 16.08 | 17.16  | 16.51 | 17.16  | 16.73 | 16.73  | 16.51 |
| Glasgow.....              | 16.73 | -     | 16.73  | -     | -      | -     | -      | -     |
| Canadian Cumberland cuts— |       |       |        |       |        |       |        |       |
| Liverpool.....            | 16.51 | 15.21 | 16.51  | 15.21 | 16.51  | 15.64 | 16.51  | 15.64 |
| Glasgow.....              | 17.16 | -     | 17.16  | -     | 17.38  | -     | 17.38  | -     |
| Danish sides—             |       |       |        |       |        |       |        |       |
| Bristol.....              | 17.16 | 16.29 | 17.16  | 16.29 | 17.16  | 16.29 | 17.81  | 16.95 |
| Liverpool.....            | 17.38 | 16.51 | 17.60  | 16.95 | 17.60  | 16.95 | 17.16  | 16.29 |
| London.....               | 17.38 | 16.73 | 17.81  | 16.95 | 17.81  | 16.95 | 17.38  | 16.95 |
| Glasgow.....              | 16.51 | -     | 16.95  | -     | 16.95  | -     | 16.95  | -     |

## GREEN HAM (per cwt. of 100 lb.)

| Description and Market | May 7 |       | May 14 |       | May 21 |       | May 28 |       |
|------------------------|-------|-------|--------|-------|--------|-------|--------|-------|
|                        | \$    | c.    | \$     | c.    | \$     | c.    | \$     | c.    |
| Canadian long cut—     |       |       |        |       |        |       |        |       |
| Bristol.....           | 19.13 | 18.69 | 19.13  | 18.69 | 19.13  | 18.69 | 19.56  | 18.69 |
| Liverpool.....         | 18.91 | 18.03 | 18.91  | 18.03 | 18.91  | 18.03 | 18.91  | 18.03 |
| London.....            | 18.69 | 18.25 | 18.69  | 18.25 | 19.13  | 18.69 | 19.13  | 18.25 |
| American long cut—     |       |       |        |       |        |       |        |       |
| Bristol.....           | 17.38 | 16.73 | 17.38  | 16.73 | 17.81  | 16.73 | 18.69  | 17.38 |
| Liverpool.....         | 16.84 | 16.19 | 16.84  | 16.19 | 16.51  | 16.29 | 17.71  | 17.06 |
| London.....            | 18.25 | 17.38 | 18.25  | 17.38 | 18.25  | 16.95 | 17.81  | 16.29 |
| Glasgow.....           | -     | -     | -      | -     | 19.56  | -     | 19.56  | -     |
| American short cut—    |       |       |        |       |        |       |        |       |
| Bristol.....           | 16.08 | 15.43 | 16.08  | 15.43 | 16.51  | 15.43 | 16.51  | 15.64 |
| Liverpool.....         | 15.97 | 15.19 | 15.97  | 15.19 | 16.29  | 15.75 | 15.40  | 15.75 |
| London.....            | 16.08 | 15.64 | 16.08  | 15.64 | 16.08  | 15.64 | 16.29  | 15.64 |
| Glasgow.....           | 17.38 | -     | 17.38  | -     | 17.81  | -     | 17.81  | -     |

## CHEESE (per cwt. of 100 lb.)

|                |       |       |       |       |       |       |       |       |
|----------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Canadian—      |       |       |       |       |       |       |       |       |
| Bristol.....   | 13.69 | 13.04 | 13.69 | 13.04 | 13.69 | 13.04 | 13.47 | 12.81 |
| Liverpool..... | 13.36 | 12.92 | 13.36 | 12.79 | 13.36 | 12.79 | 13.47 | 12.92 |
| London.....    | 13.90 | 13.47 | 13.90 | 13.47 | 13.90 | 13.47 | 13.90 | 13.47 |
| Glasgow.....   | 13.90 | 13.47 | 13.90 | 13.47 | 13.90 | 13.47 | 13.90 | 13.47 |
| New Zealand—   |       |       |       |       |       |       |       |       |
| Bristol.....   | 13.04 | 12.38 | 13.04 | 12.38 | 13.04 | 12.38 | 13.04 | 12.59 |
| London.....    | 13.81 | 12.59 | 12.81 | 12.59 | 13.04 | 12.81 | 13.04 | 12.81 |
| Glasgow.....   | 13.25 | 12.81 | 13.25 | 12.59 | 13.25 | 12.59 | 13.47 | 12.59 |

NOTE. The prices of grain are from the Market Supplements to the "Mark Lane Express." The prices of meat and dairy produce are from the British official returns. Rate of conversion from English currency £1 = \$4.86.

## PUBLICATIONS OF THE CENSUS AND STATISTICS OFFICE.

Copies of the undermentioned publications will so far as available be sent free on application to Archibald Blue, Chief Officer, Census and Statistics Office, Ottawa.

THE CANADA YEAR BOOK. Second Series, 1905-1911.

Each of these seven Volumes contains a complete summary of the principal events of the year and the acts of the Dominion Parliament, with statistics of population, agriculture, forestry, minerals, manufactures, trade and commerce, public accounts, banking, post office, insurance, railways, canals, marine, fisheries, etc.

LONGEVITY AND SANITATION. Bulletin VIII. The substance of addresses delivered by Archibald Blue before the McMaster Convocation and the American Public Health Association.

REPORT ON THE CENSUS OF POPULATION AND AGRICULTURE OF THE NORTHWEST PROVINCES. Manitoba, Saskatchewan and Alberta, 1906.

THE BEET SUGAR INDUSTRY. Bulletin IX. The result of an investigation of Sugar Beet production in Canada and the manufacture of the roots into refined sugar, with Appendix A consisting of the Hearings of the Customs Tariff Committee, 1905, and Appendix B, Beet Sugar Production in Posen, Germany. 75 pp., 3 illustrations.

OCCUPATIONS OF THE PEOPLE. Bulletin XI. The figures in this Bulletin are compiled from data of the Census of 1901.

BULLETINS OF THE FIFTH CENSUS OF CANADA, 1911. I. Manufactures for the year 1910. II. Dairying Industries for the year 1910. IV. Agriculture of Nova Scotia. V. Agriculture of New Brunswick. VI. Agriculture of Quebec. XII. Religions of Canada. XIII. Origins of the People.

# CENSUS AND STATISTICS MONTHLY

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OTTAWA, JULY 1913.

No. 60

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PUBLISHED BY AUTHORITY OF HONOURABLE GEORGE E. FOSTER, MINISTER OF TRADE AND COMMERCE. CORRESPONDENCE RELATING TO THE CENSUS AND STATISTICS MONTHLY SHOULD BE ADDRESSED TO ARCHIBALD BLUE, CHIEF OFFICER OF THE CENSUS AND STATISTICS OFFICE, DEPARTMENT OF TRADE AND COMMERCE, OTTAWA, CANADA.

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## FIELD CROPS AND LIVE STOCK IN CANADA.

Report for the month ended June 30 1913.

Reports received from correspondents at the end of June enable the Census and Statistics Office to issue finally revised estimates of the areas sown to spring crops this year and also estimates of the areas devoted to the later sown cereals and hoed crops. With regard to wheat the reports are entirely confirmatory of those issued a month ago, and the area under wheat in Canada is therefore finally placed at 9,816,300 acres or 57,900 acres more than in 1912. The area in spring wheat is 8,990,500 acres or 13,100 acres more than in 1912 and the area to be harvested of fall wheat remains at 825,800 acres. Oats are estimated to occupy 9,646,400 acres, an increase of 429,500 acres, barley 1,430,800 acres, an increase of 15,600 acres, rye 127,200 acres, a decrease of 8,910 acres, and hay and clover 7,621,600 acres, a decrease of 12,000 acres.

The acreages under the later sown cereals and hoed crops are estimated to be as follows: Buckwheat 352,100, flaxseed 1,287,300, corn for husking 272,650, beans 52,950, potatoes 462,600, turnips, etc., 206,400, sugar beets 17,500 and corn for fodder 281,890.

For the three Northwest provinces of Manitoba, Saskatchewan and Alberta the total wheat area is finally estimated at 9,013,800 acres, as compared with 8,961,800 acres last year; that of oats at 5,305,800 acres compared with 4,913,900 acres and that of barley at 857,700 acres compared with 809,900 acres—these differences representing increases of 52,000 acres for wheat, 391,900 acres for oats and 47,800 acres for barley, or 491,700 acres for the three crops.

During June the crops throughout Canada maintained generally the favourable average of a month ago. On June 30 the condition, expressed in percentage of the usual standard of 100 taken as representing the promise of a full crop, was as follows: Fall wheat 81.46, spring wheat

87·80, oats 87·71, barley 88·39, rye 85·95, peas 87·43, mixed grains 87·12, hay and clover 71·52, alfalfa 77·23 and pasture 82·31. By provinces the condition is between 80 and 90 for the Maritime provinces, Quebec, Ontario and Manitoba. In Saskatchewan and Alberta the outlook at the end of June appeared to be especially promising, as the condition was above 90 in all cases excepting fall wheat, the condition of which in Alberta was 76·27.

Estimates of the numbers of farm live stock in Canada at June 30 are given as follows: Horses 2,535,000, milch cows 3,064,900, other cattle 3,380,400, sheep 2,418,400, swine 3,281,400. These represent increases over the estimates published last year for all descriptions except "other cattle". The estimates are based upon the final figures of the Census of 1911 for all the provinces except Saskatchewan, Alberta and British Columbia; so that the totals are still subject to final revision upon completion of the census results. The condition of all classes of live stock was reported as especially favourable on June 30, being 100 or above for horses, milch cows, sheep and swine and 97 for cattle other than milch cows.

Census and Statistics Office,  
Ottawa, July 14.

ARCHIBALD BLUR  
Chief Officer.

# **I. Statistics of Field Crops with Areas of 1913 as estimated on June 30.**

| Field crops         | Acres in crops |           | Per cent of standard condition<br>June 30 |        |       |        |       |
|---------------------|----------------|-----------|---|--------|-------|--------|-------|
|                     | 1913           | 1912      | 1913                                      | 1912   | 1911  | 1910   | 1909  |
| Canada—             | acres          | acres     | p. c.                                     | p. c.  | p. c. | p. c.  | p. c. |
| Fall wheat.....     | 825,800        | 781,000   | 81·46                                     | 70·33  | 75·26 | 85·47  | 77·28 |
| Spring wheat.....   | 8,990,500      | 8,977,400 | 87·80                                     | 89·73  | 94·78 | 82·16  | 86·77 |
| All wheat.....      | 9,816,300      | 9,758,400 | 86·31                                     | 84·94  | 90·13 | 82·90  | —     |
| Oats.....           | 9,646,400      | 9,216,900 | 87·71                                     | 86·43  | 94·46 | 86·20  | 93·81 |
| Barley.....         | 1,430,800      | 1,415,200 | 88·39                                     | 88·58  | 93·61 | 86·90  | 85·60 |
| Rye.....            | 127,200        | 136,110   | 85·95                                     | 87·84  | 90·82 | 88·02  | 81·47 |
| Peas.....           | 212,980        | 250,820   | 87·43                                     | 80·08  | 89·08 | 86·94  | 84·40 |
| Mixed grains.....   | 501,600        | 522,100   | 87·12                                     | 84·98  | 93·74 | 84·53  | 86·58 |
| Hay and clover..... | 7,621,600      | 7,633,600 | 71·52                                     | 85·59  | 84·97 | 91·42  | 76·00 |
| Alfalfa.....        | 103,250        | 111,300   | 77·23                                     | 90·59  | 82·31 | 88·94  | —     |
| Pasture.....        | —              | —         | 82·31                                     | 95·56  | 90·97 | 89·02  | 82·74 |
| P. E. Island—       |                |           |   |        |       |        |       |
| Spring wheat.....   | 21,500         | 30,700    | 93·26                                     | 98·05  | 95·27 | 98·85  | 88·68 |
| Oats.....           | 176,200        | 177,000   | 93·80                                     | 98·00  | 98·64 | 99·32  | 88·66 |
| Barley.....         | 4,200          | 4,400     | 90·89                                     | 97·08  | 94·65 | 96·13  | 89·78 |
| Peas.....           | 70             | 70        | 94·54                                     | 97·50  | 86·00 | 95·71  | 92·72 |
| Mixed grains.....   | 7,500          | 7,500     | 88·80                                     | 99·14  | 94·14 | 98·97  | 88·40 |
| Hay and clover..... | 184,100        | 188,000   | 78·26                                     | 74·86  | 66·61 | 104·31 | 67·15 |
| Alfalfa.....        | 20             | 30        | 82·50                                     | 100·00 | 83·33 | 83·33  | —     |
| Pasture.....        | —              | —         | 85·83                                     | 91·25  | 76·28 | 103·97 | 73·05 |



**I. Statistics of Field Crops with Areas of 1913 as estimated on June 30—con.**

| Field crops           | Acres in crops |              | Per cent of standard condition<br>June 30 |              |              |              |              |
|-----------------------|----------------|--------------|---|--------------|--------------|--------------|--------------|
|                       | 1913           | 1912         | 1913                                      | 1912         | 1911         | 1910         | 1909         |
| <b>Nova Scotia—</b>   | <b>acres</b>   | <b>acres</b> | <b>p. c.</b>                              | <b>p. c.</b> | <b>p. c.</b> | <b>p. c.</b> | <b>p. c.</b> |
| Spring wheat.....     | 12,500         | 12,800       | 88·61                                     | 89·52        | 90·87        | 97·98        | 86·48        |
| Oats.....             | 98,600         | 97,600       | 90·56                                     | 81·51        | 92·56        | 98·61        | 91·25        |
| Barley.....           | 5,600          | 5,600        | 90·28                                     | 88·35        | 92·37        | 94·46        | 85·20        |
| Rye.....              | 800            | 910          | 88·33                                     | 97·50        | 77·91        | 95·00        | 67·75        |
| Peas.....             | 170            | 190          | 90·52                                     | 91·07        | 91·11        | 93·28        | 81·10        |
| Mixed grains.....     | 4,100          | 4,300        | 90·34                                     | 91·59        | 93·55        | 97·39        | 87·20        |
| Hay and clover.....   | 487,800        | 478,000      | —   | 91·33        | 81·26        | 105·79       | 75·60        |
| Alfalfa.....          | 30             | 30           | —   | 87·50        | 69·58        | 95·10        | —            |
| Pasture.....          | —              | —            | —   | 92·30        | 70·70        | 104·06       | 77·80        |
| <b>New Brunswick—</b> |                |              |   |              |              |              |              |
| Spring wheat.....     | 11,800         | 12,400       | 90·19                                     | 87·58        | 93·20        | 95·07        | 89·86        |
| Oats.....             | 186,600        | 186,000      | 85·63                                     | 83·20        | 97·29        | 96·53        | 93·10        |
| Barley.....           | 2,300          | 2,500        | 89·57                                     | 84·92        | 94·35        | 89·11        | 87·68        |
| Rye.....              | —              | —            | —   | 89·50        | 87·85        | 83·33        | 80·00        |
| Peas.....             | 500            | 560          | 90·71                                     | 83·87        | 91·41        | 88·56        | 82·30        |
| Mixed grains.....     | 1,100          | 1,300        | 85·53                                     | 83·26        | 95·79        | 92·13        | 83·00        |
| Hay and clover.....   | 535,200        | 558,000      | 73·25                                     | 88·76        | 82·58        | 109·68       | 68·35        |
| Alfalfa.....          | 100            | 140          | —   | 86·67        | 68·50        | 97·00        | —            |
| Pasture.....          | —              | —            | 81·11                                     | 93·59        | 87·98        | 105·31       | 81·92        |
| <b>Quebec—</b>        |                |              |   |              |              |              |              |
| Spring wheat.....     | 68,800         | 63,100       | 85·19                                     | 75·73        | 91·91        | 88·56        | 85·25        |
| Oats.....             | 1,176,600      | 1,170,400    | 86·38                                     | 73·23        | 95·09        | 93·10        | 90·62        |
| Barley.....           | 86,000         | 91,500       | 85·96                                     | 78·78        | 92·88        | 91·07        | 88·80        |
| Rye.....              | 16,700         | 19,200       | 84·51                                     | 79·70        | 88·93        | 89·04        | 86·80        |
| Peas.....             | 25,800         | 29,000       | 92·33                                     | 75·78        | 89·64        | 84·42        | 83·20        |
| Mixed grains.....     | 115,700        | 120,000      | 87·95                                     | 76·69        | 93·96        | 74·45        | 89·55        |
| Hay and clover.....   | 2,666,400      | 2,750,000    | 63·98                                     | 80·19        | 87·90        | 102·58       | 80·51        |
| Alfalfa.....          | 9,600          | 10,000       | 70·90                                     | 84·42        | 82·02        | 88·46        | —            |
| Pasture.....          | —              | —            | 73·05                                     | 86·56        | 91·12        | 100·35       | 82·38        |
| <b>Ontario—</b>       |                |              |   |              |              |              |              |
| Fall wheat.....       | 571,000        | 561,000      | 82·44                                     | 68·03        | 72·97        | 94·29        | 78·60        |
| Spring wheat.....     | 102,600        | 116,000      | 82·46                                     | 81·06        | 88·02        | 84·79        | 75·80        |
| All wheat.....        | 673,600        | 671,000      | 82·45                                     | 73·26        | 77·01        | 90·24        | —            |
| Oats.....             | 2,664,700      | 2,637,000    | 82·69                                     | 82·64        | 88·76        | 89·80        | 89·90        |
| Barley.....           | 473,600        | 500,000      | 82·16                                     | 82·14        | 88·91        | 91·49        | 78·45        |
| Rye.....              | 86,500         | 95,000       | 83·13                                     | 85·68        | 82·81        | 88·85        | 76·90        |
| Peas.....             | 185,500        | 220,000      | 81·41                                     | 79·12        | 87·70        | 88·30        | 85·00        |
| Mixed grains.....     | 373,200        | 389,000      | 81·28                                     | 85·62        | 93·32        | 91·26        | 84·15        |
| Hay and clover.....   | 3,305,700      | 3,240,000    | 62·87                                     | 77·82        | 75·24        | 90·37        | 70·30        |
| Alfalfa.....          | 77,100         | 85,000       | 71·47                                     | 86·37        | 77·80        | 92·72        | —            |
| Pasture.....          | —              | —            | 74·15                                     | 89·03        | 81·63        | 88·52        | 76·10        |

**I. Statistics of Field Crops with Areas of 1913 as estimated on  
June 30—con.**

| Field crops              | Acres in crops |           | Per cent of standard condition<br>June 30 |        |        |        |        |
|--------------------------|----------------|-----------|---|--------|--------|--------|--------|
|                          | 1913           | 1912      | 1913                                      | 1912   | 1911   | 1910   | 1909   |
|                          | acres          | acres     | p.c.                                      | p.c.   | p.c.   | p.c.   | p.c.   |
| <b>Manitoba—</b>         |                |           |   |        |        |        |        |
| Fall wheat.....          | 3,900          | 3,100     | 72.60                                     | 81.54  | -      | -      | -      |
| Spring wheat.....        | 2,600,700      | 2,650,000 | 84.41                                     | 82.27  | 98.51  | 72.95  | 94.10  |
| All wheat.....           | 2,604,600      | 2,653,100 | 83.90                                     | 84.75  | -      | -      | -      |
| Oats.....                | 1,316,200      | 1,269,000 | 87.25                                     | 81.22  | 96.34  | 73.12  | 93.10  |
| Barley.....              | 468,600        | 454,600   | 88.41                                     | 79.10  | 94.38  | 74.50  | 89.10  |
| Rye.....                 | -              | -         | 70.00                                     | 84.57  | 97.33  | 74.38  | 100.00 |
| Peas.....                | -              | -         | -   | 85.00  | 95.71  | 76.43  | 65.00  |
| Mixed grains.....        | -              | -         | 91.88                                     | 76.00  | 99.41  | 71.47  | 91.00  |
| Hay and clover.....      | 151,200        | 141,000   | 79.05                                     | 82.90  | 96.56  | 65.19  | 84.38  |
| Alfalfa.....             | 3,300          | 2,900     | 89.74                                     | 92.29  | 99.73  | 67.36  | -      |
| Pasture.....             | -              | -         | 92.70                                     | 82.99  | 100.08 | 68.55  | 93.60  |
| <b>Saskatchewan—</b>     |                |           |   |        |        |        |        |
| Fall wheat.....          | 72,000         | 53,000    | 74.57                                     | 76.66  | -      | -      | -      |
| Spring wheat.....        | 4,962,800      | 4,838,500 | 89.73                                     | 85.01  | 98.67  | 78.47  | 99.01  |
| All wheat.....           | 5,034,800      | 4,891,500 | 89.33                                     | 84.85  | -      | -      | -      |
| Oats.....                | 2,463,900      | 2,285,600 | 90.01                                     | 81.85  | 96.98  | 81.79  | 98.04  |
| Barley.....              | 205,100        | 180,300   | 93.30                                     | 84.07  | 95.52  | 84.75  | 95.10  |
| Rye.....                 | -              | -         | 95.83                                     | 83.75  | 98.86  | 82.85  | 105.00 |
| Peas.....                | -              | -         | 100.00                                    | 89.12  | 90.15  | 84.39  | 92.50  |
| Mixed grains.....        | -              | -         | 90.39                                     | 91.36  | 96.85  | 95.31  | 98.75  |
| Hay and clover.....      | 24,100         | 20,600    | 93.54                                     | 88.48  | 97.55  | 76.67  | 94.29  |
| Alfalfa.....             | 1,300          | 1,100     | 90.85                                     | 91.89  | 91.77  | 77.08  | -      |
| Pasture.....             | -              | -         | 96.94                                     | 93.09  | 100.10 | 79.44  | 99.20  |
| <b>Alberta—</b>          |                |           |   |        |        |        |        |
| Fall wheat.....          | 176,000        | 161,000   | 76.27                                     | 71.64  | 83.22  | 63.62  | 65.65  |
| Spring wheat.....        | 1,198,400      | 1,256,200 | 93.32                                     | 86.42  | 96.50  | 66.31  | 96.84  |
| All wheat.....           | 1,374,400      | 1,417,200 | 89.27                                     | 81.92  | 91.56  | 65.23  | -      |
| Oats.....                | 1,525,700      | 1,359,300 | 94.31                                     | 87.13  | 97.68  | 67.26  | 99.70  |
| Barley.....              | 184,000        | 174,900   | 95.57                                     | 88.22  | 95.99  | 73.22  | 97.16  |
| Rye.....                 | 23,200         | 21,000    | 95.00                                     | 92.74  | 91.71  | 82.71  | 101.07 |
| Peas.....                | -              | -         | 85.83                                     | 87.50  | 93.59  | 70.00  | 100.00 |
| Mixed grains.....        | -              | -         | 98.00                                     | 90.83  | 92.02  | 74.08  | 95.00  |
| Hay and clover.....      | 179,500        | 174,000   | 88.22                                     | 90.57  | 95.37  | 57.92  | 95.13  |
| Alfalfa.....             | 8,200          | 8,300     | 91.10                                     | 86.88  | 87.60  | 70.51  | -      |
| Pasture.....             | -              | -         | 96.77                                     | 94.09  | 101.69 | 63.31  | 100.60 |
| <b>British Columbia—</b> |                |           |   |        |        |        |        |
| Fall wheat.....          | 2,900          | 2,900     | 97.00                                     | 91.73  | 88.92  | 84.10  | 87.50  |
| Spring wheat.....        | 3,400          | 3,700     | 95.50                                     | 90.00  | 86.53  | 88.05  | 73.00  |
| All wheat.....           | 6,300          | 6,600     | 96.00                                     | 90.63  | 87.38  | 86.18  | -      |
| Oats.....                | 37,900         | 35,000    | 96.42                                     | 93.24  | 91.21  | 87.88  | 93.00  |
| Barley.....              | 1,500          | 1,600     | 87.50                                     | 95.63  | 84.00  | 98.33  | 72.00  |
| Rye.....                 | -              | -         | 95.00                                     | 100.00 | 99.16  | 90.00  | 100.00 |
| Peas.....                | 940            | 1,000     | 101.25                                    | 92.90  | 87.93  | 85.00  | 81.25  |
| Mixed grains.....        | -              | -         | 102.50                                    | 91.67  | 79.54  | 98.33  | 100.00 |
| Hay and clover.....      | 87,600         | 84,000    | 97.38                                     | 95.43  | 87.88  | 90.75  | 65.00  |
| Alfalfa.....             | 3,600          | 3,300     | 90.00                                     | 99.54  | 85.00  | 102.00 | -      |
| Pasture.....             | -              | -         | 100.00                                    | 91.05  | 88.96  | 86.33  | 65.00  |

## II. Areas of Late Cereals and Hoed Crops, 1913 and 1912.

| Field crops          | Acres in crops |           | Field crops          | Acres in crops |           |
|----------------------|----------------|-----------|----------------------|----------------|-----------|
|                      | 1913           | 1912      |                      | 1913           | 1912      |
| Canada—              |                |           | Quebec—con.          |                |           |
| Buckwheat.....       | 352,100        | 387,000   | Flax.....            | 1,600          | 1,300     |
| Flax.....            | 1,287,300      | 1,677,800 | Potatoes.....        | 128,200        | 128,600   |
| Corn for husking.... | 272,630        | 292,850   | Turnips, etc.....    | 12,300         | 13,100    |
| Beans.....           | 52,950         | 59,800    | Corn for fodder..... | 35,600         | 36,300    |
| Potatoes.....        | 462,600        | 472,400   | Ontario—             |                |           |
| Turnips, etc.....    | 205,190        | 217,400   | Buckwheat.....       | 190,200        | 201,700   |
| Sugar beets.....     | 17,500         | 19,000    | Corn for husking.... | 253,400        | 271,700   |
| Corn for fodder..... | 281,800        | 278,740   | Flax.....            | 6,800          | 8,100     |
| P. E. Island—        |                |           | Beans.....           | 43,300         | 49,200    |
| Buckwheat.....       | 2,600          | 2,700     | Potatoes.....        | 148,300        | 153,500   |
| Potatoes.....        | 31,400         | 31,600    | Turnips, etc.....    | 138,500        | 148,000   |
| Turnips, etc.....    | 7,400          | 7,200     | Sugar beets.....     | 15,300         | 17,000    |
| Corn for fodder..... | 260            | 260       | Corn for fodder..... | 245,300        | 241,400   |
| Nova Scotia—         |                |           | Manitoba—            |                |           |
| Buckwheat.....       | 7,200          | 7,500     | Flax.....            | 51,000         | 94,000    |
| Corn for husking.... | 150            | 150       | Potatoes.....        | 24,000         | 24,900    |
| Beans.....           | 870            | 900       | Turnips, etc.....    | 4,700          | 4,700     |
| Potatoes.....        | 27,100         | 27,000    | Saskatchewan—        |                |           |
| Turnips, etc.....    | 10,200         | 10,000    | Flax.....            | 1,139,100      | 1,463,000 |
| Corn for fodder..... | 580            | 600       | Potatoes.....        | 25,100         | 25,500    |
| New Brunswick—       |                |           | Turnips, etc.....    | 9,400          | 9,800     |
| Buckwheat.....       | 59,900         | 60,500    | Alberta—             |                |           |
| Beans.....           | 280            | 300       | Flax.....            | 88,800         | 111,400   |
| Potatoes.....        | 42,500         | 42,300    | Potatoes.....        | 24,700         | 26,000    |
| Turnips, etc.....    | 8,500          | 8,800     | Turnips, etc.....    | 12,700         | 13,000    |
| Corn for fodder..... | 150            | 180       | Sugar beets.....     | 2,200          | 2,000     |
| Quebec—              |                |           | British Columbia—    |                |           |
| Buckwheat.....       | 92,200         | 114,600   | Potatoes.....        | 11,300         | 13,000    |
| Corn for husking.... | 13,100         | 21,000    | Turnips.....         | 2,700          | 2,800     |
| Beans.....           | 8,500          | 9,400     |                      |                |           |

## III. Statistics of Live Stock on Farms, 1909-1913.

| Live stock            | Number of animals |           |           |           |           | Per cent of standard condition June 30 1913 |
|-----------------------|-------------------|-----------|-----------|-----------|-----------|---|
|                       | 1913              | 1912      | 1911      | 1910      | 1909      |   |
| Canada—               |                   |           |           |           |           |   |
| Horses.....           | 2,535,800         | 2,378,204 | 2,306,444 | 2,213,199 | 2,132,489 | 100·70                                      |
| Milk cows.....        | 3,064,900         | 2,517,359 | 2,508,993 | 2,853,951 | 2,849,306 | 100·28                                      |
| Other cattle.....     | 3,380,400         | 4,079,501 | 4,190,398 | 4,260,963 | 4,384,779 | 97·14                                       |
| Sheep.....            | 2,418,400         | 2,084,594 | 2,178,722 | 2,598,470 | 2,705,390 | 100·52                                      |
| Swine.....            | 3,281,400         | 3,153,680 | 3,332,719 | 2,753,964 | 2,912,500 | 100·73                                      |
| Prince Edward Island— |                   |           |           |           |           |   |
| Horses.....           | 36,000            | 35,638    | 35,955    | 34,121    | 34,121    | 98·20                                       |
| Milk cows.....        | 48,600            | 49,415    | 52,109    | 55,365    | 53,915    | 94·83                                       |
| Other cattle.....     | 64,300            | 64,688    | 68,287    | 57,648    | 58,013    | 95·50                                       |
| Sheep.....            | 85,700            | 87,773    | 91,232    | 110,599   | 109,244   | 97·61                                       |
| Swine.....            | 43,800            | 50,463    | 56,377    | 48,623    | 47,853    | 96·97                                       |

## III. Statistics of Live Stock on Farms, 1909-1913—con.

| Live stock               | Number of animals |           |           |           |           | Percent of standard condition June 30 1913 |
|--------------------------|-------------------|-----------|-----------|-----------|-----------|--|
|                          | 1913              | 1912      | 1911      | 1910      | 1909      |  |
| <b>Nova Scotia—</b>      |                   |           |           |           |           |  |
| Horses.....              | 62,600            | 61,735    | 61,355    | 68,721    | 68,128    | 99.51                                      |
| Milch cows.....          | 130,500           | 130,104   | 129,302   | 148,948   | 147,663   | 97.13                                      |
| Other cattle.....        | 153,700           | 156,051   | 158,122   | 180,189   | 182,507   | 96.16                                      |
| Sheep.....               | 217,700           | 216,135   | 220,907   | 358,263   | 361,444   | 94.94                                      |
| Swine.....               | 56,600            | 61,194    | 63,322    | 69,958    | 70,508    | 96.55                                      |
| <b>New Brunswick—</b>    |                   |           |           |           |           |  |
| Horses.....              | 65,100            | 65,582    | 65,458    | 66,855    | 66,496    | 98.26                                      |
| Milch cows.....          | 106,900           | 110,507   | 108,532   | 122,136   | 122,577   | 95.69                                      |
| Other cattle.....        | 107,900           | 113,136   | 113,659   | 110,389   | 113,850   | 93.60                                      |
| Sheep.....               | 135,100           | 148,723   | 158,216   | 203,620   | 215,239   | 95.88                                      |
| Swine.....               | 77,000            | 85,905    | 87,391    | 91,250    | 94,140    | 94.26                                      |
| <b>Quebec—</b>           |                   |           |           |           |           |  |
| Horses.....              | 370,060           | 367,402   | 369,237   | 368,419   | 362,796   | 98.53                                      |
| Milch cows.....          | 761,800           | 755,770   | 753,131   | 856,151   | 856,579   | 96.46                                      |
| Other cattle.....        | 693,500           | 695,906   | 697,860   | 600,277   | 622,888   | 96.67                                      |
| Sheep.....               | 602,800           | 620,881   | 637,062   | 549,068   | 570,342   | 97.52                                      |
| Swine.....               | 661,800           | 747,254   | 793,348   | 651,415   | 670,042   | 97.57                                      |
| <b>Ontario—</b>          |                   |           |           |           |           |  |
| Horses.....              | 902,600           | 895,271   | 811,585   | 802,949   | 821,011   | 109.00                                     |
| Milch cows.....          | 1,141,100         | 1,033,392 | 1,032,979 | 1,243,680 | 1,260,572 | 107.82                                     |
| Other cattle.....        | 1,460,000         | 1,380,890 | 1,471,694 | 1,629,364 | 1,771,433 | 107.02                                     |
| Sheep.....               | 705,900           | 677,462   | 743,483   | 1,032,227 | 1,118,945 | 108.21                                     |
| Swine.....               | 1,632,500         | 1,693,594 | 1,864,165 | 1,481,058 | 1,586,565 | 109.73                                     |
| <b>Manitoba—</b>         |                   |           |           |           |           |  |
| Horses.....              | 304,100           | 293,776   | 289,374   | 244,987   | 237,161   | 97.33                                      |
| Milch cows.....          | 152,800           | 148,471   | 155,337   | 164,746   | 167,442   | 99.06                                      |
| Other cattle.....        | 256,900           | 267,130   | 279,776   | 314,995   | 333,752   | 97.95                                      |
| Sheep.....               | 42,800            | 40,800    | 37,322    | 50,266    | 29,074    | 98.04                                      |
| Swine.....               | 184,500           | 183,370   | 188,416   | 142,312   | 172,374   | 98.81                                      |
| <b>Saskatchewan—</b>     |                   |           |           |           |           |  |
| Horses.....              | 418,000           | 397,300   | 365,500   | 332,922   | 279,063   | 97.49                                      |
| Milch cows.....          | 385,200           | 146,500   | 143,600   | 138,455   | 124,186   | 99.02                                      |
| Other cattle.....        | 338,000           | 453,300   | 444,700   | 431,164   | 391,789   | 99.04                                      |
| Sheep.....               | 280,900           | 111,800   | 111,300   | 135,360   | 129,630   | 97.70                                      |
| Swine.....               | 294,500           | 156,700   | 130,300   | 125,788   | 131,757   | 99.01                                      |
| <b>Alberta—</b>          |                   |           |           |           |           |  |
| Horses.....              | 377,100           | 351,500   | 317,000   | 294,225   | 263,713   | 99.27                                      |
| Milch cows.....          | 338,000           | 143,200   | 134,000   | 124,470   | 116,371   | 100.15                                     |
| Other cattle.....        | 306,100           | 948,400   | 956,300   | 926,937   | 910,547   | 72.01                                      |
| Sheep.....               | 347,500           | 181,000   | 179,200   | 179,067   | 171,422   | 99.45                                      |
| Swine.....               | 310,700           | 175,200   | 149,400   | 143,569   | 139,270   | 99.01                                      |
| <b>British Columbia—</b> |                   |           |           |           |           |  |
| Horses.....              | —                 | —         | —         | —         | —         | 101.67                                     |
| Milch cows.....          | —                 | —         | —         | —         | —         | 100.36                                     |
| Other cattle.....        | —                 | —         | —         | —         | —         | 98.61                                      |
| Sheep.....               | —                 | —         | —         | —         | —         | 98.13                                      |
| Swine.....               | —                 | —         | —         | —         | —         | 101.67                                     |

NOTE. The figures for 1911, 1912 and 1913 have been revised to correspond with the census results of 1911 for all the provinces excepting Saskatchewan, Alberta and British Columbia. Upon final completion of the census results the figures for these three provinces for 1911-1913 will be revised as well as the totals for the whole of Canada.



## INTERPRETATION OF CROP REPORTS.

The following statement shows for wheat, rye, barley and oats the yield per acre anticipated from the standard condition on June 30 1913, according to the proportion which the average standard condition at June 30 for the five years 1908-12 bears to the average yield per acre for those years, the result being also expressed as a percentage of the five years' average represented by 100 :

| Crop              | Average<br>standard<br>condition<br>June 30<br>1908-12 | Average<br>yield<br>per acre<br>1908-12 | Standard<br>condition<br>June 30<br>1913 | Anticipated<br>yield<br>per acre<br>1913 | Condition<br>(100=aver-<br>age yield<br>per acre<br>1908-12) |
|-------------------|--|---|--|--|--|
|                   | p. c.  | bush.                                   | p. c.                                    | bush.                                    | p. c.  |
| Fall wheat .....  | 79·61  | 22·94                                   | 81·46                                    | 23·47                                    | 102  |
| Spring wheat..... | 88·53  | 18·90                                   | 87·80                                    | 18·74                                    | 99   |
| Rye.....          | 87·36  | 18·50                                   | 85·95                                    | 18·20                                    | 98   |
| Barley.....       | 89·14  | 28·07                                   | 88·39                                    | 27·83                                    | 99   |
| Oats.....         | 89·66  | 35·95                                   | 87·71                                    | 35·17                                    | 98   |

The condition at the end of June indicates therefore that the yield per acre of all wheat will be 2 p.c. above that of the average of the five years 1908 to 1912, that spring wheat and barley will be 1 p.c. below that average and that rye and oats will be 2 p.c. below it. In this calculation it is assumed that conditions between June 30 and harvest will be equal to the average conditions during the same period of the five years 1908 to 1912.

## NOTES OF REPORTS FROM THE PROVINCES.

**Maritime Provinces.** The month of June has been cold, and crops are still backward. The hay crop is likely to be short. In King's county, New Brunswick, a correspondent reports that turnips have been destroyed in many cases by flea-beetles, and the areas had to be resown.

**Quebec and Ontario.** June has been cold and dry in most parts of these two provinces. At the end of the month rain was badly needed. In some localities where good rains had fallen growth was rapid.

**Northwest Provinces.** Conditions at the end of June were reported as generally good and promising. Good rains, which fell within a few days of the end of the month, brought a sufficiency of much-needed moisture. Several correspondents state that the smaller acreage sown to flax is due to the poor prices obtained last year. Potatoes appear to be planted mostly for home consumption, the low prices not warranting any growth for sale. A correspondent in Russell district writes: "Considerable damage has been done to crops sown on summer fallow and breaking by cutworms and caterpillars. Some fields of oats have been sown over again three times. They are still at it and have completely laid bare my neighbour's

field of about 60 acres of oats. They do not appear to have touched crops sown on spring ploughing. I think we shall have to have worm as well as hail insurance." A correspondent in the Lloydminster district writes: "Where we have been so foolish as to stubble-in grain the usual result—a fine crop of weeds—has followed." A correspondent in the Saltcoats district reports that he has a field of Marquis wheat that is now heading; the rest is in the shot blade. A correspondent in the Lethbridge district writes that farmers are beginning to broaden out and sow grasses for hay and pasture. Several attempts to start small fruits promise to be successful.

**British Columbia.** The season is somewhat late, but with good rains the crops have made a great growth and are generally reported as being in a promising condition.

## DEPARTMENT OF AGRICULTURE.

**Experimental Farms and Stations.** At the central Experimental Farm the temperatures for June have ranged a little higher than for the corresponding period in 1912, the highest being 93.2 and the lowest 35 degrees, as compared with a highest of 88.4 and a lowest of 39.4 degrees for the like period the previous year. The mean temperature for the month just past was 64.21, as compared with a mean temperature of 61.62 for June 1912. The total precipitation for the past month is very light, only amounting to 0.82 inch, as compared with a total precipitation of 1.35 inch in June 1912. The amount of bright sunshine is practically the same for June in the two years 1912 and 1913, the total amount for June 1913 being 309 hours, giving a daily average of 10.30 hours and that for June 1912 being 308 hours, giving a daily average of 10.28 hours.

The dry weather during the month has affected the hay in particular. It was also injurious to late-sown roots, turnips especially, causing poor germination, due to lack of moisture. Indian corn is a good stand and has made fairly good growth during the month, being in advance of its condition last year at this time. From present indications it should give an excellent yield. Pastures were considerably burned up during the latter part of the month.

The dry weather was favourable to farm work especially cultivation and the eradication of weeds.

Apples, plums, raspberries and gooseberries will be a medium crop. Strawberries were light. Vegetables are promising. Frost did very little damage on the Central Farm, but tender vegetables suffered considerably in the Ottawa district.

Several excursions, ranging in numbers from one hundred to six hundred, visited the Farm during the month. Those coming showed more than ordinary interest in the Farm and its work.

J. A. Clark, Superintendent of the Experimental Station at Charlottetown, writes: "The rainfall during June was very light and the weather decidedly cool, the monthly mean temperature being three degrees below the average. The lowest temperature was 33.5, indicating that no frost occurred at the Station buildings, although hoar frost occurred elsewhere

on four nights. The grain crops are looking very vigorous and are a rich, dark colour, giving promise of a more than average yield, although the harvest will be late. The root crop also promises a heavy yield. Corn is likely to be light, owing to the cool season. The clover has been almost at a standstill during June and is now almost overshadowed by the timothy in hay fields. The hay crop, from present appearances, will not be heavy. Some damage has been reported to fruit bloom; at the Station however all the fruit has set well."

W. W. Baird, Superintendent of the Experimental Farm at Napan, N.S., writes: "June has been rather cooler than usual, the highest temperature being ten degrees lower than the highest in June, 1912. The precipitation also was much lighter than for the same period in the previous year. The sunshine averaged 8.99 hours per day for the month. Seeding and planting were very fairly well through by the 21st. Grain and hay crops made only slow growth until the last week of the month, and it is doubtful whether hay will be an average crop. Pastures have been good. Roots and corn have germinated evenly and strongly. Live stock are doing well. The dairy cows are making a slightly better average in milk yield than in January. There is a good set of large fruits and a good average one of small fruits, with the exception of strawberries, which promise only a medium crop. The work on this Farm during June, other than seeding, has been hoeing and cultivating roots and corn, ploughing and cultivating orchards and preparing new land."

G. A. Langelier, Superintendent of the Experimental Station at Cap Rouge, Que., reports: "June has been a little warmer than the same month last year; there has been more sunshine and while crops in 1912 were in very bad condition at this time, everything seems in first-class growing condition just now. Hay will be a smaller crop than last year, because fairly large areas of meadows were winter-killed last winter, where drainage was lacking. The crop in general will be better than the average, unless something unforeseen happens."

W. C. McKillican, Superintendent of the Experimental Farm at Brandon, Man., says: "The month of June has been dry, the total rainfall amounting to only 2.34 inches. With the exception of those sown on summer-fallow, crops are rather short and show the need of rain. Wheat is beginning to head out. The hay crop is light except alfalfa, which is not affected so readily by dry weather. Work on the Experimental Farm has consisted chiefly of cultivating corn and roots, ploughing and cultivating, summer-fallowing and making alfalfa hay."

Angus Mackay, Superintendent of the Experimental Farm at Indian Head, Sask., writes: "June was very favourable for crops of all sorts. The last ten days rain has delayed work considerably on the summer-fallows on heavy soils. On the Experimental Farm the chief work carried on was summer-fallowing and attending to the root, corn and potato crops. On the 17th of the month a cyclone passed over the district, blowing down the frame of the new barn, besides doing some minor damage on the Farm. The frame is now again up and the work proceeding rapidly. Hail passed over the Farm on the 23rd without doing much harm."

Wm. A. Munro, Superintendent of the Experimental Station at Rosthern, Sask., reports: "The first half of the month was exceedingly dry, the effect of which was shown on crops which were not well put in and on meadows more than one year old. Heavy rains during the past two weeks, however, have revived everything, and grain crops and the garden show above the average. First-year meadows are up to the average, but meadows that have been in crop for one year or more still seem rather light. Ploughing for summer-fallow was completed by the middle of the month, except in the case of a few experimental plots in which the plan is to plough later. Our summer-fallow this year is only being ploughed once, whereas in other years we ploughed shallow early in the season and deeper at a later date. Last autumn was such as to permit our summer-fallow being ploughed before winter set in, which, so far as we can learn, answers the same purpose as a second ploughing the next summer."

R. E. Everest, Superintendent of the Experimental Station at Scott, Sask., writes: "The month of June has been somewhat cool and dry. In 1912 the mean temperature was 61.71, this year, 56.72. The rainfall of of June 1912 was 2.19 inches, this year it is even less, the amount being 1.28 inch. The crops are making very good growth, due to moisture gathered in the land during the two rainy years, 1911 and the late summer rains of 1912. The advantage of good cultivation is being brought out very clearly by the difference in the growth of various fields. Work occupying attention on the Station has been prairie breaking, ploughing and surface cultivating of summer-fallows, hoeing, singling roots, painting, fencing and other routine employment."

G. H. Hutton, Superintendent of the Experimental Station at Lacombe, Alta., writes: "Dry, warm weather characterised the first days of June. While garden crops suffered to some extent from lack of moisture, general field crops made rapid and unchecked growth. The rains which have fallen since the fourteenth have been sufficient to carry all crops, and the precipitation during the last week of the month, which totalled 1.6 inch, insures a normal growth of straw and plenty of moisture to mature the crops. Spring wheat is now heading out nicely while the earlier varieties of barley are already headed. Live stock at the Station has been thriving, pasture being abundant and the weather fine. Heel flies have made their appearance during the last few days of the month and have caused the cattle considerable annoyance."

W. H. Fairfield, Superintendent of the Experimental Station at Lethbridge, Alta., reports: "At the beginning of June grain crops in the vicinity of Lethbridge were suffering from drouth. This applied particularly to winter wheat and early-sown grain and included in a general way the area east of Lethbridge to the edge of the province and southeast to the international boundary. The balance of the southern part of the province was not in need of moisture. During the latter part of May and the early part of June local thunder showers occurred here and there throughout the territory just mentioned. They were sufficient in many cases to carry the growing crops along so that there are districts in this area where the crop prospects are about ideal. On the 9th of June the first rain for the month was received at Lethbridge and from that time to the end of the



month general rains have been almost continuous, there being 4.70 inches recorded at the Station here during this period. Throughout southern Alberta generally crop conditions on June 30 are good. The first cutting of alfalfa on the irrigated lands has been interfered with by the rains and, owing to unfavourable weather, not more than ten to fifteen per cent has been cut."

P. H. Moore, Superintendent, Experimental Farm, Agassiz, B. C., writes: "The weather has been very wet during the month, and although we had considerable sunshine as compared with May, most of the precipitation came as heavy showers. All low spots on the Farm are deep and cool, owing to the high level of the water in the Fraser River. The crops on the Farm are up to the average and the stock are in excellent condition. One of the most noteworthy subjects which we have under observation is supplying the mangold crop while it is young with a little available plant food in the form of fertiliser. Last year large plots which were well fertilised yielded over twelve tons per acre more than did the unfertilised. At the time of writing the roots on the fertilised plots of this year are making good growth considering the season, and the plants are six to eight inches high, while in the unfertilised plot the plants are scarcely three or four inches high and the stand is uneven. The labour of weeding and caring for such a plot is greatly in excess of that devoted to those which had only a small dressing of chemical fertiliser in addition to barnyard manure. All plots are manured with barnyard manure, but in this section, under the climatic and soil conditions which we have, a small dressing of chemical fertiliser to supply available food for the young plants seems to be of considerable benefit."

Meteorological Record for June, 1913.

| Experimental Farm<br>or Station at— | Degrees of temperature, F. |        |       | Precipitation<br>in<br>inches | Hours of sunshine |        |
|-------------------------------------|----------------------------|--------|-------|-------------------------------|-------------------|--------|
|                                     | highest                    | lowest | mean  |                               | possible          | actual |
| Ottawa, Ont. ....                   | 93.2                       | 35.0   | 64.21 | .82                           | 460               | 309.0  |
| Charlottetown, P.E.I. ....          | 73.0                       | 33.5   | 59.06 | 1.27                          | 471               | 255.5  |
| Nappan, N.S. ....                   | 74.0                       | 31.0   | 54.56 | 1.97                          | 470               | 265.9  |
| Cap Rouge, Que. ....                | 84.0                       | 36.2   | 57.30 | 2.53                          | 474               | 233.7  |
| Brandon, Man. ....                  | 90.0                       | 32.0   | 60.40 | 2.34                          | 488               | 218.8  |
| Indian Head, Sask. ....             | 88.0                       | 33.0   | 61.20 | 4.37                          | 490               | 224.9  |
| Rosthern, Sask. ....                | 85.7                       | 35.0   | 59.20 | 1.87                          | 505               | 234.7  |
| Scott, Sask. ....                   | 90.1                       | 28.7   | 56.72 | 1.28                          | 502               | 220.1  |
| Lacombe, Alta. ....                 | 81.8                       | 36.2   | 56.97 | 2.98                          | 501               | 271.9  |
| Lethbridge, Alta. ....              | 86.6                       | 39.0   | 60.96 | 4.70                          | 488               | 281.8  |
| Agassiz, B.C. ....                  | 84.0                       | 40.0   | 58.48 | 7.33                          | 485               | 147.1  |

FRANK T. SHUTT, Assistant Director,

Ottawa, July 15.

Dominion Experimental Farms.

**Dairy and Cold Storage Branch.** The fruit inspection service is now being organised for the season of 1913-14. Additions will be made to the number of inspectors in order to cover points which have heretofore not been under very close supervision.

The amendment to Part IX of the Inspection and Sale Act (Fruit Marks Act) which was passed at the last session of Parliament, removes all doubt as to the authority of the inspectors in dealing with imported fruit. The new regulations which are now in force define clearly what is required of the importer who brings fruit into Canada for sale.

The dry weather in Eastern Ontario has begun to affect the flow of milk very considerably, and the cheese factories are showing a decrease in their outputs as a result. The same is true to some extent in the province of Quebec.

The season so far has been favourable for the production of cheese of good quality, and that is a more important factor in fixing the price later in the season than is generally recognised, because consumption is encouraged when the quality is good.

A grocer in Quebec city pleaded guilty recently to the sale of butter adulterated with foreign fats and was fined \$200. A further complaint has been laid against the wholesale dealer who sold the butter to the grocer in the first place.

The Dairy Stations at Finch, Ont., and Brone, Que., are receiving a large patronage, and the quantities of butter and cheese manufactured will be much larger than last year.

Ottawa, July 17.

J. A. RUDDICK, Commissioner.

**Seed Branch.** Complaints continue to be received regarding total or partial crop failure through the use of seed oats that did not germinate. Many such cases are reported from the province of Quebec and some from other districts. The cause of failure is nearly always the use of oats for seed that have been injured by frost. This is a fruitful source of trouble every year where seed oats are purchased and the supplies are bought through the regular commercial channels, and it is difficult to deal with this problem without the co-operation of the farmers as well as the seed merchants. Often the fault is apparently with the local seed dealer, who purchases ordinary commercial oats, No. 2 C. W. or a lower grade, and sells them to the farmers for seed without having them tested either for germination or purity. Where cases of this sort can be established prosecution is possible under the Seed Control Act, and a number of dealers will be brought into court this season. On the other hand perhaps most of the cases are due to the farmer's carelessness in not having the oats tested when he knows that they are not seed oats. Many dealers, for their own protection against the Act, make plain to the farmers that the oats which they hold for sale are not seed oats; but they sell them on appearance and tell the farmer that he may do what he likes with them. Under such circumstances the farmer has only himself to blame.

Reports from the clover seed producing sections of Ontario are much more favourable this season than they have been for a number of years.

and prospects are good for both the alsike and red clover crops. In most sections the stand is good, and weeds are not as prevalent as when the clover is partially killed out. The rains, which have occurred in most sections of the seed-producing area, have given the second growth of red clover a good start.

The disposition of screenings from the terminal elevators is being further looked into this season. The shipments from Fort William and Port Arthur are being followed to Chicago and the other large distributing centres in the United States, and detailed information is being secured regarding the uses to which the screenings are put and the methods which are employed to destroy the vitality of the weed seeds.

Ottawa, July 19.

E. D. Eddy, for Seed Commissioner.

### CROP REPORTS FROM OTHER COUNTRIES.

**England and Wales.** The Board of Agriculture reports (July 1) that June was a warm and dry month, which was on the whole not detrimental to the wheat crop; indeed, in the more humid western districts, the month appears to have been favourable, but on the eastern side it was rather too dry. Wheat generally, on lighter soils, looks healthy and well, but is poorer on land that received too much wet in the winter. The yield for the country generally is expected to prove rather below average; it is more nearly average in the north. Although below normal it is nevertheless upon the whole decidedly the best of the three grain crops. Neither barley nor oats is satisfactory, especially the latter, but both seem to be rather better in the north than in the south. Straw is generally reported to be short. Haymaking is, upon the whole, rather early, and in most parts of the south at least a large proportion had been cut and carted by the end of the month. Crops are generally heavy, especially seeds' hay, while meadow hay, although lighter than seeds, is nearly everywhere above the average. The crop has perhaps proved not quite so bulky as was anticipated a month ago, but it is a distinctly good one upon the whole. The weather has proved excellent for the in-gathering, and the crop has so far been got in in very good condition. Summarising the returns and expressing an average crop by 100 the condition of the crops on July 1 indicated probable yields which may be denoted by the following percentages: Wheat, 96; barley, 93; oats, 91; beans, 99; peas, 96; potatoes, 96; mangold, 92; seeds' hay, 108; meadow hay, 103; hops, 92.

**Ireland.** The Irish Department of Agriculture reports (July 11) that the cereal crops which have just now shot into ear are all described as doing well. Owing to the lateness of the seeding time and the unfavourable state of the soil all the crops are thinner and shorter than in other years, and there is likely to be a decrease in the yield of straw. Barley is described as very uneven, but though sown very late gives better promise than oats. The past fortnight has effected much improvement in the appearance of fields, which are now fully shot. Rye is good and promises to be a fair average crop. Potatoes are on the whole uneven and backward but are mak-

ing strong growth since warm weather set in ; the crop is fully a fortnight to three weeks later than last season.

Reports regarding the flax crop are variable, but are for the most part unfavourable.

**India.** The Indian Trade Journal of May 29 gives the final general memorandum of the Indian Government upon the wheat crop for the season of 1912-13. It relates to 99·7 p.c. of the total reported area under wheat in India. The total area under wheat is reported to be 29,542,000 acres which is 1,599,000 acres, or 5·1 p.c. below the revised figure for 1911-12, but 2,146,000 acres, or 7·8 p.c. above the average of the preceding five years. The total out-turn is estimated at 358,314,000 bushels as compared with 370,515,000 bushels for 1911-12, representing a decrease of 12,201,000 bushels or 3·3 p.c. ; but it exceeds the average of the preceding five years by 45,894,000 bushels or 14·7 p.c.

In the final general memorandum on spring oil seeds the total area under the unmixed crop is returned at 3,386,200 acres as against 4,304,800 in 1911-12—a decrease of 21·3 p.c. As compared with the average of the preceding five years it shows an increase of 28·2 p.c. The area under the mixed crop is estimated at 667,000 acres which is some 11 p.c. less than last year and 25·6 p.c. above the quinquennial average. The total out-turn (mixed and unmixed) is estimated at 21,428,000 bushels as compared with 25,680,000 bushels last year—a decrease of 16·6 p.c. Compared with the average of the preceding five years the present estimate is greater by 41·2 p.c.

**Holland.** H. M. Chargé d'Affaires at The Hague communicates a report of the Dutch Ministry of Agriculture, dated June 10, which states that on the whole spring cereals are very satisfactory. There is plenty of grass, whilst the hay crop promises to be extraordinarily plentiful. At the same time excessive rains at the beginning of June threaten to injure several crops or have already done so, and consequently dry weather is hoped for. The condition of wheat in Zealand is fairly good. In North Brabant it is very good to good, elsewhere it is good to very good. Rye, although not definitely unsatisfactory, is inferior to what it has been during recent years. Of all cereals oats are the most promising although the rain did some injury ; the warm weather now prevailing is aiding a rapid recovery. The condition is everywhere good or very good. Winter barley is good or fairly good ; spring barley is everywhere good. Flax has struck root well and has developed satisfactorily. In Zealand the crop is very unequal. The disease called " brand " has occurred rather considerably, and in certain fields the flax is suffering from the rain, so that on the whole the condition is not more than fairly good. In North Holland, South Holland, and Western North Brabant, the condition is good ; in Groningen it is from good to very good.

**Germany.** The Imperial Statistical Bureau reports (June 7) that the condition of both winter and summer crops was generally satisfactory at the beginning of June. On July 7 the Bureau reports that with the exception of districts affected by drouth, from which rye especially suffered more or less



severely, the condition of winter crops is generally satisfactory. Varying reports are received as to the condition of the spring crops, some showing a favourable condition and good prospects, others that development had been checked. Oats are reported as showing upon the whole the least favourable condition.

The following statement shows numerically the condition at the beginning of June and July 1913, compared with the corresponding dates of last year :

| Crop                    | July 1<br>1913 | July 1<br>1912 | June 1<br>1913 | June 1<br>1912 |
|-------------------------|----------------|----------------|----------------|----------------|
| Winter wheat.....       | 2.5            | 2.3            | 2.4            | 2.3            |
| Spring wheat.....       | 2.7            | 2.2            | 2.5            | 2.3            |
| Winter spelt.....       | 2.3            | 2.0            | 2.4            | 2.0            |
| Winter rye.....         | 2.6            | 2.4            | 2.6            | 2.6            |
| Spring rye.....         | 2.6            | 2.3            | 2.6            | 2.4            |
| Spring barley.....      | 2.4            | 2.1            | 2.4            | 2.2            |
| Oats.....               | 2.8            | 2.5            | 2.5            | 2.4            |
| Potatoes.....           | 2.7            | 2.6            | 2.7            | 2.7            |
| Clover and grasses..... | 2.7            | 3.2            | 2.7            | 3.4            |
| Alfalfa.....            | 2.5            | 2.5            | 2.6            | 2.8            |
| Water meadows.....      | 2.1            | 2.0            | 2.1            | 2.2            |
| Other meadows.....      | 2.5            | 2.3            | 2.6            | 2.7            |

Scale 1=very good, 2=good, 3=average, 4=poor, 5=very poor.

**Hungary.** The Hungarian Department of Agriculture reports (June 23) that wheat has ceased flowering and the grain is developing. The ears are very full and the grain which is developing slowly, is of fine, large size. The following are preliminary estimates of the total yields of wheat and rye : Wheat 147,847,000 bushels from 7,701,000 acres ; rye 51,012,000 bushels from 2,674,000 acres. Last year the yield of wheat was 173,328,000 bushels from 8,749,000 acres and of rye 54,142,000 bushels from 2,795,000 acres.

**Russia.** A report from the British Embassy at St. Petersburg, dated June 20 and received through the British Foreign Office, states that the Russian Ministry for the Interior has published the following official communicate as to the condition of the crops on May 15/28 of this year. Reports have been received by the Ministry from 75 of the 91 governments which furnish statistics on this matter. Only in five of these 75 governments are the winter sowings declared to be in an "unsatisfactory" condition. The spring sowings are classed as "unsatisfactory" also in five governments only. In the remaining governments harvest prospects are regarded as favourable, as in the majority of cases both winter and spring sowings are reported to be "above satisfactory." As compared with the reports received as to the harvest prospects a fortnight ago, a slight change for the worse has taken place in a "very few" governments, but the change is too slight and the governments affected are too unimportant as regards areas under cultivation to make any appreciable difference in the general outlook. As compared with the same period last year the present condition of the crops is somewhat less satisfactory. In May 1912 only one

per cent of the winter sowings was "unsatisfactory", as against seven p.c. this year while for the spring sowings the proportion of "unsatisfactory" in 1912 was three p.c. as against rather more than seven p.c. this year.

H.M. Consul at Batoum reports (June 17) that the winter wheat crops are looking up well in the district of his consulate, and the yield is likely to be good and fairly abundant, provided weather conditions remain favourable until harvest time. Maize sowing in the western Caucasus has just been completed. The corn is now sprouting in the hill districts under exceptionally favourable conditions, but maize fields situated on low-lying lands are suffering much from excessive moisture owing to imperfect drainage. H. M. Consul at Odessa reports (June 24) that the condition of the growing crops in the thirteen governments of his consular district at the middle of June (x.s.), was on the whole satisfactory or good. In parts rain was much wanted. The exceptions which are noted are that in parts of Bessarabia and of Kherson the maize and spring wheat are not fully satisfactory. It should be stated that in these reports "good" is better than "satisfactory".

The St. Petersburg Commercial Gazette of June 9/22 reports a slight general increase in this year's flax sowings of European Russia. It is also reported that by June 1/14 the total area of the Russian beet sowings amounted to 1,808,395 acres as against 1,887,902 acres by the same date last year. The general condition is fully satisfactory.

**Smyrna.** A memorandum by Mr. Vice-Consul Heathcote Smith (June 6) stated that barley would be on the market in another fortnight. The general opinion credits the barley with being both abundant and well developed. Fears were entertained a few months ago for the safety of all crops, owing to the presence of inordinate quantities of locusts in the province. A virus of the Vicomte d'Herelle is being used with excellent results, and the maximum of damage the locusts can now do is daily being reduced to an appreciable extent; but it is as yet too early to speak of the complete extermination of the locusts, though hopes are entertained that the application of the virus may bring this about.

**United States.** The Crop Reporting Board of the U.S. Department of Agriculture, issued on July 9 the following estimates of the areas under the principal crops:

| Crop              | Acres       | Per cent of<br>1912 | Crop             | Acres     | Per cent of<br>1912 |
|-------------------|-------------|---------------------|------------------|-----------|---------------------|
| Winter wheat..... | 30,938,000  | 116.4               | Barley.....      | 7,255,000 | 96.3                |
| Spring wheat..... | 18,665,000  | 97.0                | White potatoes.. | 3,685,000 | 99.3                |
| All wheat.....    | 49,601,000  | 108.3               | Tobacco.....     | 1,144,350 | 93.4                |
| Corn.....         | 106,884,400 | 99.8                | Flax.....        | 2,425,000 | 85.1                |
| Oats.....         | 38,341,000  | 101.1               | Rice.....        | 824,100   | 114.0               |

The following table gives the indicated yields for 1913, with comparative figures of condition and yield. The indicated yield for 1913 is interpreted from the reports on condition.

| Crop            | Condition in per cent of normal |             |                    |             | Yield per acre |            |                   | Total yield in millions of bushels |            |            |             |
|-----------------|---------------------------------|-------------|--------------------|-------------|----------------|------------|-------------------|------------------------------------|------------|------------|-------------|
|                 | July 1 1913                     | July 1 1912 | Ten year aver- age | June 1 1913 | 1913           | 1912 final | Aver- age 1908-12 | 1913                               | 1912 final | 1910 final | 1909 census |
|                 | p. c.                           | p. c.       | p. c.              | p. c.       | bush.          | bush.      | bush.             | bush.                              | bush.      | bush.      | bush.       |
| Winter wheat... | 81.6                            | 73.3        | 79.9               | 83.5        | 15.6           | 15.1       | 15.2              | 483                                | 400        | 430        | 418         |
| Spring wheat... | 73.8                            | 89.3        | 85.3               | 93.5        | 11.7           | 17.2       | 13.3              | 218                                | 330        | 191        | 265         |
| All wheat...    | 78.6                            | 80.1        | 81.9               | 87.2        | 14.1           | 15.9       | 14.5              | 701                                | 730        | 621        | 683         |
| Corn...         | 86.9                            | 81.5        | 84.0               | -           | 27.8           | 29.2       | 26.5              | 2,971                              | 3,125      | 2,531      | 2,552       |
| Oats...         | 76.3                            | 89.2        | 84.5               | 87.0        | 26.9           | 37.4       | 29.7              | 1,031                              | 1,418      | 922        | 1,007       |
| Barley...       | 76.6                            | 88.3        | 85.5               | 87.1        | 22.8           | 29.7       | 24.5              | 165                                | 224        | 160        | 173         |
| Rye...          | 88.6                            | 88.2        | 89.7               | 90.2        | 16.1           | 16.8       | 16.2              | -                                  | 30         | 33         | 30          |
| White potatoes  | 86.2                            | 88.9        | 88.9               | -           | 93.1           | 113.4      | 96.1              | 343                                | 421        | 293        | 389         |
| Flax...         | 82.0                            | 88.9        | 87.2               | -           | 8.7            | 9.8        | 8.2               | 21                                 | 28         | 19         | 20          |
| Rice...         | 83.4                            | 86.3        | 88.5               | -           | 33.0           | 34.7       | 33.7              | 27                                 | 25         | 23         | 22          |
| Hay...          | 80.5                            | 85.2        | 82.2               | 87.5        | ton.           | ton.       | ton.              | tons.                              | tons.      | tons.      | tons.       |
|                 |                                 |             |                    |             | 1.38           | 1.47       | 1.38              | -                                  | 73         | 55         | 69          |
| Tobacco...      | 82.8                            | 87.7        | 84.8               | -           | lb.            | lb.        | lb.               | lb.                                | lb.        | lb.        | lb.         |
|                 |                                 |             |                    |             | 809.6          | 785.5      | 822.3             | 926                                | 963        | 905        | 1,056       |

\*Five year average.

The amount of wheat remaining on farms on July 1 is estimated at 4.9 p.c. of last year's crop, or about 35,515,000 bushels, as compared with 23,876,000 on July 1 1912 and 34,071,000 on July 1, 1911.

**International Statistical Institute.** The 14th Session of the International Statistical Institute will be held at Vienna, Austria, from September 8 to 13 next, when the Government of Canada will be officially represented by Mr. Ernest H. Godfrey, F.S.S., of the Census and Statistics Office, Ottawa, who was elected a member of the Institute in 1910. The International Statistical Institute was founded in 1885 for the purpose of promoting the progress of administrative and scientific statistics: (1) By ascertaining and recommending suitable methods for obtaining as far as possible uniformity in the schedules and in the compilation of statistical records, in order to render comparable the results obtained in different countries. (2) By means of resolutions calling the attention of Governments to questions capable of solution by statistical observations. (3) By issuing international publications intended to elucidate statistical questions and by establishing permanent relations between the statisticians of all countries. (4) By helping, wherever possible, through other publications, instruction and various means, to diffuse statistical ideas and to interest statesmen and scientists in the examination of social facts. The membership of the Institute is limited to 200.

## INTERNATIONAL INSTITUTE OF AGRICULTURE.

The Bulletin of agricultural statistics for June publishes the following information as received up to June 15, including the area to be harvested, the condition on June 1 and, for certain countries, a forecast of the probable yield of the chief cereals. Condition is expressed numerically by a percentage scale in which 100 represents the promise of a yield equal to that of the past ten years, supposing the crop not to be subjected to the effects of any extraordinary phenomena up to the time of harvest.

## I. Area and Condition of Cereals on June 1, 1913.

| Countries                  | Wheat                        |                             |                |               |                | Rye                          |                             |                |               |                |
|----------------------------|------------------------------|-----------------------------|----------------|---------------|----------------|------------------------------|-----------------------------|----------------|---------------|----------------|
|                            | Area to be harvested<br>1912 | Per cent of area of<br>1913 | Condition      |               |                | Area to be harvested<br>1913 | Per cent of area of<br>1913 | Condition      |               |                |
|                            |                              |                             | June 1<br>1912 | May 1<br>1913 | June 1<br>1912 |                              |                             | June 1<br>1912 | May 1<br>1913 | June 1<br>1912 |
|                            | 000<br>acres                 | p.c.                        | p.c.           | p.c.          |                | 000<br>acres                 | p.c.                        | p.c.           | p.c.          | p.c.           |
| Belgium. . . . .           | 394                          | 94.4                        | -              | -             | -              | 641                          | 98.6                        | -              | -             | -              |
| Bulgaria . . . . .         | 2,769                        | 100.0                       | 115            | -             | 100            | 531                          | 100.0                       | 120            | -             | 100            |
| Denmark (a). . . . .       | 100                          | 100.0                       | 93             | 93            | 99             | 682                          | 100.0                       | 95             | 93            | 90             |
| Spain. . . . .             | 9,012                        | 93.7                        | -              | -             | -              | 1,861                        | 95.7                        | -              | -             | -              |
| France. . . . .            | 16,175                       | 100.0                       | -              | -             | -              | 2,947                        | 98.3                        | -              | -             | -              |
| England and Wales. . . . . | 1,800                        | 96.5                        | -              | -             | -              | -                            | -                           | -              | -             | -              |
| Scotland . . . . .         | -                            | 90.0                        | 100            | 100           | 100            | -                            | -                           | -              | -             | -              |
| Hungary (proper). . . . .  | 8,127                        | 94.0                        | -              | -             | -              | 2,674                        | 95.7                        | -              | -             | -              |
| Luxembourg (a). . . . .    | 27                           | 102.3                       | 135            | 136           | -              | 26                           | 101.3                       | -              | -             | -              |
| Norway. . . . .            | 12                           | 100.0                       | 100            | -             | -              | 37                           | 100.0                       | 80             | -             | -              |
| Netherlands. . . . .       | -                            | -                           | 111            | 111           | 106            | -                            | -                           | 99             | 97            | 111            |
| Rumania. . . . .           | -                            | -                           | 120            | -             | 133            | -                            | -                           | 120            | -             | 120            |
| Sweden (a). . . . .        | -                            | -                           | 105            | -             | 105            | -                            | -                           | 94             | -             | 102            |
| " (b). . . . .             | -                            | -                           | 103            | -             | -              | -                            | -                           | -              | -             | -              |
| Switzerland. . . . .       | 104                          | 99.5                        | 97             | -             | 101            | 61                           | 100.0                       | 96             | -             | 102            |
| Canada (a). . . . .        | 826                          | 105.8                       | 98             | 101           | 86             | 127                          | 93.3                        | 98             | 100           | 98             |
| " (b). . . . .             | 8,991                        | 100.2                       | 98             | -             | 101            |                              |                             |                |               |                |
| U. States (a). . . . .     | 30,938                       | 116.4                       | 103            | 107           | 92             | -                            | -                           | 101            | 100           | 98             |
| " (b). . . . .             | 18,663                       | 97.0                        | 100            | -             | 102            |                              |                             |                |               |                |
| India (1). . . . .         | 29,542                       | 94.9                        | -              | -             | -              | -                            | -                           | -              | -             | -              |
| Japan. . . . .             | 1,228                        | 98.4                        | -              | -             | -              | -                            | -                           | -              | -             | -              |
| Algeria (2). . . . .       | 2,780                        | 101.3                       | -              | -             | -              | (3)                          | 227.3                       | -              | -             | -              |
| Egypt Lower . . . . .      | -                            | -                           | 109            | 105           | 107            | -                            | -                           | -              | -             | -              |
| " Upper . . . . .          | -                            | -                           | 121            | 116           | 125            | -                            | -                           | -              | -             | -              |
| Tunis. . . . .             | 1,254                        | 889                         | -              | -             | -              | -                            | -                           | -              | -             | -              |

(1) About 99.7 of the total reported area under wheat in India.

(2) Excluding the department of Algiers. (3) 865 acres.

(a) Winter sown. (b) Spring sown.



## I. Area and Condition of Cereals on June 1, 1913—con.

| Countries                | Barley                    |                          |             |            |             | Oats                      |                          |             |            |             |
|--------------------------|---------------------------|--------------------------|-------------|------------|-------------|---------------------------|--------------------------|-------------|------------|-------------|
|                          | Area to be harvested 1913 | Per cent of area of 1912 | Condition   |            |             | Area to be harvested 1913 | Per cent of area of 1912 | Condition   |            |             |
|                          |                           |                          | June 1 1913 | May 1 1913 | June 1 1912 |                           |                          | June 1 1913 | May 1 1913 | June 1 1912 |
|                          | 000 acres                 | p.c.                     | p.c.        | p.c.       | p.c.        | p.c.                      | p.c.                     | p.c.        | p.c.       | p.c.        |
| Belgium, ..              | 84                        | 99.7                     | -           | -          | -           | 671                       | 103.6                    | -           | -          | -           |
| Bulgaria, ...            | 642                       | 100.0                    | 120         | -          | 100         | 395                       | 100.0                    | 100         | -          | 100         |
| Denmark, ...             | 578                       | 100.0                    | 99          | 100        | 100         | 996                       | 100.0                    | 107         | 100        | 100         |
| Spain, .....             | 3,576                     | 108.4                    | -           | -          | -           | 1,320                     | 103.3                    | -           | -          | -           |
| France, .....            | 1,867                     | 99.9                     | -           | -          | -           | 9,981                     | 99.8                     | -           | -          | -           |
| England and Wales, ..... | 1,455                     | 99.9                     | -           | -          | -           | 2,033                     | 98.1                     | -           | -          | -           |
| Scotland, .....          | -                         | -                        | 100         | -          | -           | -                         | -                        | 100         | -          | -           |
| Hungary (proper), ...    | 3,004                     | 115.4                    | -           | -          | -           | 3,021                     | 122.2                    | -           | -          | -           |
| Luxemburg, ..            | 3                         | 103.8                    | 125         | 122        | 100         | 77                        | 100.0                    | 120         | 117        | 95          |
| Norway, .....            | 84                        | 100.0                    | 100         | -          | -           | 263                       | 100.0                    | 100         | -          | -           |
| Netherlands (a)          | -                         | -                        | 99          | 109        | 102         | -                         | -                        | 120         | -          | 102         |
| " (b)                    | -                         | -                        | 108         | -          | 105         | -                         | -                        | -           | -          | -           |
| Rumania, ...             | -                         | -                        | 120         | -          | 120         | -                         | -                        | 120         | 120        | 120         |
| Sweden, .....            | -                         | -                        | 110         | -          | 118         | -                         | -                        | 108         | -          | 118         |
| Switzerland, ..          | 12                        | 100.0                    | 98          | -          | 102         | 82                        | 100.0                    | 98          | 97         | 100         |
| Canada, .....            | 1,425                     | 100.7                    | 99          | -          | 98          | 9,600                     | 104.3                    | 99          | -          | 98          |
| U. States, ...           | 7,255                     | 96.3                     | 96          | -          | 100         | 38,342                    | 101.1                    | 98          | -          | 103         |
| Japan, .....             | 3,106                     | 99.2                     | 116         | -          | 113         | -                         | -                        | -           | -          | -           |
| Algeria (1), ...         | 2,545                     | 94.5                     | -           | -          | -           | 408                       | 103.3                    | -           | -          | -           |
| Egypt (upper)            | -                         | -                        | 120         | 117        | 120         | -                         | -                        | -           | -          | -           |
| Tunis, .....             | 1,118                     | 94.1                     | -           | -          | -           | 148                       | 110.4                    | -           | -          | -           |

(1) Excluding the department of Algiers.

(a) Winter sown. (b) Spring sown.

## II. Area and Estimate of probable yield of Cereals, 1913.

| Countries                | Area to be harvested 1913 | Per cent of area of 1912 | Estimate of yield 1913 | Yield of 1912 | Per cent of yield of 1912 |
|--------------------------|---------------------------|--------------------------|------------------------|---------------|---------------------------|
|                          | "000" acres               | p.c.                     | "000" bush.            | "000" bush.   | p.c.                      |
| Wheat—                   | 2,769                     | 100.0                    | 67,976                 | 63,750        | 106.6                     |
| Bulgaria, .....          | 100                       | 100.0                    | 4,085                  | 3,615         | 113.0                     |
| Denmark, .....           | -                         | -                        | 183,718                | 165,721       | 110.9                     |
| Italy, .....             | 27                        | 102.3                    | 707                    | 660           | 107.1                     |
| Luxemburg, .....         | 30,938                    | 116.4                    | 492,008                | 390,925       | 123.0                     |
| United States (a), ..... | 18,663                    | 97.0                     | 252,604                | 230,353       | 74.3                      |
| " (b), .....             | 29,542                    | 94.9                     | 358,314                | 370,514       | 96.7                      |
| India, .....             | 1,228                     | 98.4                     | 27,029                 | 25,622        | 105.2                     |
| Japan, .....             | -                         | -                        | -                      | -             | -                         |
| Rye—                     | 531                       | 100.0                    | 13,779                 | 12,401        | 111.1                     |
| Bulgaria, .....          | 682                       | 100.0                    | 17,999                 | 18,894        | 95.2                      |
| Denmark, .....           | 26                        | 101.3                    | 108                    | 652           | 108.6                     |
| Luxemburg, .....         | 40,232-2½                 | -                        | -                      | -             | -                         |

## II. Area and Estimate of probable yield of Cereals, 1913.—con.

| Countries          | Area to be harvested 1913 | Per cent of area of 1912 | Estimate of yield 1913 | Yield of 1912 | Per cent of yield of 1912 |
|--------------------|---------------------------|--------------------------|------------------------|---------------|---------------------------|
|                    | "000" acres               | p.c.                     | "000" bush.            | "000" bush.   | p.c.                      |
| Barley—            |                           |                          |                        |               |                           |
| Bulgaria.....      | 642                       | 100·0                    | 18,392                 | 18,372        | 100·0                     |
| Denmark.....       | 578                       | 100·0                    | 23,042                 | 25,961        | 92·2                      |
| United States..... | 7,255                     | 96·3                     | 176,986                | 223,819       | 79·1                      |
| Japan.....         | 3,106                     | 99·2                     | 101,073                | 99,575        | 101·5                     |
| Oats—              |                           |                          |                        |               |                           |
| Bulgaria.....      | 395                       | 100·0                    | 12,968                 | 11,347        | 119·3                     |
| Denmark.....       | 996                       | 100·0                    | 48,932                 | 48,765        | 100·3                     |
| United States..... | 38,342                    | 101·1                    | 1,039,061              | 1,334,909     | 77·8                      |

(a) Winter sown.

(b) Spring sown.

**Corn.** The following are the areas reported as sown to corn in the countries named: Bulgaria 1,606,000 acres, the same as last year, Hungary proper 6,757,000 acres, or 10·3 p.c. more than last year, France 1,020,000, or 13·6 p.c. less than last year, Switzerland 3,000 acres or 2·3 p.c. less than last year. The condition on June 1 in Bulgaria and Rumania is expressed by 120 and in Switzerland by 100.

**Flax.** The acreages sown to flax are: Belgium 57,000, France 69,000, Hungary proper 32,400 and British India 4,053,000. These figures represent increases of 6·8 p.c. Belgium and 2·8 p.c. Hungary. In India the area is less than in 1912 by 19·8 p.c. The forecast of yield for India is 21,428,000 bushels, as compared with 25,680,000 bushels in 1912, or 16·6 p.c. less.

**Sugar Beet.** The areas under sugar beet are reported in acres as follows: Belgium 129,600 (153,000), Bulgaria 7,400 (7,400), Denmark 76,600 (75,000), France 572,000 (606,900, Hungary proper 459,000 (426,000). The figures within parentheses are those of 1912.

**New Zealand Harvest of 1912-13.** Table III gives the definitive figures of area and yield in New Zealand for the harvest of 1912-13, compared with 1911-12 as follows:

### III Harvest of New Zealand, 1912-13, compared with 1911-12.

| Crop        | 1912-13 | 1911-12 | Per cent of 1911-12 | 1912-13    | 1911-12    | Per cent of 1911-12 | 1912-13        | 1911-12        |
|-------------|---------|---------|---------------------|------------|------------|---------------------|----------------|----------------|
|             | acres   | acres   | p.c.                | bush.      | bush.      | p.c.                | bush. per acre | bush. per acre |
| Wheat.....  | 190,000 | 216,000 | 88·1                | 5,131,000  | 7,908,000  | 64·9                | 27·06          | 36·73          |
| Barley..... | 37,000  | 32,000  | 118·5               | 1,411,000  | 1,307,000  | 109·0               | 37·73          | 41·26          |
| Oats.....   | 387,000 | 404,000 | 95·8                | 15,422,000 | 12,554,000 | 68·4                | 39·89          | 55·89          |

## MEETING OF THE GENERAL ASSEMBLY OF THE INSTITUTE.

The fourth session of the general assembly of the International Institute of Agriculture was held at Rome, Italy, on May 6 last and following days, when the Dominion of Canada was represented by a delegation consisting of Dr. P. Cousineau, K.C., (Chairman), Mr. R. F. Stupart, F.R.S.C., Director of the Dominion Meteorological Service, and Mr. T. K. Doherty, LL.B., Commissioner of the Institute for Canada. Amongst the subjects discussed were the statistics of agriculture, live stock, commerce, fertilisers and co-operation, the protection of birds, dry farming, agricultural book-keeping, agricultural meteorology, plant diseases and insurance against loss by hail.

In connection with the administration of the Institute the president (Marquis Cappelli) reported that since the last meeting of the general assembly in 1911 five new States had given in their adhesion, making the total number of adhering countries to be 53. The new States to adhere were Paraguay, the Union of South Africa, Guatemala, Dutch East Indies, Tripolitania and Cyrenaica. Development of the Institute's work called for increased contributions, and the president submitted a proposal that from January 1 1914 the contribution from the adhering States should be raised from 1,500 francs (\$289.50) to 2,500 francs (\$482.50) per unit, the maximum provided for by the convention of 1905. This proposal was approved by the general assembly.

It was resolved to request the International Statistical Institute, whose 14th session will take place at Vienna in September next, to consider and make specific recommendations upon the unification of statistics relating to cultivated areas and to preliminary, provisional and final estimates of yield. The Permanent Committee were requested to prepare a scheme of the points to be submitted to the Statistical Institute.

Proposals were made by Mr. Doherty for acceleration of the crop-reporting services of the adhering countries. He suggested the Institute might ultimately fix the 10th of each month instead of the 15th as at present, as the limit for the transmission of data; so that the Institute by the noon of the next day might cable to the adhering countries a summary of the data, to be published within a day or two in greater detail in the monthly Bulletin. It was arranged that Mr. Doherty's proposals should be considered by the Permanent Committee.

Resolutions were passed in favour of the collection by each State of annual statistics of live stock, and the period recommended for the enumeration was between the months of December and April. A scheme of classification for horses, cattle, sheep and swine was approved.

In connection with the formation by the International Meteorological Committee of a permanent International Commission of Agricultural Meteorology, the general assembly drew up a series of twelve questions for the examination of the Commission, the membership of which includes Dr. W. N. Shaw, F.R.S., Director of the British Meteorological Office and president of the International Meteorological Committee, and Mr. R. F. Stupart, Director of the Canadian Meteorological Service.

Recommendations in favour of international action respecting plant diseases, the adulteration of seeds, co-operation and insurance against hail, were made in connection with reports from, or suggestions to the Permanent Committee of the Institute.

## POINTERS ON PRACTICAL AGRICULTURE.

**Sheep Breeding.** This country being of undulating character, I think that the raising of sheep would be more profitable than the cultivation of grain, if the Government would undertake to find animals for farmers at a reasonable price and especially animals of prolific breeds. — EMILE JACQUES, Wilkie, Sask.

**Angora Goats.** I suggest that it should be beneficial to farmers in a scrubby district such as we have here to raise Angora goats. In my opinion they are better suited to such places than sheep: their principal value would be to clear the land of a great deal of the small scrub. Moreover their yearly crop of mohair would be a considerable source of revenue. Their meat is much relished; in fact I believe it is equal to mutton. These results are obtainable from food that sheep cannot possibly dispose of. I am so convinced of their superiority over sheep that I am determined to give goats a trial, and the principal reason of this communication is to secure help and information with regard to the purchase of animals. — T. H. WARD, Deepdale, Manitoba.

**Orange Hawkweed.** Weeds must be ceaselessly guarded against. A weed which threatens to establish itself and which few farmers watch against is the Orange Hawkweed (*Hieracium aurantiacum*, L.); it is very troublesome. The means of combating it is by the growth of hoed crops, or where this method is not profitably applicable it may be destroyed by a thin covering of salt. As soon as the plants are visible the stalks and roots should be pulled up and with a spreading of common salt the weed will not reappear. — LAURENT TARDIF, St-Germain, Kamouraska, P. Q.

**Sweet Grass** (*Hierochloa odorata*). 1. This district is badly infested with Sweet Grass, especially on summer fallow, and according to the numerous queries in the farm papers it appears to be general over the west. Means of eradication as given in the answers to several inquiries are unsuitable for my district and generally for northeastern Saskatchewan. Summer fallowing only tends to spread the weed, as it is impossible to bring all the roots to the surface and burn them. If it should happen to rain about the time you get them to the surface, your field will be green in a short while, and where there was no grass the harrows have done their job well and sown that also with grass, especially if they are not lever harrows. I have found Professor Bedford's way best with the exception that he recommends the middle of May and I the last week of May or first week of June, as the weed is in bloom then in this district. I quote his words: "Allow the Sweet Grass to grow until about the middle of May when it is to be ploughed about 5 in. deep, at once harrowed, or, if very matted, rolled and imme-



diately sown with barley, three bushels per acre. It is then well-packed, and the result is a rapid germination of barley; the vegetation is vigorous and soon smotheres the grass.—W. BARNETT, Elfross, Sask.

2. I notice through the different farmers' magazines that a good many are inquiring as to the best method of killing Sweet Grass, which is very troublesome on light soil. From experience I have found that this grass can be eradicated by ploughing the last thing before freezing up, and leaving open to the action of the frost, which kills practically all the roots. I do not harrow down, but leave as ploughed; it is best done on summer fallow as the spots are green and it can be seen just where to plough. This weed is a persistent grower, and surface cultivation does not kill the roots, it only spreads the plant, as the roots grow wherever the harrow drags them on to other parts of the field. The Sweet Grass is a native of the west and is often mistaken for Couch Grass. The difference can be easily distinguished from the smell. I have practised the above method for 15 years with fair success.—A. J. YOUNG, Outlook, Sask.

**Injurious Insects and Weeds.** After complete destruction of the eggs of the tent caterpillar my trees have not been damaged by this destructive insect. We have but few potato beetles this year, and probably the ice in spring was hurtful to them. Cutworms are controlled by carbolic balls crushed into powder and placed in small quantities around vegetables, cabbages, tomatoes, etc. The best method for the destruction of weeds—one that has always succeeded with me—is to subject the infested land to a monthly harrowing with a good harrow and the next year to sow buckwheat with a small quantity of manure. By this means the weeds are destroyed. We lose a year's produce, it is true, but to be rid of the weeds is well worth the trouble.—THEODILE CLOUTIER, L'Islet, P. Q.

## AGRICULTURE IN ONTARIO.

Census Bulletin VII, dated June 24, 1913, gives, subject to final revision, the results of the agricultural census of 1911 for the province of Ontario, with comparative data of the census of 1901. In the introduction it is stated that the first settlers of the province were largely refugees from the United States, who, in 1784, to the number of 10,000, braved the rigours of the unbroken forest rather than forego their allegiance to the motherland. No census of the province was taken until 1824, when the population was 150,066. An estimate by Bouchette gave the population in 1906 as 70,718, and in 1811 the population was 77,000, the latter figure being calculated from the assessment rolls furnished to the provincial legislature. In 1911 the population was returned as 2,523,274, an increase of 340,327 since 1901. This increase is confined to the urban population, for the rural population has declined from 1,295,326 in 1891 to 1,246,969 in 1901 and to 1,194,785 in 1911.

At the date of the census of 1911 the area of the province was 166,951,636 acres, since increased by the Extension of Boundaries Act 1912 to 260,647,636 acres or 407,262 square miles, an area more than three times the size of the United Kingdom and more than twice the size of either

France or Germany. The total area of occupied land in 1911 was 21,933,700 acres of which only 15.54 p.c. was occupied for agricultural purposes. The number of farm holdings in 1911 was 223,260 as compared with 224,127 in 1901; but this decrease has occurred wholly in the case of the smaller holdings. Occupiers of less than one acre have decreased by 5,659 and those of from one to five acres by 225. These small holdings being usually contiguous to cities and towns the natural tendency is to convert them into building lots. The following table shows the distribution of agricultural holdings in 1901 and 1911 according to size :

| Occupiers of            | 1901   | 1911   | Occupiers of            | 1901    | 1911    |
|-------------------------|--------|--------|-------------------------|---------|---------|
|                         | No.    | No.    |                         | No.     | No.     |
| Under 1 acre .....      | 20,073 | 14,570 | 51 to 100 acres.....    | 76,164  | 77,171  |
| 1 to under 5 acres..... | 18,639 | 18,414 | 101 to 200 acres .....  | 52,534  | 54,344  |
| 5 to 10 acres.....      | 7,474  | 8,614  | 201 acres and over..... | 14,331  | 14,765  |
| 11 to 50 acres.....     | 34,912 | 35,382 | Total.....              | 224,127 | 223,260 |

Field crops occupied a total of 9,691,116 acres in 1911, as compared with 9,212,478 in 1900, an increase of 478,638 acres, or 5.19 p.c. The following table shows the area, total yield and yield per acre of the principal field crops of the province for the years 1900 and 1910 :

| Crop                    | 1900      | 1910      | 1900       | 1910       | 1900              | 1910              |
|-------------------------|-----------|-----------|------------|------------|-------------------|-------------------|
|                         | acres     | acres     | bush.      | bush.      | bush.<br>per acre | bush.<br>per acre |
| Fall wheat.....         | 1,115,156 | 759,916   | 21,879,006 | 17,863,306 | 19.61             | 23.50             |
| Spring wheat .....      | 372,477   | 110,439   | 6,539,901  | 1,979,325  | 17.79             | 17.92             |
| All wheat.....          | 1,487,633 | 870,355   | 28,418,907 | 19,842,631 | 19.10             | 22.79             |
| Barley.....             | 586,010   | 503,129   | 16,087,862 | 14,055,327 | 27.45             | 27.93             |
| Oats.....               | 2,707,367 | 2,871,288 | 88,138,974 | 88,916,641 | 32.56             | 30.97             |
| Rye.....                | 161,916   | 92,721    | 2,632,385  | 1,232,493  | 13.37             | 13.29             |
| Corn for husking.....   | 331,641   | 274,846   | 24,463,694 | 13,742,265 | 73.76             | 49.99             |
| Buckwheat.....          | 73,038    | 167,313   | 1,056,998  | 3,362,216  | 14.47             | 19.91             |
| Beans.....              | 42,086    | 40,626    | 767,255    | 726,955    | 18.23             | 17.80             |
| Peas.....               | 586,857   | 321,996   | 11,351,646 | 4,311,133  | 19.34             | 13.38             |
| Flax.....               | 6,388     | 8,780     | 67,276     | 82,901     | 10.53             | 9.42              |
| Mixed grains.....       | 117,020   | 323,329   | 3,365,554  | 10,590,756 | 30.76             | 32.75             |
| Potatoes.....           | 176,170   | 158,363   | 20,042,258 | 17,295,370 | 113.76            | 109.21            |
| Turnips.....            | -         | 76,488    | -          | 54,600,232 | -                 | 452.59            |
|                         |           |           | tons       | tons       | tons              | tons              |
| Hay and clover.....     | 2,606,318 | 3,216,154 | 2,852,465  | 4,418,456  | 1.09              | 1.37              |
| Alfalfa.....            | -         | 45,626    | -          | 95,138     | -                 | 2.10              |
| Corn and forage.....    | -         | 245,048   | -          | 2,296,841  | -                 | 9.37              |
| Other forage crops..... | 166,550   | 26,256    | 939,311    | 58,911     | 5.64              | 2.24              |
| Mangolds.....           | -         | 53,735    | -          | 882,600    | -                 | 16.41             |
| Sugar beets.....        | -         | 15,966    | -          | 182,124    | -                 | 11.40             |
| Other field roots.....  | 169,387   | 2,283     | 1,901,053  | 23,036     | 37.410            | 1.08              |
|                         |           |           | lb.        | lb.        | lb.               | lb.               |
| Tobacco.....            | 3,144     | 7,007     | 3,503,739  | 7,490,211  | 1,114.42          | 1,068.96          |
| Hops.....               | 965       | 365       | 603,075    | 166,110    | 624.91            | 482.49            |

The numbers and values of the principal descriptions of live stock in Ontario for 1901 and 1911 are as follows :

| Description           | 1901      | 1911       | 1901       | 1911        | Increase   | Increase per cent in value |
|-----------------------|-----------|------------|------------|-------------|------------|----------------------------|
|                       | No.       | No.        | \$         | \$          | \$         | p.c.                       |
| Horses .....          | 721,138   | 811,585    | 54,926,679 | 112,518,573 | 57,591,894 | 104.85                     |
| Milch cows ...        | 1,095,763 | 1,032,979  | 32,536,097 | 48,707,678  | 16,171,581 | 49.70                      |
| Other cattle ...      | 1,422,043 | 1,471,694  | 24,641,515 | 33,199,784  | 8,558,269  | 34.73                      |
| Sheep .....           | 1,046,456 | 743,483    | 5,518,403  | 4,480,454   | 1,037,949  | 18.81 <sup>1</sup>         |
| Swine .....           | 1,562,696 | 1,864,165  | 10,575,746 | 13,568,850  | 2,993,104  | 28.30                      |
| Turkeys .....         | 389,431   | 416,706    |            |             |            |                            |
| Geese .....           | 234,415   | 364,295    |            |             |            |                            |
| Ducks .....           | 178,215   | 289,681    | 3,125,166  | 6,214,868   | 3,089,702  | 98.86                      |
| Hens and chickens ... | 9,632,961 | 13,217,146 |            |             |            |                            |

<sup>1</sup>Decrease.

The most noteworthy feature of the crop areas is the decline in the acreage of wheat, amounting to 519,206 acres in 1911 as compared with 1900 and to 617,278 in 1910 as compared with 1900. On the other hand the acreage under hay and clover has increased by 839,591 from 1900 to 1911 and by 609,838 from 1900 to 1910. Alfalfa has an acreage of 75,000, but this crop did not figure in the returns of 1900. Corn for fodder shows also a considerable increase, and potatoes show a decrease of 19,180 acres as compared with 1900. Live stock and poultry have greatly increased in numbers, except in the case of milch cows which are nearly 33,000 less, and sheep which are 302,973 less. The value of all classes of live stock has however greatly increased, and the average value per unit is for horses \$138.64 in 1911 against \$76.17 in 1901, for milch cows \$47.15 against \$30.53, for other horned cattle \$22.56 against \$17.33, for sheep \$6.03 against \$5.27 and for swine \$7.28 against \$6.77.

The average wage for hired labour on farms in 1910 was \$7.16 per week per unit as against \$5.15 in 1900, an increase of 39 p. c. in the weekly cost of farm labour from 1900 to 1910.

## THE BALANCE OF TRADE IN CANADA.

By Professor Adam Shortt, C.M.G., M.A., LL.D., Ottawa.

For over a decade past Canadian imports have increasingly exceeded Canadian exports, until for the twelve months ended April 30, 1913, the returns stand as follows :

|  |               |
|--|---------------|
| Imports not including coin and bullion. .... | \$672,880,978 |
| Exports not including coin and bullion. .... | 385,750,938   |

Leaving an adverse balance of. .... \$287,130,040

At the same time during this period of expanding imports the balance of exchange in gold has not been against Canada, but on the whole in her favour.

What then is the explanation of what appears to be at first sight an anomalous condition of international trade?

The explanation is simple, though the secondary consequences may be somewhat complex and remote. The great proportionate excess of Canadian imports over exports has at once resulted from, and is offset by the borrowing of outside capital by Canadian Governments, corporations and individuals and by the direct investment of outside capitalists in Canadian real estate, mines, timber and various enterprises. The chief channels through which these investments affect the imports and exports of the country may be summarised as follows. The largest investments of borrowed capital, representing hundreds of millions, have been made by the various public authorities,—the Dominion and Provincial Governments and the Municipal Corporations. The three great railway systems of Canada also account for scores of millions, while many other corporations of a semi-public or purely commercial nature, real estate and other investments aggregate a vast total. It is not necessary for our present purpose to consider to what extent the investments made by these various bodies have been necessary, or unnecessary, or whether they are likely to prove profitable or unprofitable. It is an essential fact that the majority of the investments, which have absorbed so many hundreds of millions of borrowed capital, have been of such a nature that while the capital was expended within a few years, many of the returns from them, however beneficial in their effects, will not take an economic form or figure in future exports, as in the case of hundreds of expensive public buildings, civic expenditures of various kinds, churches, clubs, etc. In other cases the returns cannot possibly be immediate, but must extend over many decades, or even centuries, as in the case of railway systems, canals, harbours, city improvements, etc. In many cases also the product must represent educational and social services, which however beneficial to the public or ultimately contributory to the general progress of the country, will not for some time at least affect the production of articles for export or materially diminish imports.

Looking at some of our recent investments of borrowed capital a little more closely, we find that in consequence of the disproportionate investment of capital in permanent but for the time unproductive enterprises of great cost, such as the new railway lines, thousands of immigrants and native Canadians, with all the merchants, manufacturers and middle men more or less dependent upon them, have been employed in building and equipping these railway systems. In their various capacities these people require at once for their means of sustenance, and for the materials, instruments and equipment for their work, a vast amount of domestic products in the way of food, housing, clothing and general supplies. Similarly they require great quantities and a wide range of imported goods. Now the amount of domestic products purchased by these people, who are supported by borrowed capital, diminishes the amount of such articles normally available for export, while the amount of foreign supplies furnished to them greatly increases the imports from abroad. Thus the same conditions curtail the exports on the one hand and increase the imports on the other. Such a situation is made possible only where supported by borrowed capital.



Again, one finds that scores of new towns and villages have sprung up throughout western Canada in the past fifteen years, and a number of comparatively small towns have in this time grown into cities, while some of the older cities, such as Montreal, Toronto, Ottawa, Hamilton, Winnipeg and Vancouver have enormously expanded during the same period. This civic expansion has absorbed many millions of borrowed capital, most of it expended in labour, building materials, and the expensive equipments required for the construction and furnishing of modern cities. Upon these operations again depend many professional men, merchants and middle men generally, and transportation equipment. The effect of all this upon the distribution of population and the direction of domestic capital and business enterprises has naturally been very marked. During the past decade a very large number of native Canadians, as well as immigrants, have been concentrated in the rapidly-growing towns and cities, employed chiefly, either directly or indirectly, in the simple construction of the cities, or in supplying those engaged in this construction.

The rapid expansion of so many civic centres has naturally led to a great increase in the values of real estate. These legitimate increases have been greatly expanded by speculative dealers in prospective values. The profits made in land speculation, construction contracts, and in wholesale and retail trade, have encouraged a spirit of extravagance which has been responsible for the importation of many expensive articles of luxury, and which has naturally aided in developing an adverse balance of trade. All these conditions have given a trend to the investment of domestic, as well as foreign capital to the disadvantage of agricultural and productive industries, whose products except in the building trades have not kept pace with the construction of public works, the growth of cities and the expansion of commercial and financial investments. This very natural but nevertheless abnormal advancement of the country has not hitherto resulted in any inconvenience, because its lack of balance has been entirely met by the constant stream of foreign capital borrowed on Canadian account. A comparatively small proportion of this capital however has come to the country in the shape of money; almost the whole of it has been taken in the shape of goods. Thus the gap between exports and imports has been steadily widening and will continue to do so until the construction of railways and other public works and the building of cities fall off. Then will result the inevitable consequence that a large proportion of people,—employers and employed,—must return to the production of articles for more immediate consumption and export. When this return movement begins the gap between exports and imports will gradually close. Finally, when the principal and interest of the hundreds of millions recently borrowed come to be paid exports will exceed imports with as little disturbance to the exchanges as we have found in the past.

Both sides of the movement have been amply illustrated in the trade returns of the United States at various periods during the past century.

# PRICES OF COLONIAL AND FOREIGN PRODUCE IN BRITISH MARKETS, 1913.

WHEAT (per bushel of 60 lb.)

| Description                | June 2                           |                                  | June 9                           |                                  | June 16                          |                                  | June 23                          |                                  |
|----------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|
|                            | £ s.                             | £ s.                             | £ s.                             | £ s.                             | £ s.                             | £ s.                             | £ s.                             | £ s.                             |
| Canadian No. 1.....        | —                                | —                                | 1 16 <sup>1</sup> / <sub>2</sub> | 1 17 <sup>1</sup> / <sub>2</sub> | 1 16 <sup>1</sup> / <sub>2</sub> | 1 17 <sup>1</sup> / <sub>2</sub> | —                                | —                                |
| " No. 2.....               | 1 11 <sup>1</sup> / <sub>2</sub> | 1 14 <sup>1</sup> / <sub>2</sub> | 1 13 <sup>1</sup> / <sub>2</sub> | 1 14 <sup>1</sup> / <sub>2</sub> | 1 13 <sup>1</sup> / <sub>2</sub> | 1 14 <sup>1</sup> / <sub>2</sub> | 1 13 <sup>1</sup> / <sub>2</sub> | 1 14 <sup>1</sup> / <sub>2</sub> |
| " No. 3.....               | 1 08 <sup>1</sup> / <sub>2</sub> | 1 11 <sup>1</sup> / <sub>2</sub> | 1 10 <sup>1</sup> / <sub>2</sub> | 1 11 <sup>1</sup> / <sub>2</sub> | 1 10 <sup>1</sup> / <sub>2</sub> | 1 11 <sup>1</sup> / <sub>2</sub> | 1 10 <sup>1</sup> / <sub>2</sub> | 1 11 <sup>1</sup> / <sub>2</sub> |
| " No. 4.....               | 1 06                             | 1 07 <sup>1</sup> / <sub>2</sub> | 1 06                             | 1 07 <sup>1</sup> / <sub>2</sub> | 1 06                             | 1 07 <sup>1</sup> / <sub>2</sub> | 1 06                             | 1 07 <sup>1</sup> / <sub>2</sub> |
| " feed.....                | 0 79 <sup>1</sup> / <sub>2</sub> | 0 82 <sup>1</sup> / <sub>2</sub> | 0 79 <sup>1</sup> / <sub>2</sub> | 0 82 <sup>1</sup> / <sub>2</sub> | 0 79 <sup>1</sup> / <sub>2</sub> | 0 82 <sup>1</sup> / <sub>2</sub> | 0 79 <sup>1</sup> / <sub>2</sub> | 0 82 <sup>1</sup> / <sub>2</sub> |
| American, best spring..... | 1 14 <sup>1</sup> / <sub>2</sub> | 1 16 <sup>1</sup> / <sub>2</sub> | 1 14 <sup>1</sup> / <sub>2</sub> | 1 16 <sup>1</sup> / <sub>2</sub> | 1 13 <sup>1</sup> / <sub>2</sub> | 1 14 <sup>1</sup> / <sub>2</sub> | 1 13 <sup>1</sup> / <sub>2</sub> | 1 14 <sup>1</sup> / <sub>2</sub> |
| " ordinary spring.....     | 1 11 <sup>1</sup> / <sub>2</sub> | 1 13 <sup>1</sup> / <sub>2</sub> | 1 11 <sup>1</sup> / <sub>2</sub> | 1 13 <sup>1</sup> / <sub>2</sub> | 1 10 <sup>1</sup> / <sub>2</sub> | 1 11 <sup>1</sup> / <sub>2</sub> | 1 10 <sup>1</sup> / <sub>2</sub> | 1 11 <sup>1</sup> / <sub>2</sub> |
| " red winter.....          | 1 10 <sup>1</sup> / <sub>2</sub> | 1 11 <sup>1</sup> / <sub>2</sub> | 1 10 <sup>1</sup> / <sub>2</sub> | 1 11 <sup>1</sup> / <sub>2</sub> | 1 08 <sup>1</sup> / <sub>2</sub> | 1 10 <sup>1</sup> / <sub>2</sub> | 1 08 <sup>1</sup> / <sub>2</sub> | 1 10 <sup>1</sup> / <sub>2</sub> |
| " hard winter.....         | 1 08 <sup>1</sup> / <sub>2</sub> | 1 10 <sup>1</sup> / <sub>2</sub> | 1 08 <sup>1</sup> / <sub>2</sub> | 1 10 <sup>1</sup> / <sub>2</sub> | 1 07 <sup>1</sup> / <sub>2</sub> | 1 08 <sup>1</sup> / <sub>2</sub> | 1 07 <sup>1</sup> / <sub>2</sub> | 1 08 <sup>1</sup> / <sub>2</sub> |
| Australia.....             | 1 20 <sup>1</sup> / <sub>2</sub> | 1 23 <sup>1</sup> / <sub>2</sub> | 1 19 <sup>1</sup> / <sub>2</sub> | 1 20 <sup>1</sup> / <sub>2</sub> | 1 19 <sup>1</sup> / <sub>2</sub> | 1 20 <sup>1</sup> / <sub>2</sub> | 1 17 <sup>1</sup> / <sub>2</sub> | 1 20 <sup>1</sup> / <sub>2</sub> |
| Russian, fine.....         | 1 08 <sup>1</sup> / <sub>2</sub> | 1 11 <sup>1</sup> / <sub>2</sub> | 1 08 <sup>1</sup> / <sub>2</sub> | 1 11 <sup>1</sup> / <sub>2</sub> | 1 07 <sup>1</sup> / <sub>2</sub> | 1 10 <sup>1</sup> / <sub>2</sub> | 1 07 <sup>1</sup> / <sub>2</sub> | 1 10 <sup>1</sup> / <sub>2</sub> |
| " good.....                | 1 03                             | 1 06                             | 1 03                             | 1 06                             | 1 01 <sup>1</sup> / <sub>2</sub> | 1 04 <sup>1</sup> / <sub>2</sub> | 1 01 <sup>1</sup> / <sub>2</sub> | 1 04 <sup>1</sup> / <sub>2</sub> |
| " common.....              | 0 97 <sup>1</sup> / <sub>2</sub> | 1 00 <sup>1</sup> / <sub>2</sub> | 0 97 <sup>1</sup> / <sub>2</sub> | 1 00 <sup>1</sup> / <sub>2</sub> | 0 95 <sup>1</sup> / <sub>2</sub> | 0 98 <sup>1</sup> / <sub>2</sub> | 0 95 <sup>1</sup> / <sub>2</sub> | 0 98 <sup>1</sup> / <sub>2</sub> |
| California.....            | 1 16 <sup>1</sup> / <sub>2</sub> | 1 19 <sup>1</sup> / <sub>2</sub> | 1 16 <sup>1</sup> / <sub>2</sub> | 1 19 <sup>1</sup> / <sub>2</sub> | 1 15 <sup>1</sup> / <sub>2</sub> | 1 18 <sup>1</sup> / <sub>2</sub> | 1 15 <sup>1</sup> / <sub>2</sub> | 1 18 <sup>1</sup> / <sub>2</sub> |
| Blue Stem.....             | 1 15 <sup>1</sup> / <sub>2</sub> | 1 17 <sup>1</sup> / <sub>2</sub> | 1 15 <sup>1</sup> / <sub>2</sub> | 1 17 <sup>1</sup> / <sub>2</sub> | 1 14 <sup>1</sup> / <sub>2</sub> | 1 17 <sup>1</sup> / <sub>2</sub> | 1 14 <sup>1</sup> / <sub>2</sub> | 1 17 <sup>1</sup> / <sub>2</sub> |
| White Walla.....           | 1 14 <sup>1</sup> / <sub>2</sub> | 1 16 <sup>1</sup> / <sub>2</sub> | 1 14 <sup>1</sup> / <sub>2</sub> | 1 16 <sup>1</sup> / <sub>2</sub> | 1 11                             | 1 15 <sup>1</sup> / <sub>2</sub> | 1 14                             | 1 15 <sup>1</sup> / <sub>2</sub> |
| Red Walla.....             | 1 13 <sup>1</sup> / <sub>2</sub> | 1 14 <sup>1</sup> / <sub>2</sub> | 1 13 <sup>1</sup> / <sub>2</sub> | 1 14 <sup>1</sup> / <sub>2</sub> | 1 12 <sup>1</sup> / <sub>2</sub> | 1 14 <sup>1</sup> / <sub>2</sub> | 1 12 <sup>1</sup> / <sub>2</sub> | 1 14 <sup>1</sup> / <sub>2</sub> |
| White Bombay.....          | 1 18 <sup>1</sup> / <sub>2</sub> | 1 19 <sup>1</sup> / <sub>2</sub> | 1 18 <sup>1</sup> / <sub>2</sub> | 1 19 <sup>1</sup> / <sub>2</sub> | 1 18 <sup>1</sup> / <sub>2</sub> | 1 19 <sup>1</sup> / <sub>2</sub> | 1 18 <sup>1</sup> / <sub>2</sub> | 1 19 <sup>1</sup> / <sub>2</sub> |
| " Calcutta.....            | 1 17 <sup>1</sup> / <sub>2</sub> | 1 18 <sup>1</sup> / <sub>2</sub> | 1 17 <sup>1</sup> / <sub>2</sub> | 1 18 <sup>1</sup> / <sub>2</sub> | 1 14 <sup>1</sup> / <sub>2</sub> | 1 18 <sup>1</sup> / <sub>2</sub> | 1 17 <sup>1</sup> / <sub>2</sub> | 1 18 <sup>1</sup> / <sub>2</sub> |
| " Karachi.....             | 1 17 <sup>1</sup> / <sub>2</sub> | 1 18 <sup>1</sup> / <sub>2</sub> | 1 17 <sup>1</sup> / <sub>2</sub> | 1 18 <sup>1</sup> / <sub>2</sub> | 1 17 <sup>1</sup> / <sub>2</sub> | 1 18 <sup>1</sup> / <sub>2</sub> | 1 17 <sup>1</sup> / <sub>2</sub> | 1 18 <sup>1</sup> / <sub>2</sub> |
| Red.....                   | 1 15 <sup>1</sup> / <sub>2</sub> | 1 17 <sup>1</sup> / <sub>2</sub> | 1 15 <sup>1</sup> / <sub>2</sub> | 1 17 <sup>1</sup> / <sub>2</sub> | 1 15 <sup>1</sup> / <sub>2</sub> | 1 17 <sup>1</sup> / <sub>2</sub> | 1 15 <sup>1</sup> / <sub>2</sub> | 1 17 <sup>1</sup> / <sub>2</sub> |
| Argentine.....             | 1 10 <sup>1</sup> / <sub>2</sub> | 1 11 <sup>1</sup> / <sub>2</sub> | 1 10 <sup>1</sup> / <sub>2</sub> | 1 11 <sup>1</sup> / <sub>2</sub> | 1 10 <sup>1</sup> / <sub>2</sub> | 1 11 <sup>1</sup> / <sub>2</sub> | 1 08 <sup>1</sup> / <sub>2</sub> | 1 11 <sup>1</sup> / <sub>2</sub> |

FLOUR (per 280 lb.)

| Description                 | June 2 |      | June 9 |      | June 16 |      | June 23 |      |
|-----------------------------|--------|------|--------|------|---------|------|---------|------|
|                             | £ s.   | £ s. | £ s.   | £ s. | £ s.    | £ s. | £ s.    | £ s. |
| Pillsbury's Best.....       | 6 87   | 6 93 | 6 87   | 6 93 | 6 87    | 6 93 | 6 93    | 7 00 |
| Iron Duke.....              | 6 02   | 6 08 | 6 02   | 6 08 | 6 02    | 6 08 | 6 08    | 6 14 |
| Minnesota first.....        | 7 36   | 7 48 | 7 36   | 7 48 | 7 36    | 7 48 | 7 18    | 7 30 |
| " straights.....            | 6 75   | 6 80 | 6 75   | 6 87 | 6 75    | 6 87 | 6 75    | 6 87 |
| Minneapolis first.....      | 6 87   | 7 00 | 6 87   | 7 00 | 6 87    | 7 00 | 6 87    | 7 00 |
| Duluth first.....           | 6 81   | 6 87 | 6 81   | 6 87 | 6 81    | 6 87 | 6 81    | 6 87 |
| American first patents..... | 7 12   | 7 24 | 7 12   | 7 24 | 7 12    | 7 24 | 7 12    | 7 24 |
| " second patents.....       | 6 87   | 7 00 | 6 87   | 7 00 | 6 87    | 7 00 | 6 87    | 7 00 |
| " first bakers'.....        | 5 96   | 6 02 | 5 96   | 6 02 | 5 96    | 6 02 | 5 96    | 6 02 |
| " second bakers'.....       | 5 72   | 5 78 | 5 72   | 5 78 | 5 72    | 5 78 | 5 72    | 5 78 |
| Manitoba patents.....       | 6 87   | 7 00 | 6 87   | 7 00 | 6 87    | 7 00 | 6 87    | 7 00 |
| " straights.....            | 6 63   | 6 75 | 6 63   | 6 75 | 6 63    | 6 75 | 6 63    | 6 75 |
| Kansas best.....            | 6 45   | 6 69 | 6 45   | 6 69 | 6 45    | 6 69 | 6 45    | 6 69 |
| " first.....                | 6 20   | 6 45 | 6 20   | 6 45 | 6 20    | 6 45 | 6 20    | 6 45 |
| " second.....               | 5 96   | 6 20 | 5 96   | 6 20 | 5 96    | 6 20 | 5 96    | 6 20 |
| Californian.....            | 7 30   | 7 54 | 7 30   | 7 54 | 7 30    | 7 54 | 7 30    | 7 54 |
| Hungarian best.....         | 9 25   | 9 49 | 9 25   | 9 49 | 9 25    | 9 49 | 9 25    | 9 49 |
| " fine.....                 | 9 00   | 9 25 | 9 00   | 9 25 | 9 00    | 9 25 | 9 00    | 9 25 |
| Australian.....             | 6 81   | 6 93 | 6 81   | 6 93 | 6 81    | 6 93 | 6 81    | 6 93 |
| French.....                 | 7 54   | 7 79 | 7 54   | 7 79 | 7 54    | 7 79 | 7 54    | 7 79 |
| Belgian.....                | 7 54   | 7 79 | 7 54   | 7 79 | 7 54    | 7 79 | 7 54    | 7 79 |
| Galatz.....                 | 8 27   | 8 76 | 8 27   | 8 76 | 8 27    | 8 76 | 8 27    | 8 76 |

## OATS (per bushel of 34 lb.)

| Description       | June 2 |     | June 9 |    | June 16 |    | June 23 |     |
|-------------------|--------|-----|--------|----|---------|----|---------|-----|
|                   | \$     | c.  | \$     | c. | \$      | c. | \$      | c.  |
| Canadian.....     | 0      | 51½ | —      | 0  | 56½     | —  | 0       | 51½ |
| American.....     | 0      | 49½ | —      | 0  | 51½     | —  | 0       | 49½ |
| Chilian.....      | —      | —   | —      | —  | —       | —  | —       | —   |
| Bolia Blanca..... | 0      | 47  | —      | 0  | 48½     | —  | 0       | 46½ |
| Buenos Aires..... | 0      | 44½ | —      | 0  | 45½     | —  | 0       | 44½ |
| Russian.....      | 0      | 47½ | —      | 0  | 64½     | —  | 0       | 47½ |

## FRESH MEATS (per cwt. of 100 lb.)

| Description and market | June 4 |      | June 11 |      | June 18 |      | June 25 |       |
|------------------------|--------|------|---------|------|---------|------|---------|-------|
|                        | \$     | cts. | \$      | cts. | \$      | cts. | \$      | cts.  |
| Argentine, frozen—     |        |      |         |      |         |      |         |       |
| Birmingham.....        |        | 8 11 |         | 8 11 |         | 8 11 |         | 8 32  |
| Leeds.....             |        | 6 59 |         | 6 59 |         | 6 59 |         | 6 84  |
| Liverpool.....         |        | 8 11 |         | 8 11 |         | 8 11 |         | 8 11  |
| London.....            |        | 6 81 |         | 6 59 |         | 6 84 |         | 6 81  |
| Manchester.....        |        | 8 11 |         | 8 11 |         | 8 11 |         | 8 11  |
| Dundee.....            |        | 6 59 |         | 6 59 |         | 6 59 |         | 6 59  |
| Edinburgh.....         |        | 7 60 |         | 7 60 |         | 7 60 |         | 8 37  |
| Glasgow.....           |        | 6 08 |         | 6 08 |         | 6 59 |         | 6 59  |
| Argentine, chilled—    |        |      |         |      |         |      |         |       |
| Birmingham.....        |        | 8 11 |         | 8 11 |         | 8 11 |         | 8 11  |
| Leeds.....             |        | 6 59 |         | 6 59 |         | 6 59 |         | 6 59  |
| Liverpool.....         |        | 8 11 |         | 8 12 |         | 8 62 |         | 8 62  |
| London.....            |        | 6 59 |         | 6 59 |         | 6 85 |         | 6 85  |
| Manchester.....        |        | 8 11 |         | 8 11 |         | 8 11 |         | 8 62  |
| Dundee.....            |        | 6 59 |         | 6 59 |         | 6 59 |         | 6 59  |
| Edinburgh.....         |        | 8 11 |         | 8 11 |         | 8 11 |         | 8 11  |
| Glasgow.....           |        | 6 59 |         | 6 59 |         | 6 59 |         | 6 59  |
| Australian, frozen—    |        |      |         |      |         |      |         |       |
| Birmingham.....        |        | 9 12 |         | 9 12 |         | 9 63 |         | 10 65 |
| Leeds.....             |        | 6 08 |         | 7 04 |         | 7 04 |         | 7 04  |
| Liverpool.....         |        | 9 12 |         | 9 63 |         | 9 63 |         | 10 14 |
| London.....            |        | 6 08 |         | 7 04 |         | 7 04 |         | 6 84  |
| Manchester.....        |        | 8 11 |         | 9 12 |         | 9 12 |         | 10 65 |
| Dundee.....            |        | 6 08 |         | 6 59 |         | 7 04 |         | 6 59  |
| Edinburgh.....         |        | 9 12 |         | 9 18 |         | 9 89 |         | 11 66 |
| Glasgow.....           |        | 6 59 |         | 7 35 |         | 7 35 |         | 7 10  |
| Australian, chilled—   |        |      |         |      |         |      |         |       |
| Birmingham.....        |        | 9 12 |         | 9 18 |         | 9 64 |         | 10 65 |
| Leeds.....             |        | 7 35 |         | 7 10 |         | 7 35 |         | 6 85  |
| Liverpool.....         |        | 9 64 |         | 9 61 |         | 9 64 |         | 11 66 |
| London.....            |        | 6 59 |         | 7 10 |         | 7 10 |         | 6 59  |
| Australian, frozen—    |        |      |         |      |         |      |         |       |
| Birmingham.....        |        | 7 60 |         | 7 60 |         | 7 86 |         | 7 86  |
| Leeds.....             |        | 6 84 |         | 6 59 |         | 6 59 |         | 7 04  |
| Liverpool.....         |        | 7 86 |         | 7 86 |         | 7 86 |         | 8 11  |
| London.....            |        | 6 59 |         | 6 59 |         | 6 59 |         | 6 59  |
| Manchester.....        |        | 7 04 |         | 7 04 |         | 7 04 |         | 7 60  |
| Dundee.....            |        | 6 59 |         | 6 59 |         | 6 59 |         | 6 59  |
| Edinburgh.....         |        | 7 60 |         | 7 60 |         | 7 60 |         | 8 11  |
| Glasgow.....           |        | 6 08 |         | 6 59 |         | 6 59 |         | 6 08  |
| Australian, chilled—   |        |      |         |      |         |      |         |       |
| Birmingham.....        |        | 7 04 |         | 7 04 |         | 7 04 |         | 7 60  |
| Leeds.....             |        | 6 59 |         | 6 59 |         | 6 59 |         | 6 59  |
| Liverpool.....         |        | 8 11 |         | 8 11 |         | 8 11 |         | 8 11  |
| London.....            |        | 6 59 |         | 6 59 |         | 6 59 |         | 6 59  |
| Manchester.....        |        | 8 11 |         | 8 11 |         | 8 11 |         | 8 11  |
| Dundee.....            |        | 6 59 |         | 6 59 |         | 6 09 |         | 6 59  |

## GREEN BACON (per cwt. of 100 lb.)

| Description and market    | June 4  |         | June 11 |         | June 18 |         | June 25 |         |
|---------------------------|---------|---------|---------|---------|---------|---------|---------|---------|
|                           | \$ cts. | \$ cts. | \$ cts. | \$ cts. | \$ cts. | \$ cts. | \$ cts. | \$ cts. |
| Canadian sides—           |         |         |         |         |         |         |         |         |
| Bristol.....              | 16 73   | 16 29   | 16 51   | 16 08   | 16 29   | 15 86   | 16 08   | 15 43   |
| Liverpool.....            | 16 08   | 15 43   | 15 86   | 15 21   | 15 64   | 14 99   | 16 08   | 15 21   |
| London.....               | 16 95   | 16 51   | 16 73   | 16 29   | 16 51   | 16 08   | 16 51   | 16 08   |
| Glasgow.....              | -       | -       | -       | -       | -       | -       | -       | -       |
| Canadian Cumberland cuts— |         |         |         |         |         |         |         |         |
| Liverpool.....            | 16 51   | 15 65   | 16 51   | 15 64   | 16 73   | 15 86   | 16 73   | 16 08   |
| Glasgow.....              | 12 38   | -       | 17 38   | -       | 17 38   | -       | 17 38   | -       |
| Danish sides—             |         |         |         |         |         |         |         |         |
| Bristol.....              | 17 60   | 16 95   | 17 38   | 16 73   | 16 73   | 16 29   | 17 17   | 16 73   |
| Liverpool.....            | 16 73   | 16 08   | 16 51   | 15 64   | 16 51   | 15 86   | 16 95   | 16 29   |
| London.....               | 17 38   | 16 95   | 17 38   | 16 73   | 17 38   | 16 95   | 17 38   | 16 95   |
| Glasgow.....              | 16 95   | -       | 16 95   | -       | 16 95   | -       | 16 95   | -       |

## GREEN HAM (per cwt. of 100 lb.)

|                     |       |       |       |       |       |       |       |       |
|---------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Canadian long cut—  |       |       |       |       |       |       |       |       |
| Bristol.....        | 19 56 | 18 69 | 19 56 | 18 69 | 19 56 | 18 69 | 19 56 | 19 13 |
| Liverpool.....      | 18 91 | 18 03 | 19 35 | 18 47 | 19 35 | 18 47 | 19 35 | 18 47 |
| London.....         | 19 35 | 18 47 | 19 56 | 18 69 | 19 78 | 18 69 | 19 78 | 18 91 |
| American long cut—  |       |       |       |       |       |       |       |       |
| Bristol.....        | 18 69 | 17 38 | 18 80 | 17 38 | 16 89 | 17 81 | 18 80 | 17 81 |
| Liverpool.....      | 18 14 | 17 28 | 18 58 | 17 71 | 18 58 | 17 92 | 18 58 | 17 92 |
| London.....         | 18 25 | 17 60 | 18 47 | 18 03 | 18 69 | 18 25 | 19 13 | 18 69 |
| Glasgow.....        | 20 44 | -     | 20 47 | -     | 20 44 | -     | 20 44 | -     |
| American short cut— |       |       |       |       |       |       |       |       |
| Bristol.....        | 16 51 | 15 64 | 16 95 | 16 08 | 17 17 | 16 51 | 17 38 | 16 73 |
| Liverpool.....      | 17 06 | 16 40 | 17 06 | 16 40 | 17 38 | 16 51 | 17 71 | 17 06 |
| London.....         | -     | -     | 16 95 | 16 51 | 17 38 | 16 73 | 17 60 | 17 17 |
| Glasgow.....        | 18 47 | -     | 18 47 | -     | 18 44 | -     | 19 13 | -     |

## CHEESE (per cwt. of 100 lb.)

|                |       |       |       |       |       |       |       |       |
|----------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Canadian—      |       |       |       |       |       |       |       |       |
| Bristol.....   | 13 47 | 12 81 | 13 69 | 12 81 | 13 69 | 13 04 | 13 47 | 13 04 |
| Liverpool..... | 13 69 | 13 36 | 12 70 | 12 37 | 12 70 | 12 37 | 13 25 | 12 81 |
| London.....    | 13 90 | 13 69 | 13 59 | 12 37 | 12 81 | 12 38 | 13 69 | 13 25 |
| Glasgow.....   | 13 90 | -     | 13 90 | -     | 12 37 | 11 94 | 13 04 | 12 59 |
| New Zealand—   |       |       |       |       |       |       |       |       |
| Bristol.....   | 13 25 | 12 81 | 13 47 | 12 81 | 13 47 | 13 04 | 13 69 | 13 25 |
| London.....    | 13 47 | 13 04 | 13 47 | 13 25 | 13 25 | 13 04 | 13 69 | 12 81 |
| Glasgow.....   | 13 47 | 12 59 | 13 47 | 12 59 | 13 47 | 12 81 | 13 90 | 13 47 |

NOTE. The prices of grain are from the Market Supplements to the Mark Lane Express. The prices of meat and dairy produce are from the British official returns. Rate of conversion from English currency £1 = \$4.86.



## THE WEATHER DURING JUNE.

The Dominion Metereological Service reports that the mean temperature for June was in excess of the average from British Columbia to Lake Huron and generally in defect over the remaining part of Canada. The negative difference was from 1° to 3°, while the positive departures reached over 5° in the western provinces. Pronounced heat prevailed at times in all parts of the Dominion, and maximum readings of near or over 90° were recorded in many localities. Precipitation during June was seriously in defect over the larger part of Canada, and it was only in southern British Columbia, Alberta and southern Saskatchewan that there was any excess. A feature of the distribution was the copious fall in the "dry belt" of the west and British Columbia, where the amount recorded was considerably more than usual, and the almost entire lack of rain in Ontario and the Maritime provinces, where the total fall in some cases was only a very small percentage of the normal.

In British Columbia the weather during June was very favourable for plant growth. During the first half of the month it was warm, with showers; this was succeeded by cool weather with heavy rainfalls. In the western provinces a mean temperature considerably above the average and an ample rainfall, especially in the "dry belt" were the factors during June which made the crop prospects at the close of the month excellent. With a few local exceptions the mean temperature in Ontario for June was from 1° to 3° below the average, and the precipitation was seriously subnormal. Excessive heat prevailed about the middle and end of the month. In Quebec June was marked by a subnormal mean temperature and a deficient precipitation. Fine, bright, exceptionally dry, but unusually cool weather was general throughout New Brunswick. Coast fogs, were light and infrequent. Slightly damaging frosts occurred locally in the river counties on the 10th and the 23rd. At Halifax, Nova Scotia, the month was cool and cloudy, with light precipitation. Rain occurred on twelve days, and there were three light thunderstorms. In Prince Edward Island the weather during June was backward, cool, dry and windy with a rainfall of less than one inch. Hard frost occurred on the 1st and 10th and light thunderstorms on the 27th.

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## PUBLICATIONS OF THE CENSUS AND STATISTICS OFFICE.

Copies of the undermentioned publications will so far as available be sent free on application to Archibald Blue, Chief Officer, Census and Statistics Office, Ottawa.

**THE CANADA YEAR BOOK.** Second Series, 1905-1911.

Each of these seven Volumes contains a complete summary of the principal events of the year and the acts of the Dominion Parliament, with statistics of population, agriculture, forestry, minerals, manufactures, trade and commerce, public accounts, banking, post office, insurance, railways, canals, marine, fisheries, etc.

**LONGEVITY AND SANITATION.** Bulletin VIII. The substance of addresses delivered by Archibald Blue before the McMaster Convocation and the American Public Health Association.

**REPORT ON THE CENSUS OF POPULATION AND AGRICULTURE OF THE NORTHWEST PROVINCES.** Manitoba, Saskatchewan and Alberta, 1906.

**THE BEET SUGAR INDUSTRY.** Bulletin IX. The result of an investigation of Sugar Beet production in Canada and the manufacture of the roots into refined sugar, with Appendix A consisting of the Hearings of the Customs Tariff Committee, 1905, and Appendix B, Beet Sugar Production in Posen, Germany. 75 pp., 3 illustrations.

**OCCUPATIONS OF THE PEOPLE.** Bulletin XI. The figures in this Bulletin are compiled from data of the Census of 1901.

**BULLETINS OF THE FIFTH CENSUS OF CANADA, 1911.** I. Manufactures for the year 1910. II. Dairying Industries for the year 1910. IV. Agriculture of Nova Scotia. V. Agriculture of New Brunswick. VI. Agriculture of Quebec. VII. Agriculture of Ontario. XII. Religions of Canada. XIII. Origins of the People. XIV. Birthplace of the People. XV. Educational Status of the People.

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# CENSUS AND STATISTICS MONTHLY

Vol. 6

OTTAWA, AUGUST 1913.

No. 61

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PUBLISHED BY AUTHORITY OF HONOURABLE GEORGE E. FOSTER, MINISTER OF TRADE AND COMMERCE. CORRESPONDENCE RELATING TO THE CENSUS AND STATISTICS MONTHLY SHOULD BE ADDRESSED TO ARCHIBALD BLUE, CHIEF OFFICER OF THE CENSUS AND STATISTICS OFFICE, DEPARTMENT OF TRADE AND COMMERCE, OTTAWA, CANADA.

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## FIELD CROPS IN CANADA.

Report for the month ended July 31, 1913.

According to the returns made by crop-reporting correspondents at the end of last month the weather of July was upon the whole favourable to the growth of grain crops. The conditions in the Northwest provinces were reported as generally excellent. Representing a standard or full crop by 100, the average condition throughout Canada of fall wheat is expressed as 77.75, of spring wheat as 87.62, of oats as 87.45, of barley as 87.58, of rye as 85.00 of mixed grains as 89.33 and of flaxseed as 83.85.

The percentages of the standard condition of spring wheat, barley, and rye represent the promise of yields per acre for spring wheat of six, for barley of five, for rye of two and for flax seed of one per cent above the average yields per acre of the last five years. The condition of the oat crop promises a yield equal to the five year average.

All the field crops of Canada on July 31, excepting only fall wheat (77.75), hay and clover (74.57) and alfalfa (76.35) are reported as having a condition of above 80, the range being from 82 for beans and corn for husking to 89 for potatoes and mixed grains.

In the three Northwest provinces spring wheat is reported as 84.60 in Manitoba, 89 in Saskatchewan and 88 in Alberta, the other grain crops being correspondingly high, barley, especially in Saskatchewan and Alberta being 90 per cent or over. Root crops in the Northwest provinces are also particularly good.

The condition of buckwheat in the Maritime provinces and in Quebec is 90 and over; but in Ontario it is down to 73.43. Flaxseed is above 80 in the Northwest provinces, and in Saskatchewan, where the great bulk of this crop is grown the percentage condition is 84.17. Sugar beet, grown for beet root sugar in Ontario and Alberta, is 80.44 for the former and 92.31 for the latter province.

The preliminary estimate of the yield per acre of fall wheat is 22.38 bushels, which for the harvested area in Ontario, Manitoba, Saskatchewan,

Alberta and British Columbia of 825,800 acres indicates a total yield of 18,482,000 bushels, as compared with 16,396,000 bushels from 781,000 acres in 1912. This yield is 13 per cent above that of last year.

The average yield per acre of hay and clover is estimated at 1.23 ton indicating a total yield of 9,396,500 tons from 7,621,600 acres, as compared with 11,189,000 tons from 7,633,600 acres or 1.47 tons per acre in 1912. Alfalfa with an average yield per acre of 1.38 ton, shows an estimated total production of 143,000 tons from 103,250 acres as compared with 310,100 tons from 111,300 acres, or 2.79 tons per acre in 1912.

Census and Statistics Office,  
Ottawa, August 15.

ARCHIBALD BLUE,  
Chief Officer.

### I. Comparative condition of field crops, 1911-13.

| Field crops.          | Per cent of<br>standard condition<br>July 31 |       |       | Field crops.          | Per cent of<br>standard condition<br>July 31 |       |       |
|-----------------------|--|-------|-------|-----------------------|--|-------|-------|
|                       | 1913   | 1912  | 1911  |                       | 1913   | 1912  | 1911  |
| Canada—               | p.c.   | p.c.  | p.c.  | New Brunswick—        | p.c.   | p.c.  | p.c.  |
| Fall wheat.....       | 77.75  | 69.70 | 77.44 | Spring wheat.....     | 93.52  | 82.59 | 93.84 |
| Spring wheat.....     | 87.62  | 83.07 | 90.00 | Oats.....             | 94.76  | 82.38 | 94.46 |
| Oats.....             | 87.45  | 81.11 | 88.20 | Barley.....           | 91.40  | 79.75 | 90.95 |
| Barley.....           | 87.58  | 83.02 | 87.67 | Rye.....              | 65.00  | 86.09 | 95.00 |
| Rye.....              | 85.01  | 83.53 | 83.77 | Peas.....             | 89.58  | 83.33 | 86.74 |
| Peas.....             | 83.49  | 75.99 | 77.90 | Beans.....            | 81.09  | 85.38 | 90.92 |
| Beans.....            | 82.05  | 79.27 | 84.70 | Buckwheat.....        | 92.31  | 87.54 | 90.11 |
| Bu. wheat.....        | 85.36  | 77.49 | 81.85 | Mixed grains.....     | 91.22  | 85.93 | 93.40 |
| Mixed grains.....     | 89.33  | 82.64 | 86.06 | Corn for husking..... | 48.37  | 76.36 | 87.50 |
| Flax.....             | 83.85  | 86.28 | 91.03 | Potatoes.....         | 97.73  | 82.28 | 96.63 |
| Corn for husking..... | 82.05  | 70.37 | 85.98 | Turnips.....          | 91.68  | 81.72 | 94.80 |
| Potatoes.....         | 89.23  | 87.32 | 85.64 | Mangolds, etc.....    | 89.13  | 81.79 | 89.31 |
| Turnips.....          | 83.95  | 82.25 | 81.71 | Hay and clover.....   | 80.49  | 88.91 | 83.75 |
| Mangolds, etc.....    | 84.31  | 81.36 | 81.25 | Corn for fodder.....  | 72.50  | 80.00 | 92.76 |
| Hay and clover.....   | 74.57  | 83.00 | 83.37 | Sugar beets.....      | 86.00  | 81.10 | 85.20 |
| Alfalfa.....          | 76.35  | 83.99 | 80.36 | Pasture.....          | 94.55  | 91.91 | 85.94 |
| Corn for fodder.....  | 86.60  | 73.19 | 87.16 | Quebec—               |  |       |       |
| Sugar beets.....      | 84.31  | 80.60 | 79.03 | Spring wheat.....     | 88.42  | 73.59 | 89.17 |
| Pasture.....          | 82.17  | 84.10 | 79.61 | Oats.....             | 89.50  | 70.23 | 90.21 |
| P. E. Island—         |  |       |       | Barley.....           | 88.93  | 75.60 | 87.20 |
| Spring wheat.....     | 95.86  | 94.73 | 94.98 | Rye.....              | 89.94  | 77.31 | 83.57 |
| Oats.....             | 101.20                                       | 91.55 | 88.29 | Peas.....             | 87.33  | 70.92 | 82.69 |
| Barley.....           | 99.00  | 92.35 | 89.96 | Beans.....            | 83.37  | 73.87 | 80.65 |
| Peas.....             | 89.40  | 89.35 | 60.50 | Buckwheat.....        | 90.20  | 72.82 | 84.84 |
| Beans.....            | 90.45  | 80.00 | 82.50 | Mixed grains.....     | 90.49  | 76.08 | 85.42 |
| Buckwheat.....        | 94.20  | 89.20 | 86.17 | Flax.....             | 85.25  | 77.51 | 83.43 |
| Mixed grains.....     | 101.15                                       | 95.18 | 91.25 | Corn for husking..... | 80.99  | 69.47 | 86.65 |
| Flax.....             | 96.67  | 91.87 | 83.92 | Potatoes.....         | 92.27  | 73.90 | 81.79 |
| Potatoes.....         | 87.71  | 94.18 | 96.37 | Turnips.....          | 82.02  | 74.56 | 82.80 |
| Turnips.....          | 89.67  | 80.00 | 84.18 | Mangolds, etc.....    | 82.04  | 72.99 | 81.36 |
| Mangolds, etc.....    | 90.58  | 79.27 | 83.00 | Hay and clover.....   | 62.93  | 78.32 | 90.22 |
| Hay and clover.....   | 81.74  | 69.47 | 63.18 | Alfalfa.....          | 76.04  | 77.40 | 85.20 |
| Corn for fodder.....  | 87.94  | 83.61 | 89.70 | Corn for fodder.....  | 85.30  | 67.58 | 88.82 |
| Sugar beets.....      | 82.00  | 74.87 | 75.69 | Sugar beets.....      | 84.79  | 73.11 | 86.34 |
| Pasture.....          | 97.18  | 84.73 | 64.41 | Pasture.....          | 76.56  | 72.90 | 78.95 |



## I. Comparative condition of field crops, 1911-13—Con.

| Field Crops           | Per cent of<br>Standard condition,<br>July 31 |       |       | Field Crops              | Per cent of<br>Standard condition,<br>July 31 |        |        |
|-----------------------|---|-------|-------|--------------------------|---|--------|--------|
|                       | 1913  | 1912  | 1911  |                          | 1913  | 1912   | 1911   |
| <b>Nova Scotia—</b>   | p. c.   | p. c. | p. c. | <b>Ontario—</b>          | p. c.   | p. c.  | p. c.  |
| Spring wheat.....     | 95.25   | 85.67 | 85.39 | Fall wheat.....          | 80.68   | 67.18  | 73.93  |
| Oats.....             | 97.33   | 83.34 | 86.20 | Spring wheat.....        | 79.42   | 79.93  | 80.06  |
| Barley.....           | 94.54   | 85.78 | 84.16 | Oats.....                | 82.75   | 82.23  | 78.93  |
| Rye.....              | 95.00   | 87.11 | 75.61 | Barley.....              | 81.31   | 81.05  | 79.34  |
| Peas.....             | 90.39   | 87.02 | 83.15 | Rye.....                 | 79.97   | 81.46  | 79.29  |
| Beans.....            | 81.54   | 86.56 | 86.00 | Peas.....                | 78.34   | 74.44  | 70.35  |
| Buckwheat.....        | 94.20   | 87.97 | 83.14 | Beans.....               | 77.68   | 81.45  | 81.79  |
| Mixed grains.....     | 95.96   | 86.81 | 83.55 | Buckwheat.....           | 73.43   | 74.87  | 73.87  |
| Flax.....             | 100.00  | 88.33 | 85.00 | Mixed grains.....        | 84.98   | 84.22  | 84.23  |
| Corn for husking..... | 83.00   | 90.00 | 86.59 | Flax.....                | 81.81   | 84.40  | 85.29  |
| Potatoes.....         | 92.05   | 90.59 | 89.01 | Corn for husking.....    | 83.59   | 68.53  | 84.74  |
| Turnips.....          | 90.29   | 81.94 | 80.29 | Potatoes.....            | 81.92   | 85.58  | 73.27  |
| Mangolds, etc.....    | 88.44   | 80.16 | 75.73 | Turnips.....             | 75.68   | 78.73  | 68.61  |
| Hay and clover.....   | 91.30   | 82.09 | 73.81 | Mangolds, etc.....       | 79.66   | 80.74  | 77.02  |
| Alfalfa.....          | 84.00   | 80.00 | 78.90 | Hay and clover.....      | 65.20   | 82.09  | 74.91  |
| Corn for fodder.....  | 84.60   | 84.33 | 78.69 | Alfalfa.....             | 69.06   | 84.39  | 74.37  |
| Sugar beets.....      | 95.38   | 80.53 | 76.03 | Corn for fodder.....     | 87.91   | 72.69  | 85.81  |
| Pasture.....          | 92.77   | 83.06 | 72.60 | Sugar beets.....         | 80.44   | 79.63  | 81.15  |
|                       |   |       |       | Pasture.....             | 65.13   | 77.17  | 63.72  |
| <b>Manitoba—</b>      |   |       |       | <b>Alberta—</b>          |   |        |        |
| Fall wheat.....       | 61.50   | 86.00 | -     | Fall wheat.....          | 64.20   | 70.78  | 84.50  |
| Spring wheat.....     | 34.60   | 82.17 | 89.93 | Spring wheat.....        | 87.92   | 90.73  | 96.61  |
| Oats.....             | 83.13   | 84.73 | 89.64 | Oats.....                | 87.98   | 84.30  | 97.13  |
| Barley.....           | 83.32   | 84.50 | 86.88 | Barley.....              | 90.83   | 88.04  | 103.13 |
| Rye.....              | 81.20   | 95.00 | 97.33 | Rye.....                 | 92.00   | 92.63  | 94.21  |
| Peas.....             | 82.00   | -     | 88.75 | Peas.....                | 76.92   | 83.19  | 98.07  |
| Beans.....            | 87.50   | -     | 90.00 | Beans.....               | 91.00   | 80.29  | 92.14  |
| Mixed grains.....     | 82.62   | 77.00 | 93.33 | Mixed grains.....        | 92.79   | 89.73  | 92.88  |
| Flax.....             | 83.54   | 82.45 | 88.50 | Flax.....                | 81.68   | 86.32  | 94.20  |
| Potatoes.....         | 92.17   | 93.11 | 92.83 | Potatoes.....            | 90.04   | 93.71  | 96.70  |
| Turnips.....          | 88.43   | 88.58 | 88.88 | Turnips.....             | 92.10   | 90.70  | 95.40  |
| Mangolds, etc.....    | 88.07   | 91.31 | 91.75 | Mangolds, etc.....       | 91.45   | 87.33  | 82.51  |
| Hay and clover.....   | 82.69   | 80.49 | 90.45 | Hay and clover.....      | 88.90   | 99.78  | 93.56  |
| Alfalfa.....          | 84.38   | 84.05 | 91.11 | Alfalfa.....             | 85.34   | 81.31  | 89.25  |
| Corn and fodder.....  | 92.03   | 80.90 | 93.24 | Corn for fodder.....     | 72.50   | 91.60  | 91.25  |
| Sugar beets.....      | 87.50   | 88.75 | 92.63 | Sugar beets.....         | 92.31   | 86.50  | 81.90  |
| Pasture.....          | 87.89   | 92.03 | 91.41 | Pasture.....             | 94.31   | 96.23  | 100.77 |
| <b>Saskatchewan—</b>  |   |       |       | <b>British Columbia—</b> |   |        |        |
| Fall wheat.....       | 79.25   | 83.95 | -     | Fall wheat.....          | 92.14   | 93.50  | 85.50  |
| Spring wheat.....     | 89.07   | 85.84 | 94.76 | Spring wheat.....        | 90.46   | 95.15  | 85.58  |
| Oats.....             | 86.39   | 82.28 | 92.30 | Oats.....                | 90.33   | 99.64  | 88.96  |
| Barley.....           | 90.06   | 87.21 | 92.21 | Barley.....              | 91.50   | 95.83  | 87.22  |
| Rye.....              | 88.50   | 91.87 | 95.00 | Rye.....                 | 100.00  | 86.25  | 91.66  |
| Peas.....             | 84.55   | 88.26 | 96.82 | Peas.....                | 98.00   | 91.25  | 87.85  |
| Beans.....            | 90.00   | 94.29 | 94.68 | Mixed grains.....        | 90.00   | 95.00  | 95.33  |
| Mixed grains.....     | 90.67   | 91.38 | 93.13 | Potatoes.....            | 90.47   | 97.14  | 86.66  |
| Flax.....             | 84.17   | 90.93 | 97.69 | Turnips.....             | 86.20   | 88.13  | 88.75  |
| Potatoes.....         | 91.06   | 94.29 | 92.21 | Mangolds, etc.....       | 94.90   | 92.59  | 88.05  |
| Turnips.....          | 89.80   | 90.59 | 93.14 | Hay and clover.....      | 97.53   | 96.32  | 88.93  |
| Mangolds, etc.....    | 89.25   | 91.72 | 91.24 | Alfalfa.....             | 93.25   | 105.00 | 99.83  |
| Hay and clover.....   | 89.92   | 88.67 | 96.40 | Sugar beets.....         | 96.75   | 100.00 | 71.25  |
| Alfalfa.....          | 88.45   | 85.28 | 91.90 | Pasture.....             | 99.33   | 101.33 | 84.23  |
| Corn for fodder.....  | 84.50   | 83.00 | 83.10 |                          |   |        |        |
| Sugar beets.....      | 86.00   | 91.05 | 93.05 |                          |   |        |        |
| Pasture.....          | 93.44   | 93.89 | 94.00 |                          |   |        |        |

### II. Area and Preliminary Estimate of Fall Wheat, 1913, compared with Final Estimate of 1912.

| Provinces             | Acres   |         | Bushels per acre |       | Bushels    |            |
|-----------------------|---------|---------|------------------|-------|------------|------------|
|                       | 1913    | 1912    | 1913             | 1912  | 1913       | 1912       |
| Ontario.....          | 571,000 | 561,000 | 22·94            | 20·63 | 13,098,700 | 11,573,000 |
| Manitoba.....         | 3,900   | 3,100   | 21·58            | 22·22 | 84,100     | 69,000     |
| Saskatchewan.....     | 72,000  | 53,000  | 24·75            | 21·56 | 1,782,000  | 1,143,000  |
| Alberta.....          | 176,000 | 161,000 | 19·38            | 21·83 | 3,410,900  | 3,515,000  |
| British Columbia..... | 2,900   | 2,900   | 36·57            | 33·00 | 106,100    | 96,000     |
| Total.....            | 825,800 | 781,000 | 22·38            | 20·99 | 18,481,800 | 16,396,000 |

### III. Area and Preliminary Estimate of Yield of Hay and Clover and Alfalfa, 1913, compared with Final Estimate of 1912.

| Provinces             | Acres     |           | Tons per acre |      | Tons      |            |
|-----------------------|-----------|-----------|---------------|------|-----------|------------|
|                       | 1913      | 1912      | 1913          | 1912 | 1913      | 1912       |
| Canada—               |           |           |               |      |           |            |
| Hay and clover.....   | 7,621,600 | 7,633,600 | 1·23          | 1·47 | 9,396,560 | 11,189,000 |
| Alfalfa.....          | 103,250   | 111,300   | 1·38          | 2·79 | 143,090   | 310,100    |
| Prince Edward Island— |           |           |               |      |           |            |
| Hay and clover.....   | 184,100   | 188,000   | 1·30          | 1·28 | 239,300   | 240,000    |
| Alfalfa.....          | 20        | 30        | 2·00          | 2·63 | 40        | 79         |
| Nova Scotia—          |           |           |               |      |           |            |
| Hay and clover.....   | 487,800   | 478,000   | 1·70          | 1·58 | 829,300   | 755,000    |
| Alfalfa.....          | 30        | 30        | 2·40          | 3·50 | 70        | 105        |
| New Brunswick—        |           |           |               |      |           |            |
| Hay and clover.....   | 535,200   | 558,000   | 1·39          | 1·48 | 744,000   | 826,000    |
| Alfalfa.....          | 100       | 140       | 1·75          | 2·00 | 180       | 280        |
| Quebec—               |           |           |               |      |           |            |
| Hay and clover.....   | 2,666,400 | 2,750,000 | 1·15          | 1·22 | 3,066,400 | 3,355,000  |
| Alfalfa.....          | 9,600     | 10,000    | 1·09          | 2·75 | 10,500    | 27,500     |
| Ontario—              |           |           |               |      |           |            |
| Hay and clover.....   | 3,305,700 | 3,240,000 | 1·13          | 1·62 | 3,735,400 | 5,249,000  |
| Alfalfa.....          | 77,100    | 85,000    | 1·28          | 2·76 | 98,700    | 235,000    |
| Manitoba—             |           |           |               |      |           |            |
| Hay and clover.....   | 151,200   | 141,000   | 1·46          | 1·71 | 220,800   | 241,000    |
| Alfalfa.....          | 3,300     | 2,900     | 1·50          | 2·73 | 5,000     | 7,900      |
| Saskatchewan—         |           |           |               |      |           |            |
| Hay and clover.....   | 24,100    | 20,600    | 2·04          | 1·70 | 49,200    | 35,000     |
| Alfalfa.....          | 1,300     | 1,100     | 1·09          | 2·19 | 2,200     | 2,400      |
| Alberta—              |           |           |               |      |           |            |
| Hay and clover.....   | 179,500   | 174,000   | 1·55          | 1·70 | 278,200   | 296,000    |
| Alfalfa.....          | 8,200     | 8,300     | 1·90          | 2·56 | 15,600    | 21,000     |
| British Columbia—     |           |           |               |      |           |            |
| Hay and clover.....   | 87,600    | 84,000    | 2·67          | 2·28 | 233,900   | 192,000    |
| Alfalfa.....          | 3,600     | 3,800     | 3·00          | 4·20 | 10,800    | 15,900     |

## INTERPRETATION OF CROP REPORTS.

In the following statement the figures representing the average standard condition on July 31, 1913, have been converted into the percentage of a condition according to the scale in which 100 represents an average yield per acre equal to that of the five years 1908-12. It is assumed that the conditions between the end of July and the time of harvest will be equal to the average conditions of the same period for the five years 1908-12.

| Crop                  | Average standard condition July 31, 1913 | Average yield per acre 1908-12 | Standard condition July 31 1913 | Anticipated yield per acre 1913 | Condition (100 = average yield per acre 1908-12) |
|-----------------------|--|--------------------------------|---------------------------------|---------------------------------|--|
|                       | p. c.                                    | bush.                          | p. c.                           | bush.                           | p. c.  |
| Spring wheat.....     | 82·86                                    | 18·90                          | 87·62                           | 19·98                           | 106  |
| Rye.....              | 83·32                                    | 18·50                          | 85·00                           | 18·87                           | 102  |
| Barley.....           | 83·29                                    | 30·49                          | 87·58                           | 32·06                           | 105  |
| Oats.....             | 87·02                                    | 35·95                          | 87·45                           | 36·13                           | 100  |
| Flaxseed.....         | 82·92                                    | 11·90                          | 83·85                           | 12·03                           | 101  |
| Corn for husking..... | 81·91                                    | 58·08                          | 82·05                           | 58·18                           | 100  |
|                       |  | tons                           |                                 | tons                            |  |
| Corn for fodder.....  | 85·43                                    | 10·03                          | 86·60                           | 10·17                           | 101  |

Compared with June 30, 1913 wheat has advanced by 7, rye by 4, barley by 6 and oats by two points.

## NOTES OF REPORTS FROM THE PROVINCES.

**Prince Edward Island.** Cold weather during May and June caused a shortage of hay, but rain during July has improved all the crops and hay will give a larger yield than was anticipated a month ago. Complaints of cut worms are pretty general throughout the province. Potatoes are reported as poor in several parts, but there has been no trouble with potato beetles.

**Nova Scotia.** The cold weather during the first of July retarded the growth of crops, but the last two or three weeks have been ideal and all crops give evidence of a much larger yield than was at first expected. Potatoes are poor in most sections, and cut worms have done much damage. The fruit crop will be much poorer than usual. All kinds of garden produce are thriving. Live stock are reported to be in excellent condition.

**New Brunswick.** Crops of all kinds are looking fairly well but will be late. Hay will be rather a light crop though it has improved wonderfully of late. Potatoes are reported as good and there has been no damage from potato beetles. The apple crop will be almost a failure, but vegetables are doing extra well.

**Quebec.** The reports from the counties north of the St. Lawrence river and in the Ottawa Valley indicate very poor crops. The frosts of June and the succeeding drouth have seriously affected the pastures. Straw of all grains is short. In the Lake St. John district excessive rains did some

damage to the grain crops. In the counties south of the St. Lawrence River the grain crops have a good appearance. Orchards have been damaged by caterpillars. Pastures during the last few weeks are beginning to look well and give promise of a plentiful supply of autumn feed for all farm animals. In the district surrounding Montreal the pastures are poor and the crops are suffering from the want of moisture. Reports from the Eastern townships state the hay crop will be "very fair" to "good." Corn for husking and for forage, although late, look well. Wheat and barley are well headed, and oats looks excellent. Potatoes and all root crops give promise of heavy yields. A correspondent from Compton county says "rain came too late to improve hay crops, which are the lightest in seven years," while another from Drummond county says "that the hay crop is turning out much better than was expected." All reports state that the apple crop will be almost a complete failure.

**Ontario.** Hot, dry weather during the first part of July caused a shortage of all crops, but the rain of the latter part of the month has greatly improved their condition. Straw is short but of good quality. Grasshoppers, cut worms and potato bugs have done considerable damage in some sections of eastern, southern and northern Ontario. A severe hailstorm on the 24th almost destroyed the crops in parts of eastern and southern regions. In some parts of the province farmers are selling their stock on account of the scarcity of feed. Two correspondents in southern Ontario report that fall wheat has produced from 20 to 35 bush. per acre. Farm labour is scarce averages about \$2.00 per day with board and from \$25 to \$35 by the month. Corn in some sections, and oats in others, are reported as very flourishing.

**Manitoba.** All grain is filling out well though light in straw. Drouth and high winds did some little injury to the standing grains, but all things point to an average crop. Wild hay is plentiful but timothy is very light. Cut worms have done damage in many places. Labour is said to be scarce.

**Saskatchewan.** Prospects are good for a full crop provided the weather continues favourable, and frost holds off. Marquis wheat headed out ten days before Red Fife. The sloughs are full of water and this may prevent cutting of hay in many cases. Farmers are going in for mixed farming especially in the direction of keeping milk cows. Reports state that the results of good farming stand out more conspicuously this year than ever before. All crops put in on properly prepared land will be good, but those put in on stubble will invariably be poor.

**Alberta.** Gophers and cut worms did considerable damage to grain and potatoes. In the southern part of the province, the dry, hot winds of July burnt the spring wheat in spots, especially on land which was not irrigated. Straw will be short on sowings on old land. Rain at the end of June prevented the cutting of alfalfa and the usual three cuttings will therefore not be general this year. The crops promise a good yield if the frost holds off.

**British Columbia.** Copious rains in June and early July were followed by fine hot weather which allowed belated haying operations to be well pushed forward. Some of the hay and clover cut in June was spoiled by the rains. Hail is reported from one section as doing considerable damage to apples and small fruits. Crops on the whole will be good but rather later than usual.



## DEPARTMENT OF AGRICULTURE.

**Experimental Farms and Stations.** At the Central Experimental Farm, Ottawa, the temperatures recorded during July have ranged abnormally high, the thermometer on the 4th reaching a point never before touched since the taking of observations at the Farm began, namely, 100 degrees, while the highest in July, 1912, was 95.8. The lowest reading of the month is 44.8 and the mean temperature 70.05, compared with 45.6 and 69.03, respectively, a year ago. Although July is usually the month of heaviest precipitation at Ottawa, the rainfall only amounts to 2.3 inches compared with 3.89 inches in 1912. The bright sunshine averages 8.99 hours a day as against 10.08 hours a day in the corresponding period of last year.

All crops have continued to suffer more or less from the drouth. Hay has been harvested, giving an average of about two tons to the acre. Oats promise a fair yield but the straw is much shorter than usual. Indian corn, which promised well in June, has since made very uneven growth. Nor are the prospects as regards potatoes as favourable now as they were early in July. Roots, however, seem to be suffering the most from the dry weather and will require an abundance of moisture during the rest of the season to ensure even a fair crop.

J. A. Clark, Superintendent of the Station at Charlottetown, P.E.I., reports: "No extreme temperatures have been recorded during July; there have been frequent showers and very favourable conditions have prevailed for all crops. The hay crop, about one-half of which has now been saved in excellent condition, improved so much that the yield is likely to exceed the June estimate by probably 30 p.c. Grain has headed out, the growth being tall and vigorous. Cutworms and root maggots have been troublesome, while the Carrot Rust-fly has destroyed many fields of carrots. Pastures are good and the supply of milk at the factories is greater than last year. The potato crop is looking well, the almost entire absence of the Colorado Potato Beetle during the early part of the season being generally noted. Many excursions of farmers have been held to this Station, the attendance from the different Institutes being more than double that of a year ago."

W. W. Baird, Superintendent of the farm at Nappan, N.S., reports: "July, for the most part, has been dull and wet, rain falling on twelve different days, giving a total precipitation of 4.98 inches as against 6.62 inches for the same month in 1912. Notwithstanding the prevalence of cool nights, vegetation has made good growth. Though rainy weather has delayed haying some few days, most of the clover hay has been cut, the crop being not only heavy for this season, but also of excellent quality. Grain and roots have made very satisfactory growth. Bush fruits are now ripening fast. Strawberries were only half a crop. Cherries are poor but apples promise fairly well. The work engaging attention at this Farm in addition to haying, has included hoeing and cultivating, removing old stumps from the orchards and seeding the land to a cover crop of rape, renovating the shrub, on the lawn and clearing new land."

G. A. Langelier, Superintendent of the Station at Cap Rouge, Que., reports: "July has not been quite so warm as last year, but the precipitation is six times heavier. Farmers in this district have just begun haying, though it is practically through at the Experimental Station. The crop of hay will be heavy, so will that of grain. The frequent showers experienced during the month will lower the quality of the hay which has been made up to date, but the rains have wonderfully helped vegetation generally. Taking everything into consideration, this will be a good year for the farmers of this district."

W. O. McKillican, Superintendent of the Farm at Brandon, Man., reports: "July has been a dry month, the precipitation totalling only 1.7 inch. The total rainfall for the season up to July 31st aggregates but 5.33 inches. Consequently, crops throughout the district generally are not very heavy, although better, perhaps, than might be expected under such unfavourable conditions. On the Experimental Farm, crops are good and some heavy yields will be obtained. The dry weather is hastening grain to maturity and harvesting will be in full operation early in August. Work on the Experimental Farm has consisted chiefly of haying and the cultivating of hoed crops and summer-fallows."

Angus Mackay, Superintendent of the Farm at Indian Head, Sask., reports: "July, on the whole, has been favourable for crops. Heavy rains were frequent early in the month, delaying work on the land and making the curing of hay difficult for a time. The chief work on the Experimental Farm has been ploughing and cultivating summer-fallows. Fall rye was harvested to-day, the 31st, the crop being very satisfactory. Prelude, the new early wheat, is about ready to cut; in fact, one part of the field is quite ripe. Barley is well advanced and promises a heavy yield. A large excursion to the Farm from stations along the main line of the Canadian Pacific Railway, was held on the 24th. At present the weather is all that could be desired for ripening grain and harvesting is likely to start about the 12th or 15th of August, and to be general by the 20th."

Wm. A. Munro, Superintendent of the Station at Rosthern, Sask., reports: "The most severe hail storm on record for this district occurred on the afternoon of July 25th, destroying crops over a strip about two miles wide, running immediately north of the town of Rosthern for a distance of twenty miles eastward. No injury, however, was done at the Experimental Station. Apart from this occurrence, the weather during July has been very favourable for the crops, there being sufficient rain for luxuriant growth and enough sunshine for early development. Although haying has been carried on at the Station under very favourable conditions during the month, the yields are not so high as last year. A plot of Early Indian barley was ready for cutting on the 28th, and one of winter rye on the 31st, while Prelude wheat is ready at the time of writing (August 1st)."

R. E. Everest, Superintendent of the Station at Scott, Sask., reports: "July has been considerably different from the corresponding month a year ago, about one hundred more hours of sunshine being recorded and less than half the rainfall of 1912. The result is very noticeable in the grain fields, for, instead of the uneven, luxuriant growth of last year, are seen uniform crops of good fair growth hastening towards an even maturity.

At this Station, the prairie breaking undertaken was completed about the middle of the month. On the 17th there was a small public gathering here, and, after being shown over the farm, the visitors were addressed on agricultural topics by competent speakers. The painting of the farm buildings has added to the general appearance of the Station and the ordinary work of this farm is well advanced. At the close of the month, grain crops and vegetables, also trees and flowers, are all looking exceptionally well."

G. H. Hutton, Superintendent of the Station at Lacombe, Alta., reports: "July has been warm and comparatively dry, particularly towards the close of the month. The hay crop is lighter than usual and will probably average from a ton and a quarter to a ton and a half per acre. The weather for haymaking is such, however, that the quality will be above the average. Grain crops are rapidly filling and some of the earlier varieties of barley and oats are ripening. The earliest barley will be cut during the first week of August. Early-sown grain in this district promises to yield slightly above the average, and, if the warm weather continues, will ripen earlier than usual."

W. H. Fairfield, Superintendent of the Station at Lethbridge, Alta., reports: "The weather during July has been warm and the rainfall quite light. The mean temperature for the month is 61.89, as against 58.57 for the corresponding period of last year. Owing to lack of rain, the grain crops are not as good as they promised to be at the end of June, but showers experienced recently have probably been sufficient to fill what grain there is and so make a fair sample. Cutting of barley and winter wheat has begun in this district and will be general as regards these two crops by the 10th of August. The hay crop, especially alfalfa, has been good. The weather, on the whole, has been favourable for haying, so that the quality of the first alfalfa cutting will be good. Where the first cutting was made early in the season, the cutting of the second crop has been begun. At the Station, rye, winter wheat and barley are being harvested."

P. H. Moore, Superintendent of the Farm at Agassiz, B. C., reports: "The first ten days of July were rainy and cool, but the weather since has been dry and warm. Haying operations have been greatly delayed this year, the greater part of the crop in this valley not being made until the latter part of the month. Roots and potatoes promise to be an excellent crop, and corn, although a little backward on account of dull weather, is now making rapid growth and will be quite up to the previous standard. All classes of live stock at the Farm are in excellent condition. Practically all the cows freshened in the spring and are holding up well in their milk. From careful notes taken as to the value of feeding male calves from grade Holstein cows, for veal, it is very doubtful if this is a profitable method of disposing of these young animals when fed from 35 to 48 days and then turned off at from 156 to 174 lb. live weight. Calculating the value of their food at either 18 cents per gallon or 50 cents a pound butter fat, and obtaining 8 cents per pound live weight, the profit ranged from \$1.05 to \$2.82, showing smaller profit the longer the time fed. The calves, then, on the whole, were not profitable feeders and it is evident that the sooner such

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animals can be made saleable after birth (within, of course, reasonable limits as stipulated by law) the greater the profit."

The records of temperature, precipitation and sunshine at the several Experimental Farms and Stations for the month of July are given in the following table :

**Meteorological Record for July, 1913.**

| Experimental Farm<br>or Station at— | Degrees of temperature, F. |        |       | Precipitation<br>in<br>inches | Hours of sunshine |        |
|-------------------------------------|----------------------------|--------|-------|-------------------------------|-------------------|--------|
|                                     | Highest                    | Lowest | Mean  |                               | Possible          | Actual |
| Ottawa, Ont. ....                   | 100.0                      | 44.8   | 70.05 | 2.30                          | 473               | 278.9  |
| Charlottetown, P.E.I. ....          | 83.5                       | 44.0   | 64.19 | 4.01                          | 476               | 222.2  |
| Nappan, N.S. ....                   | 82.0                       | 41.0   | 62.33 | 4.98                          | 474               | 226.5  |
| Cap Rouge, Que. ....                | 88.0                       | 45.2   | 65.19 | 5.36                          | 479               | 215.4  |
| Brandon, Man. ....                  | 95.3                       | 41.0   | 61.90 | 1.70                          | 491               | 228.8  |
| Indian Head, Sask. ....             | 84.0                       | 38.0   | 61.16 | 4.13                          | 494               | 285.3  |
| Rosthern, Sask. ....                | 84.1                       | 39.7   | 59.40 | 3.80                          | 507               | 289.2  |
| Scott, Sask. ....                   | 87.4                       | 35.2   | 59.85 | 2.98                          | 505               | 282.3  |
| Lacombe, Alta. ....                 | 84.8                       | 31.9   | 57.65 | 3.43                          | 505               | 336.3  |
| Lethbridge, Alta. ....              | 89.2                       | 38.0   | 61.89 | 1.29                          | 491               | 345.0  |
| Agassiz, B.C. ....                  | 91.0                       | 45.0   | 52.45 | 3.71                          | 489               | 189.8  |

J. H. GRIDALE, Director Experimental Farm.

Ottawa, August 9.

**Seed Branch.** Field crop competitions are again being conducted in all the provinces of the Dominion under the support of the Seed Branch and the Provincial Departments of Agriculture. Last season there were 315 competitions in standing fields of seed grain, potatoes, roots and vegetables, and many of these provided classes for three or more kinds of crops. The number will be larger this year.

These competitions were organised by the Seed Branch in 1906 and 40 were conducted in the prairie provinces. The object was to offer encouragement to the production and use of good seed more adequate to the importance of the grain growing industry and to stimulate greater interest in field agriculture. Previous to this no special attempt had been made by agricultural societies to recognise by prizes the farmers' practices in respect to grain growing. The fall fairs and large exhibitions were not adapted to giving recognition to growing seed grain. In many places, particularly in the west, the fairs were held at a time of year when grain of the season's growth was not threshed. Most of the prize money went to the live stock classes and the grain and seed exhibits were of comparatively little importance. The grain classes were largely filled by exhibitors who specially cleaned, or perhaps handpicked, the small quantity required and often showed the same grain year after year. Under these circumstances, to offer large prizes for grain would be to develop expertness in cleaning the quantity required for exhibit rather than to encourage growing clean crops or seed.



The only way to arrive at the value of a crop for seed purposes is to examine it when growing in the field. As it is impracticable to bring the crops to a fair for competition, the next best thing is to take the competitions to the fields. This the field crop competitions have done and they have had a pronounced educational as well as commercial value.

As previously noted in the Census and Statistics Monthly, the organisation and management of the competitions was handed over to the provincial Departments of Agriculture last year, support from the Seed Branch being given in the form of subventions amounting to two-thirds of the money paid out in prizes, up to \$50 for each of three kinds of crops in a competition held by one agricultural society. While the provincial Departments of Agriculture are now responsible for organising and judging the competitions, the Seed Branch district officers in Quebec, the Maritime Provinces and British Columbia are assisting in the work.

In 1912 the subventions paid to the provinces on account of field crop competitions were as follow :

|   |                   |
|---|-------------------|
| Prince Edward Island : 6 competitions with classes for wheat, oats and barley in each.....  | \$354.66          |
| Nova Scotia : 9 competitions with 8 classes for oats, 5 for wheat and one for potatoes.....   | 559.16            |
| New Brunswick : 5 competitions with 5 classes for oats, 4 for wheat, 3 for turnips, 2 for potatoes and one for barley.....            | 414.00            |
| Quebec : 59 competitions with 43 classes for oats, 10 for potatoes, 3 for timothy, 2 for wheat and one for barley.....                | 2,908.70          |
| Ontario : 153 competitions in grain.....  | 7,650.00          |
| Ontario Vegetable Growers' Association, 15 competitions, in celery, potatoes and onions.....  | 500.00            |
| Manitoba : 6 competitions.....  | 288.66            |
| Saskatchewan : 24 competitions with 9 providing classes for two kinds of crops.....   | 1,349.35          |
| Alberta : 24 competitions with 23 classes for wheat, 18 for oats, 13 for barley and one for flax.....                                 | 1,613.65          |
| British Columbia : 14 competitions with 13 classes for potatoes, 3 for oats, 2 for wheat and one each for turnips and red clover..... | 1,000.06          |
|   | <hr/> \$16,638.18 |

E. D. EDDY, for Seed Commissioner.

Ottawa, August 15.

**Dairy and Cold Storage Branch.** The fruit inspection service for the season of 1913-14 has been organised along the same lines as last year with very few changes in the personnel of the inspectors. The new regulations under the amendment to the Inspection and Sale Act of last session are now in force. These deal more particularly with the imported fruit and make it obligatory on the importer to see that certain fruits sold in closed packages are marked in accordance with the requirements of the Fruit Marks Act. In practice, of course, this applies principally to apples.

The Minister has authorised the erection of an experimental cold storage warehouse at Grimsby, Ont. A site has been selected and plans are now being prepared for a building which will have a refrigerated space of about

50,000 cubic feet divided into six or seven rooms. It is intended to use this establishment for conducting experiments in the cold storage of fruit and also in warehouse pre-cooling of fruit for long distance shipment. It is expected that the building will be completed before winter sets in so as to be available for early shipments next summer.

The Inspector of Dairy Products is now taking samples of butter throughout Ontario to be tested for water content. The law prohibits the sale of butter containing over 16 per cent of water.

Arrangements are again being made to have special cold storage chambers reserved for fruit on a number of steamships sailing to different ports in the United Kingdom.

J. A. RUDDICK, Dairy and Cold Storage Commissioner.

August 19, 1913.

## CROP REPORTS FROM OTHER COUNTRIES.

**England and Wales.** The Board of Agriculture Report (August 1) states that the weather of July, while very favourable for making and harvesting hay proved too dry for most crops. Some districts did indeed benefit from occasional rains, but these were generally insufficient, and in most districts the absence of rain had a detrimental effect upon the crops. The grain harvests had commenced in some of the earliest districts before the end of July. Wheat has in some counties improved during the month and matured well, but in others it has deteriorated; taking the country as a whole the probable yield of the crop is expected to be 2% under the average, being the same figure as estimated a month ago. The conditions and prospects of barley have shown a very slight deterioration in the month, but the expected yield is again put at about 7% under-average. The absence of rain has told considerably against oats. In most parts of the country winter sown crops are much more satisfactory than spring sown, but the latter are, as a rule, very bad and the crop generally is very thin and short in straw. The yield is expected to be about 12% less than usual. For both barley and oats poor crops are reported from the midland area of England. The potato crop is healthy and growing fairly well, but needs rain to swell the tubers. Early varieties have been lifting rather lightly. Estimates of the probable yield have slightly improved, in a number of districts, but less favourable in others; on balance there is a slight reduction, but this is insufficient to effect the numerical estimate, and the yield is still indicated by 2% under-average. For the country as a whole the probable yield of roots is estimated on present appearances as 10% below average. The hay crop affords a satisfactory feature in a lean season, the yield of the crops was fully equal to expectations and in the case of meadow hay, exceeded them. The outlook for orchard fruits is less favourable than last month. The absence of moisture has caused the fruit to drop in some districts and frequently trees are also blighted. Apples are likely to give a small crop, while plums and pears will be very short in most districts. Pastures have in most counties become poor and rain is much needed for them. All classes

of live stock are doing well as a rule. The favourable weather for the hay harvest and the poor condition of the root crops shortened the demand for temporary labourers, but from most parts of the country reports are made of more or less serious shortness of labour.

Summarising the returns, and expressing the average by 100, the condition of the crops on the 1st of August indicated probable yields which may be denoted by the following percentages:—Wheat, 98; Barley, 93; Oats, 88; Beans, 97; Peas, 94; Potatoes, 96; Mangolds, 90; Seeds Hay, 108; Meadow Hay, 104 and Hops, 87.

**United States.** The Crop Reporting Board of the U. S. Department of Agriculture issued on August 8 the following estimates of average condition and yield. The yields for 1913 of winter wheat and rye are those of the preliminary estimate; the yields for 1913 of the other crops are interpreted from the reports on condition.

| Crops.          | Condition in per cent of normal |             |                   |             | Yield per acre    |            |                 | Total yield in millions of bushels |            |            |             |
|-----------------|---------------------------------|-------------|-------------------|-------------|-------------------|------------|-----------------|------------------------------------|------------|------------|-------------|
|                 | Aug. 1 1913                     | Aug. 1 1912 | Ten year average  | July 1 1913 | 1913 <sup>1</sup> | 1912 final | Average 1908-12 | 1913 <sup>1</sup>                  | 1912 final | 1911 final | 1909 census |
|                 | p.c.                            | p.c.        | p.c.              | p.c.        | bush.             | bush.      | bush.           | bush.                              | bush.      | bush.      | bush.       |
| Corn.....       | 75·8                            | 80·0        | 82·2              | 86·9        | 25·0              | 29·2       | 26·5            | 2,672                              | 3,125      | 2,531      | 2,552       |
| Winter wheat.   | —                               | —           | —                 | 81·6        | 16·5              | 15·1       | 15·2            | 511                                | 400        | 430        | 418         |
| Spring wheat.   | 74·1                            | 90·4        | 80·4              | 73·8        | 12·5              | 17·2       | 13·3            | 233                                | 330        | 191        | 265         |
| All wheat...    | —                               | —           | —                 | 78·6        | 15·0              | 15·9       | 14·5            | 744                                | 730        | 621        | 683         |
| Oats.....       | 73·7                            | 90·3        | 81·5              | 76·3        | 26·8              | 37·4       | 29·7            | 1,028                              | 1,418      | 922        | 1,007       |
| Barley.....     | 74·9                            | 89·1        | 83·0              | 76·6        | 23·1              | 29·7       | 24·5            | 168                                | 224        | 160        | 173         |
| Rye.....        | —                               | —           | —                 | 88·6        | 16·3              | 16·8       | 16·2            | 335                                | 36         | 33         | 30          |
| Buckwheat...    | 85·5                            | 88·4        | 89·9              | —           | 20·1              | 22·9       | 21·0            | 17                                 | 19         | 18         | 15          |
| White potatoes  | 78·0                            | 87·8        | 84·1              | 86·2        | 92·0              | 113·4      | 96·1            | 339                                | 421        | 293        | 389         |
| Flax.....       | 77·4                            | 87·5        | 82·9              | 82·0        | 8·3               | 9·8        | 8·2             | 20                                 | 28         | 19         | 20          |
| Rice.....       | 88·7                            | 86·3        | 88·8              | 88·4        | 33·1              | 34·7       | 33·7            | 27                                 | 25         | 23         | 22          |
| Hay (all tame). | 81·8                            | 91·0        | 84·3 <sup>2</sup> | 80·5        | ton.              | ton.       | ton.            | tons.                              | tons.      | tons.      | tons.       |
|                 |                                 |             |                   |             | 1·33              | 1·47       | 1·38            | 64                                 | 73         | 55         | 69          |
| Tobacco.....    | 78·3                            | 82·8        | 81·9              | 82·8        | lb.               | lb.        | lb.             | lb.                                | lb.        | lb.        | lb.         |
|                 |                                 |             |                   |             | 783·0             | 785·5      | 822·3           | 896                                | 963        | 905        | 1,056       |

<sup>1</sup> Interpreted from condition reports. <sup>2</sup> Preliminary estimate. <sup>3</sup> Five-year average.

The quantity of winter wheat is 93·7, against 90·7 last year and 91·0 the six-year average (1907-12). The quality of rye is 94·0, against 94·0 last year and 92·2 the ten-year average. The amount of oats remaining on farms August 1 is estimated at 7·3 per cent of last year's crop, or about 103,900,000 bushels as compared with 34,872,000 bushels on August 1, 1912, and 67,793,000 bushels on August 1, 1911.

**India.** The Indian Trade Journal of July 17 says: Since the issue of the final general memoranda on the wheat and spring oil-seeds crops of the season 1912-1913 on May 29 revised figures have been received from several districts of the Punjab regarding wheat and spring oil-seeds, as also supplementary figures for certain states in Central India regarding

wheat. The figures for Central India and all India revised in the light of those reports give a total area of 29,569,000 acres of wheat with an estimated yield of 356,896,000 bushels. In respect to oil-seeds crops the estimates are reduced by 66,600 acres and 1,800 tons, standing now at 3,540,500 acres and 669,400 tons (2240 lb).

**Holland.** H.M. Consul at Rotterdam communicates a report of the Dutch Board of Agriculture dated July 12 which states that a considerable increase was recorded in the cultivation of summer barley, caraway seed, factory potatoes and red clover. The whole of June was characterised by much rain. The average temperature was low. The unsatisfactory weather seriously affected the hay crop, whilst most of the heavy clay-grounds were in an unhealthy condition. Now that the gathering of the crops is approaching, every rainy day adds to the damage already suffered. In Zealand and South Holland wheat remained too thin in many places to promise a good crop. In other parts of the country the condition is good. On the whole rye has not developed sufficiently and conditions are from moderate to good. In the province of Drenthe it is noticed that rye cultivated with artificial manure has a better appearance than when natural manure was applied. In most parts of the country the condition of winter barley leaves much to be desired. Contrary to the previous year, an abundant crop of oats is expected; even on poor, sandy soil excellent fields are visible. Varying reports have been received concerning buckwheat. In some parts of the country the condition is moderate where night frosts have prevailed, whilst in other parts of the country the condition is good. The quality of flax has in consequence of the rainy weather decreased since last month. Present conditions are very varying; moderate in South Holland, fairly good in the other provinces. Beans and peas have also a bad appearance. With the exception of North Holland whence moderate reports are received the prospects are good or very good for red clover. The quantity of grass hay is abundant but the quality leaves much to be desired, due to the wet weather in consequence of which much hay was for several weeks exposed to the rain before it could be gathered.

**Russia.** The St. Petersburg Commercial Gazette of July 3/16 reports that weather conditions in European Russia throughout June were generally favourable except towards the end of the month when the rain, hitherto beneficial, became excessive, especially in the south, southwest, southeast and parts of the midlands, the heavy rains, with reduced temperature and at times hail storms, laying the grain, particularly the winter crops, over considerable expanses of territory, and at the end of the month in the south exercising an unfavourable influence on harvesting, which had by that time begun. In general, however, the conditions are described as favourable, and the crop prospects not only very satisfactory, as previously, but even much improved. Winter wheat in particular promises an abundant crop, being unsatisfactory only in a few isolated localities. Winter rye, too, is almost everywhere satisfactory. Spring grains likewise promise a good yield, oats showing the best form, barley in comparison not being quite so good. Spring wheat promises very well in the two principal zones, the one extending over the southwestern governments to the Don Territory and



the north of the Caucasus, the other covering the Volga governments and those of Viatka, Perm and Ufa. Spring oats and barley also promise well in these regions. In general, unsatisfactory conditions are very rare, and for the most part to be met with in small separate regions and districts. Thus winter wheat in an unsatisfactory condition is met with but rarely in the west and south. In the north-east and midlands rye in places is unsatisfactory, and spring grains here and there in the central-industrial governments. It is to be added, however, the report concludes, that the happy prospects described are dependent on the setting in of fine warm weather in the south, necessary for the full ripening of the grain and its preservation from the effects of excessive damp otherwise both in quantity and quality the prospects may be considerably lower.

H. M. Consul at Odessa reports (July 9) that the beet root crop for 1912 was a failure, for the immoderately rainy weather prevented the carting. In 1913 there are 1,808,000 acres under beet root against 1,890,000 acres in 1912. About 47.5 per cent of the plantations are good, 40.7 per cent are satisfactory, 8.2 per cent are unsatisfactory, and no more than 2.5 per cent are bad.

H. M. Consul at Nicolaiev reports (July 21) for the districts of Kherson, Kharkov, Poltava, Kieff, Ekaterinoslav and Taurida as follows: Winter wheat is very good both as regards quality and quantity, the grain is heavy and the area sown is larger than usual. Spring wheat is somewhat below the average in quality and quantity, and the area sown is smaller than usual, its place having been taken by winter wheat and barley. Barley in quantity is excellent and above the average. The average yield is estimated at 21 bushels per acre. The quality is very good and the area under cultivation is larger than usual. Rye is very good as regards quantity, and of excellent quality and weight. The prospects of the oat crop are good, but it is not yet ripe enough to give an estimate.

## THE WEATHER DURING JULY.

The Dominion Meteorological Office reports that the mean temperature was below the average over a large portion of the Dominion, the exceptions being Vancouver Island, a considerable section of central and eastern Ontario and western Quebec. The positive departures were as a rule, however, quite small, in most places being 1° or less. Negative departures were also in most places comparatively small, the largest being 3° to 4° in western Manitoba and southern Saskatchewan. The precipitation was below the normal over a portion of British Columbia, southern Alberta, the southern and eastern districts of Manitoba, the greater part of Ontario and in western Quebec; whereas quite heavy rains, amounting to or exceeding the normal occurred in the other portions of the country. With the exception of the southern districts of Alberta and Manitoba the moisture in the west was ample for the rapid growth of all grains, while in Ontario except in a few localities, the crops suffered considerably from drouth. Over the greater part of Quebec and the Maritime provinces the rainfall was sufficient for all vegetation. The total precipitation was particularly heavy in the central and northern districts of Quebec.

## INTERNATIONAL INSTITUTE OF AGRICULTURE

The bulletin of agricultural statistics for July publishes the following information as received up to July 19 for wheat, rye, barley and oats in certain countries: (1) area and condition on July 1, (2) area and production in 1913 as compared with 1912, (3) average yield per acre in 1913 as compared with 1912 and (4) area and condition of corn. Condition is expressed numerically by a percentage scale in which 100 represents a condition promising an average yield supposing the crops not to be subjected to the effects of any extraordinary phenomena up to the time of harvest.

## I. Area and Condition of Wheat, Rye, Barley and Oats July 1, 1913.

| Countries        | Wheat                     |                          |             |             |             | Rye                       |                          |             |             |             |
|------------------|---------------------------|--------------------------|-------------|-------------|-------------|---------------------------|--------------------------|-------------|-------------|-------------|
|                  | Area to be harvested 1913 | Per cent of area of 1912 | condition   |             |             | Area to be harvested 1913 | Per cent of area of 1913 | condition   |             |             |
|                  |                           |                          | July 1 1913 | June 1 1913 | July 1 1912 |                           |                          | July 1 1913 | June 1 1913 | July 1 1912 |
|                  |                           |                          |             |             |             |                           |                          |             |             |             |
|                  | 000 acres                 | p. c.                    | p. c.       | p. c.       | p. c.       | 000 acres                 | p. c.                    | p. c.       | p. c.       | p. c.       |
| France.....      | 16,177                    | 99.7                     | -           | -           | -           | 2,961                     | 99.7                     | -           | -           | -           |
| Scotland.....    | -                         | -                        | 100         | 100         | 104         | -                         | -                        | 100         | 100         | 105         |
| Norway.....      | 12                        | 100.0                    | 100         | 100         | -           | 37                        | 100.0                    | 75          | 80          | -           |
| Netherlands..... | -                         | -                        | 105         | 111         | 109         | -                         | -                        | 102         | 99          | 111         |
| Rumania.....     | -                         | -                        | 120         | 120         | -           | -                         | -                        | 120         | 120         | -           |
| Sweden.....      | -                         | -                        | 105         | 105         | 115         | -                         | -                        | -           | -           | -           |
| Canada (a).....  | 826                       | 105.7                    | 102         | 98          | 86          | 126                       | 92.9                     | 98          | 98          | 101         |
| Canada (b).....  | 8,990                     | 100.1                    | 99          | 98          | 102         | 1                         | 227.3                    | -           | -           | -           |
| Algeria (1)..... | 2,780                     | 101.3                    | -           | -           | -           | -                         | -                        | -           | -           | -           |
| Tunis.....       | 1,254                     | 88.9                     | -           | -           | -           | -                         | -                        | -           | -           | -           |

| Countries        | Barley |       |                   |           |            | Oats  |       |     |     |     |
|------------------|--------|-------|-------------------|-----------|------------|-------|-------|-----|-----|-----|
|                  |        |       |                   |           |            |       |       |     |     |     |
| France.....      | 1,879  | 100.2 | -                 | -         | -          | 9,881 | 100.4 | -   | -   | -   |
| Scotland.....    | -      | -     | 105               | 100       | 105        | -     | -     | 100 | 100 | 105 |
| Norway.....      | 84     | 100.0 | 100               | 100       | -          | 263   | 100.0 | 100 | 100 | -   |
| Netherlands..... | -      | -     | (a) 97<br>(b) 104 | 99<br>108 | 108<br>106 | -     | -     | 120 | 120 | 99  |
| Rumania.....     | -      | -     | 120               | 120       | -          | -     | -     | 120 | 120 | -   |
| Sweden.....      | -      | -     | 107               | 110       | 123        | -     | -     | 107 | 108 | 125 |
| Canada.....      | 1,431  | 101.1 | 99                | 99        | 99         | 9,646 | 104.7 | 98  | 99  | 96  |
| Algeria (1)..... | 2,545  | 94.5  | -                 | -         | -          | 408   | 103.3 | -   | -   | -   |
| Tunis.....       | 1,118  | 94.1  | -                 | -         | -          | 148   | 110.4 | -   | -   | -   |

(a) Winter sown. (b) Spring sown. (1) Excluding the department of Algeria.

### II. Area and Production of Wheat, Rye, Barley and Oats in 1913 compared with 1912.

| Countries              | Harvested<br>1912 | Harvest of 1913       |                  | Harvested<br>1912 | Estimate for 1913     |                  |
|------------------------|-------------------|-----------------------|------------------|-------------------|-----------------------|------------------|
|                        |                   | Compared<br>with 1912 | Total<br>figures |                   | Compared<br>with 1912 | Total<br>figures |
|                        | 000 acres         | p.c.                  | 000 acres        | 000 bush.         | p.c.                  | 000 bush.        |
| <b>Wheat—</b>          |                   |                       |                  |                   |                       |                  |
| Belgium.....           | 397               | 99.4                  | 394              | 15,348            | 99.3                  | 15,237           |
| Bulgaria.....          | 2,769             | 91.9                  | 2,545            | 63,750            | 100.9                 | 64,301           |
| Denmark.....           | 100               | 100.0                 | 100              | 3,615             | 111.8                 | 4,042            |
| Spain.....             | 9,625             | 97.8                  | 9,414            | 109,784           | 100.3                 | 110,098          |
| England and Wales..    | 1,863             | 96.6                  | 1,800            | 53,443            | 103.1                 | 55,080           |
| Hungary (proper)...    | 8,748             | 88.0                  | 7,701            | 173,328           | 85.0                  | 147,303          |
| Italy.....             | 11,751            | 98.8                  | 11,614           | 165,721           | 119.7                 | 198,416          |
| Luxemburg.....         | 27                | 102.4                 | 27               | 665               | 104.3                 | 693              |
| Russia in Europe (a).. | 17,267            | 95.2                  | 16,444           | 244,000           | 113.8                 | 277,682          |
| Switzerland.....       | 104               | 100.4                 | 105              | 3,178             | 108.3                 | 3,443            |
| United States.....     | 45,815            | 108.3                 | 49,602           | 730,279           | 96.0                  | 701,011          |
| India (1).....         | 31,141            | 94.9                  | 29,522           | 370,514           | 96.7                  | 358,314          |
| Japan.....             | 1,216             | 100.8                 | 1,226            | 25,692            | 105.2                 | 27,026           |
| Totals.....            | 130,823           | 99.8                  | 130,514          | 1,959,317         | 100.2                 | 1,962,646        |
| <b>Rye—</b>            |                   |                       |                  |                   |                       |                  |
| Belgium.....           | 650               | 98.6                  | 641              | 21,313            | 103.1                 | 21,964           |
| Bulgaria.....          | 531               | 86.0                  | 457              | 12,401            | 95.2                  | 11,810           |
| Denmark.....           | 682               | 100.0                 | 682              | 18,894            | 94.2                  | 17,790           |
| Spain.....             | 1,941             | 97.9                  | 1,904            | 18,847            | 132.6                 | 25,023           |
| Hungary (proper) (2).. | 2,795             | 95.7                  | 2,674            | 54,142            | 92.9                  | 50,830           |
| Italy.....             | 305               | 100.5                 | 306              | 5,285             | 104.3                 | 5,512            |
| Luxemburg.....         | 26                | 101.3                 | 26               | 652               | 105.5                 | 687              |
| Russia in Europe (a).. | 70,292            | 99.0                  | 69,554           | 1,006,430         | 91.1                  | 917,161          |
| Switzerland.....       | 61                | 99.0                  | 60               | 1,705             | 103.9                 | 1,772            |
| Totals.....            | 77,286            | 98.7                  | 76,304           | 1,139,689         | 92.4                  | 1,052,549        |
| <b>Barley—</b>         |                   |                       |                  |                   |                       |                  |
| Belgium.....           | 84                | 99.7                  | 84               | 4,253             | 102.9                 | 4,377            |
| Bulgaria.....          | 642               | 88.5                  | 568              | 18,372            | 112.5                 | 20,668           |
| Denmark.....           | 578               | 100.0                 | 578              | 24,981            | 91.3                  | 22,809           |
| Spain.....             | 3,298             | 115.0                 | 3,794            | 59,995            | 106.2                 | 63,742           |
| England and Wales..    | 1,457             | 99.9                  | 1,455            | 46,187            | 100.6                 | 46,450           |
| Hungary (proper)...    | 2,603             | 115.4                 | 3,004            | 70,140            | 107.8                 | 75,608           |
| Italy.....             | 604               | 102.3                 | 618              | 8,403             | 131.2                 | 11,023           |
| Luxemburg.....         | 3                 | 103.8                 | 3                | 92                | 92.4                  | 85               |
| Russia in Europe (a).. | 258               | 161.5                 | 416              | 4,119             | 100.2                 | 4,125            |
| Switzerland.....       | 12                | 103.6                 | 13               | 427               | 104.3                 | 446              |
| United States.....     | 7,530             | 96.3                  | 7,255            | 223,819           | 73.7                  | 164,997          |
| Japan.....             | 3,132             | 99.2                  | 3,106            | 99,574            | 101.5                 | 101,074          |
| Totals.....            | 20,201            | 103.4                 | 20,894           | 560,362           | 92.0                  | 515,405          |

**Area and Production of Wheat, Rye, Barley and Oats in 1913  
compared with 1912.—Continued.**

| Countries               | Harvested<br>1912 | Harvest of 1913       |                  | Harvested<br>1912 | Estimate for 1913     |                  |
|-------------------------|-------------------|-----------------------|------------------|-------------------|-----------------------|------------------|
|                         |                   | Compared<br>with 1912 | Total<br>figures |                   | Compared<br>with 1912 | Total<br>figures |
|                         | 000 acres         | p.c.                  | 000 acres        | 000 bush          | p.c.                  | 000 bush         |
| Oats—                   |                   |                       |                  |                   |                       |                  |
| Belgium .....           | 648               | 103·6                 | 671              | 33,023            | 133·4                 | 44,043           |
| Bulgaria .....          | 395               | 106·2                 | 420              | 11,347            | 142·9                 | 16,210           |
| Denmark .....           | 996               | 100·0                 | 996              | 48,765            | 96·6                  | 47,103           |
| Spain .....             | 1,279             | 104·2                 | 1,341            | 21,680            | 116·5                 | 25,260           |
| England and Wales ..... | 2,072             | 98·1                  | 2,033            | 83,925            | 102·9                 | 86,378           |
| Hungary (proper) .....  | 2,473             | 122·2                 | 3,021            | 72,253            | 127·2                 | 91,931           |
| Italy .....             | 1,254             | 98·5                  | 1,236            | 26,642            | 126·2                 | 33,718           |
| Luxemburg .....         | 77                | 100·0                 | 77               | 2,758             | 113·0                 | 3,116            |
| Switzerland .....       | 82                | 98·9                  | 81               | 3,780             | 123·2                 | 4,656            |
| United States .....     | 37,918            | 101·1                 | 38,342           | 1,334,909         | 72·7                  | 970,355          |
| Japan .....             | 115               | 105·3                 | 121              | 5,176             | 98·1                  | 5,077            |
| Totals .....            | 47,309            | 102·2                 | 48,339           | 1,644,258         | 80·8                  | 1,327,847        |

(a) Winter sown.

(1) About 99·7 of the total reported area under wheat in India.

(2) Rye and maslin.

**III. Average yield per acre in 1913 compared with 1912.**

| Countries                  | Wheat |       | Rye   |       | Barley |       | Oats  |       |
|----------------------------|-------|-------|-------|-------|--------|-------|-------|-------|
|                            | 1913  | 1912  | 1913  | 1912  | 1913   | 1912  | 1913  | 1912  |
|                            | bush. | bush. | bush. | bush. | bush.  | bush. | bush. | bush. |
| Belgium .....              | 38·66 | 38·66 | 34·25 | 32·82 | 52·04  | 50·37 | 65·60 | 50·90 |
| Bulgaria .....             | 25·28 | 23·05 | 25·81 | 23·42 | 36·43  | 28·62 | 38·57 | 28·60 |
| Denmark .....              | 40·45 | 36·13 | 26·13 | 27·72 | 39·40  | 43·31 | 47·23 | 49·07 |
| Spain .....                | 11·75 | 11·45 | 13·22 | 9·72  | 16·73  | 18·21 | 18·89 | 17·05 |
| England and Wales .....    | 30·63 | 28·70 | —     | —     | 31·97  | 31·78 | 42·51 | 40·41 |
| Hungary (proper) .....     | 19·18 | 19·78 | 18·96 | 19·44 | 25·09  | 26·95 | 30·34 | 29·13 |
| Italy .....                | 17·10 | 14·13 | 18·00 | 17·37 | 17·84  | 13·94 | 27·29 | 21·25 |
| Luxemburg .....            | 25·28 | 24·83 | 26·29 | 25·33 | 28·81  | 32·34 | 40·67 | 35·95 |
| Russia in Europe (a) ..... | 16·95 | 14·13 | 13·22 | 14·34 | 9·85   | 15·98 | —     | —     |
| Switzerland .....          | 32·86 | 30·48 | 29·63 | 29·20 | 34·76  | 34·57 | 57·73 | 46·46 |
| United States .....        | 14·13 | 15·91 | —     | —     | 22·68  | 29·74 | 25·19 | 35·46 |
| India .....                | 12·19 | 11·90 | —     | —     | —      | —     | —     | —     |
| Japan .....                | 22·01 | 21·11 | —     | —     | 32·53  | 31·78 | 41·99 | 44·87 |
| Averages .....             | 15·02 | 15·02 | 13·86 | 14·82 | 24·72  | 27·69 | 27·55 | 34·64 |

(a) Winter sown.



**Corn.** The following statement shows the areas under corn, with a percentage comparison with the previous year, and for certain countries, the condition in relation to average yield:

**IV. Area and condition of Corn 1913.**

| Countries             | Harvest<br>of<br>1913 | Compared<br>with<br>1912 | Condition<br>(100=promise of average yield) |                 |                 |
|-----------------------|-----------------------|--------------------------|---|-----------------|-----------------|
|                       |                       |                          | July 1,<br>1913                             | June 1,<br>1913 | July 1,<br>1912 |
|                       | 000<br>acres          | p.c.                     | p.c.  | p.c.            | p.c.            |
| Bulgaria.....         | 1,606                 | 100.0                    | 120   | 120             | -               |
| Spain.....            | 1,150                 | 100.1                    | 100   | -               | 100             |
| France.....           | 1,161                 | 98.3                     | -   | -               | -               |
| Hungary (proper)..... | 6,571                 | 109.1                    | -   | -               | -               |
| Italy.....            | 3,954                 | 100.4                    | -   | -               | -               |
| Rumania.....          | -                     | -                        | 120   | 120             | -               |
| Switzerland.....      | 3                     | 97.7                     | 102   | 100             | 100             |
| Canada.....           | 291                   | 99.4                     | -   | -               | -               |
| United States.....    | 106,885               | 99.8                     | 104   | -               | 96              |
| Japan.....            | 133                   | 98.2                     | 100   | -               | -               |

**Sugar Beet.** The areas under sugar beet for 1913, expressed in acres, are reported as follows, the figures within parentheses representing the harvested areas of 1912: Belgium, 130,000 (153,000); Bulgaria, 9,000 (7,000); Denmark, 77,000 (75,000); Spain, 70,000 (106,000); France, 572,000 (606,000); Hungary, 457,000 (426,000); Italy, 133,000 (131,000); Canada, 19,000 (19,000).

## BRITISH TRIAL OF MILKING MACHINES.\*

The official report on the trials of milking machines held by the Royal Agricultural Society of England in connection with its Bristol Show of 1913 has been published by the Society in the form of an octavo pamphlet of 22 pages. The trials were held at Grange Hill, Bishop Auckland Co. Durham, on April 22, 1913, and following days. Originally 17 machines were entered. Of these 13 arrived at the place of trial and ten actually competed. The trials were conducted by two judges, with the assistance of the Society's consulting engineer, three dairy bacteriologists and four stewards.

The judges in their report state that milking machines practically work on two fundamental principles, viz., vacuum plus mechanical pressure and mechanical pressure alone. The first of these principles seems to be that most generally adopted, the inventors having taken advantage of the vacuum controlled by a pulsator to obtain the mechanical motion by which the cow's teat is pressed by the rubber teat cup at the same time that the vacuum is present to draw the milk from the teat to the receptacle. In this

\*Previous references to this subject appeared in Vol. 5, 1912, pp. 189, 247 and Vol. 6, 1913 p. 97.

manner the machines imitate the sucking action of a calf, which must be admitted to be the best means of extracting milk from the cow.

In discussing the performance of the competing machines in connection with the points to which the special attention of competitors was called in the regulations, the report states that the practice of using rubber tubes should be condemned for several reasons, the most important of which is the fact that it is practically impossible to prevent the presence of bacteria on a surface such as rubber presents. "In other words," states the report, "it is most difficult to clean thoroughly. Another point against the use of rubber tubes is the fact that they are very apt to perish and crack where they are continually being bent out as is done in the case of placing the cup on the teats in most machines using a vacuum."

The first prize of £25 (\$121.67) and the Society's Gold Medal was awarded to the Omega Milking Machine (Mjolkingsmaskin Omega) of Flen, Sweden. The Omega machine consists of four main parts: the teat cups, the conduits, the pulsator and the receptacle. These are combined in one unit which is attached to the cow by means of web straps, so that the weight of the unit is supported entirely by the cow; but unlike the majority of machines the milk ducts are made of celluloid, are transparent and very tough; the inner surface very nearly approaches the smoothness of glass and so the milk ducts are quite easily cleaned. The teat cups are entirely supported on the celluloid duct tubes which are led into the milk receptacle through rubber ring washers; the latter are air tight but allow of practically a universal motion of the cups, including a telescopic motion, thus allowing the cups room for adjustment to fit any cow. The tube being transparent the attendant can at once see that all four quarters are milking properly, and by means of a tap, which is fitted to each tube where it leaves the cup, he can cease to operate any cup he may choose. The power required to work four machines is about 1 H. P., with a vacuum of 14 to 15 inches of water. The price of the four machines, sufficient to milk a herd of fifty cows, is £80 (\$389.33). From two morning milkings of four cows the Omega machine averaged 19 lb. 6 oz. of milk per cow, the strippings averaged 1 lb. 4 oz. per cow and the time taken was 6½ minutes per cow.

The second prize of £10 (\$48.67) and the Society's silver medal was awarded to Messrs. Vaccar Ltd. of 7 Denman Street, London, E. C. Their system consists of rubber lined teats connected with the receptacle, by a length of rubber tube through which the milk is drawn. The receptacle stands on the ground. The tubes are usually cut and a piece of glass tube is inserted to enable the attendant to note the flow of milk. The intermittent action of the vacuum is attained by means of a double cylinder horizontal duplex pulsator which is fixed to the top of the receptacle. The price of the Vaccar machine for milking 50 cows, which includes two machines with a double set of cups capable of milking four cows at one time, is £110 (\$535.33).

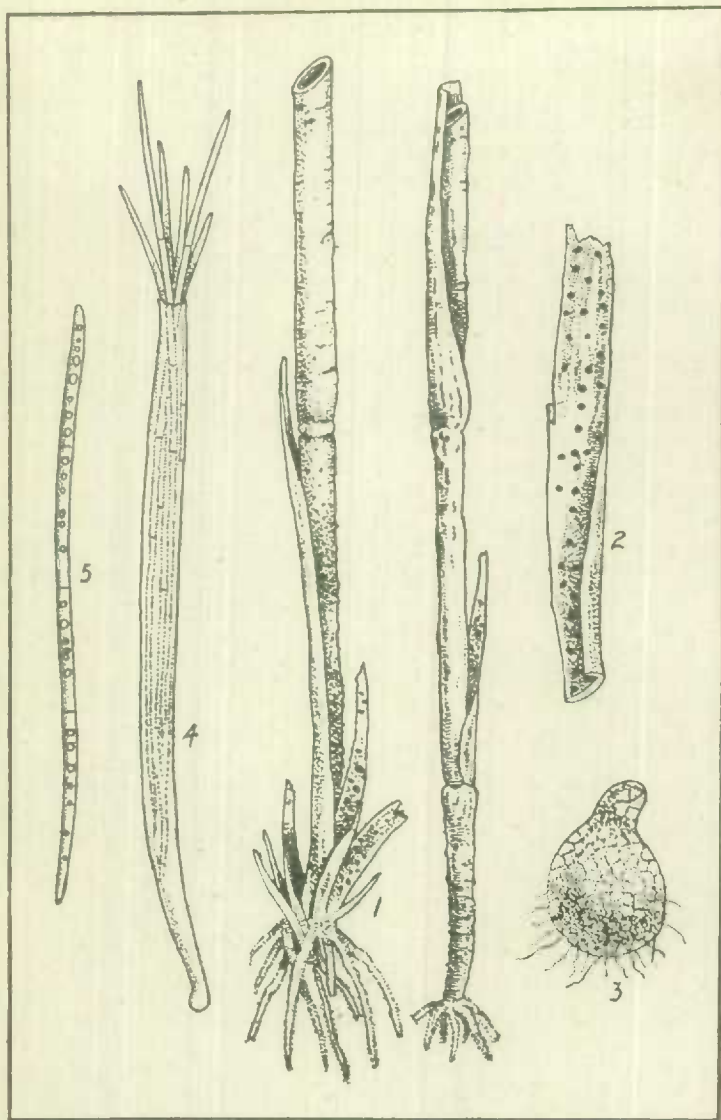
**White-Heads or Take-All of Wheat and Oats.** The Board of Agriculture and Fisheries, England, in a leaflet issued in July calls attention to a serious disease named "White-Heads" or Take-All" (*Ophiobolus graminis*, Sacc.) which attacks wheat and sometimes oats. As the statement is made in the leaflet that the disease is in all probability present wherever wheat is cultivated, the article is quoted in full and readers and correspondents of the "Census and Statistics Monthly" are requested to report any signs of its appearance in their locality.

**Description of the Disease.**—This serious disease presents itself under two very different aspects, depending to a very great extent on the period at which the plants are attacked, and on weather conditions favouring respectively the host plant or the fungus.

In the condition known as "White-heads", the plants usually attain their full growth and the ears are of normal size, but the grain either remains undeveloped, or is very much shrivelled and useless. The ears and straw of such diseased plants present a bleached appearance, suggesting at a distance premature ripening, but on examination the entire plant proved to be dry and dead, and two or three inches at the base of the straw present a blackened appearance, as if it had been charred. This phase of the disease often occurs in more or less definite patches in the field, which show conspicuously at a distance owing to their whitish or bleached appearance, while the healthy part of the crop is still green.

During the winter if the blackened straw, left as stubble, be examined with a pocket lens, numerous minute, black wart-like bodies will be seen, more especially on the inner side of the sheaths encircling the base of the stem. These are the fruits of the fungus causing the disease.

In the condition known as "Take-all", the plants are attacked seriously at an early stage of growth and become yellow, and often die before the stem is formed, or at all events before the ear escapes from its sheath. As in the case of "White-heads" the disease spreads from a centre, and frequently considerable patches of such stunted plants may be found. If carefully examined, the base of the plant may be found to present a somewhat blackened appearance. The roots of diseased plants are always very woolly, owing to a dense formation of root-hairs. In many instances a second lot of roots may be formed higher up on the stem of diseased plants, but these in turn are attacked by the fungus, and the plant ultimately succumbs. "White-heads" and "Take-all" were at one time considered as two independent diseases, caused by different organisms, but McAlpine has proved that the two are caused by a fungus called *Ophiobolus graminis*, Sacc., which is always present at the base of the stem. It is readily recognized by the dark colour of its mycelium, which forms a thin felt on the stem and leaf-sheaths. Infection experiments have proved that this fungus is the direct cause of the disease.



'WHITE-HEADS' OR 'TAKE-ALL' OF WHEAT AND OATS.

Fig. 1.—The appearance of the fungus at the base of oat plants. Nat. size. Fig. 2.—Fungus on a leaf-sheath. Slightly Mag. Fig. 3.—Perithegium, or fruit of the fungus Mag. Fig. 4.—Ascus with spores escaping. Mag. Fig. 5.—Spore. Mag.



**Prevalence of the Disease.**—The disease is probably far more prevalent in England than is generally suspected. It is stated that the loss occasioned ranges from one-half to one-fiftieth of the crop. The disease is also well known in Italy, France, Germany, Belgium, Australia, and the United States, and is in all probability present wherever wheat is cultivated.

The reason why uncertainty as to the cause of the disease has existed so long is due to the fact that the fungus generally produces its fruit during the winter months on the stubble, and hence has escaped observation; for during the period of growth of the wheat the mycelium only of the fungus is present.

**Method of Attack.**—The spores of the fungus are liberated during the winter or early spring, and remain in the soil until the required amount of moisture and temperature induce germination. According to Mangin, the spores on germination either directly give origin to a number of colourless, minute, sickle shaped, secondary spores, or a slender germ-tube is formed, which bears a cluster of the secondary spores at its tip. From these secondary spores on germination a very delicate germ-tube arises, which enters the wheat plant through the root-hairs. Mangin observed that when 1 per cent of sulphate of ammonia, or 1 per cent of phosphate of ammonia was added to the water in which the spores were placed, germination was arrested. After the mycelium has entered the root it gradually extends for three or four inches up the stem and also passes into the sheaths surrounding the base of the stem. In addition to permeating the tissues, the mycelium also develops on the surface of the stem, and on the inner surface of the sheaths, where it assumes a dark brown colour, and forms a somewhat thick felt that can be scraped off. The minute black fruits may be found nestling in this felt of mycelium; they also occur on the root.

According to McAlpine, wheat is the only cereal attacked by this fungus in Australia: "The oats grows well in Take-All patches, and is not attacked by the fungus, hence it is recommended for starving it out". This statement, however, does not hold good for England as specimens of oat plants attacked by *Ophiobolus graminis* were sent to Kew from Corwen, N. Wales, for determination during 1912. The diseased oats showed the "White-head" phase, with silvery, empty glumes, and the base of the stem and root with a curious development of blackish, superficial mycelium. The fruit of the fungus was present, setting aside all doubt as to the identity of the parasite. The crop in this instance was seriously affected, the diseased plants occurring in scattered patches. A field of wheat near Shere, in Surrey, was also badly attacked by the "White-head" condition of this disease.

**Methods of Prevention.**—Land that has grown a diseased crop is certain to be infected, owing to the fact that the fungus is confined to the base of the stem, which is left on the land as stubble and ploughed in. As both the spores and vegetative mycelium are capable of infecting cereals, prompt preventive measures should be applied without fail. From what has been stated, 1 per cent of superphosphate of lime, 1 per cent of sulphate of ammonia, and 1 per cent of phosphate of ammonia are respectively capable of arresting the growth of the mycelium of the fungus, hence the choice of the particular fungicide resolves itself into questions as to the relative cost of each of the three substances, and also as to which of the three would be

most suitable in addition as a fertiliser for a cereal crop. Superphosphate of lime has been definitely proved at Kew to arrest the growth of the fungus, and this material can therefore be recommended, the quantity required being  $1\frac{1}{2}$  cwt. per acre. It is important that the dressing should be applied when the crop is young, as it is during this period that it is most liable to infection. Sulphate of iron has proved effective in Australia, in checking the ravages of "Take-all", 1 cwt. per acre being applied.

The earlier varieties of wheat are said to be most susceptible to the disease, and red wheats, broadly speaking, are least so, but they are not immune.

The fungus also attacks wild grasses, Couch grass, Brome grass, etc., hence headlands, etc., should be kept clean.

"Blindness" or abortion of the grain in the ear, may be due to other agents than *Ophiobolus graminis*. Much shrivelling of the grain and the bleaching or silvering of the inflorescence in cereals and wild grasses is due to the activity of *Thrips cerealium*, Halid., a very minute insect. *Helminthosporium gramineum*, Eriks., the cause of barley-leaf-stripe, also sometimes arrests the development of the grain. In both instances, the absence of blackness at the base of the stem will clearly indicate that *Ophiobolus* is not the cause of the injury.

**Profit-Sharing in Market Gardening.** A small but interesting profit-sharing scheme is working successfully in a market-garden enterprise in Cleveland, Ohio. The farm consists of ten acres under specialised, highly intensive cultivation, and two and a half acres of greenhouses. The proprietor began on a small scale thirty years ago, and has developed his methods and perfected his organisation till the farm now yields a net profit of \$1,000 per acre yearly. He adopted profit-sharing in order to solve the difficulty of retaining experienced men in his service, many whom he had himself trained leaving him to begin work on their own account. The proprietor suffered the loss of valuable assistance not easily replaceable, and the men, through lack of managerial ability or insufficiency of capital, often failed when in business for themselves.

The system is one in which the employees receive the standard wages of the district, and in addition share in the profits of the business on the same scale as does their employer.

The capitalisation of the entire plant-land, greenhouses, and equipment amounts to about \$50,000. This forms the principal on which the rate of dividend is calculated, and the salary of each man for the year is considered his capital in the business. Profits are high, amounting to 39 per cent in 1911, after setting aside 8 per cent for depreciation.

An employee becomes eligible to share in the distribution of dividends after serving eighteen months on the farm. The men eligible range in age from twenty to forty years, and their average length of service is six years. Their salaries range from \$600 to \$900 a year, and in July 1912, in addition to salary, they received as half-yearly dividend, sums ranging from \$132 to \$198. Each man has also the privilege of investing in the business a maximum capital of \$2,000 in sums of \$500 or less yearly.

It is claimed that the additional interest which each employee has in the success of the enterprise has led to increased efficiency throughout the whole force engaged, which reveals itself in the excellent condition of the crops, and the general care of tools and equipment.—*The Country Gentleman*, May 3rd, 1913.

## SMUT DISEASES AND THE THRESHING MACHINE.

By H. T. Gussow, Dominion Botanist, Central Experimental Farm, Ottawa.

It is estimated that the annual loss to the farmers of Canada through lessened yields and lowered grades of grain caused by smut diseases amounts to not less than \$15,000,000 per annum. On the basis of the acreage of 1911 the average loss per acre is estimated at 84 cents. One of the most important agents in the wide distribution of smut diseases and in their introduction to farms previously free is the threshing machine which moves from farm to farm. A machine which has been used for threshing smutted wheat is so fully infested with spores that any grain subsequently threshed unless the machine is properly sterilised after use will become liable to infection.

The importance of the threshing machine in serving as a means of disseminating weeds, is to some extent recognised, as may be seen by the Weed Acts in force in some provinces, making it compulsory for the men in charge of the threshing machine to clean it, as well as the wagon and racks or any other part of the outfit, before removing them from a farm. But as regards the dissemination of smut diseases the necessity of making it compulsory to fumigate the outfit is by no means adequately dealt with. A machine which has been used for threshing grain infected with smut will contain millions of smut spores which it will scatter all over the fields or roads over which it travels, besides infecting the next lot of grain to be threshed. The successful control of smut diseases will depend very largely upon the exercise of every care and the adoption of means by which the possible ways of dissemination are controlled. The method of treatment alone will not dispose of smut diseases; it is also necessary to cut off all means of infection. It is advisable to make it compulsory not only to clean the machine after use in order to prevent the spread of weeds, but to clean it also from the disease germs of smut. In the absence at present of any legal enactments farmers are strongly advised to insist upon the use of clean machines. They should be careful not to use machines capable of introducing diseases which it will cost much more time and money to control than would be required for the initial cleaning of the machine.

Where a farmer has succeeded by years of careful treatment in eliminating or practically eliminating the smut diseases from his farm the use of a smut-infected machine will undo the work of years during one single process of threshing.

The time during which such cleaning operations would have to be performed is probably one of the busiest of the year, and many hundreds of threshing machines may be at work at one time; but this fact emphasises rather than diminishes the necessity of guarding against the spread of smut diseases. It is suggested that the provincial authorities should pass legisla-

tion to ensure the cleansing of threshing machines thoroughly before use on new premises. The operation which would be required to destroy the smut disease germs is as simple as it is effective. After sweeping the machines inside and out to get rid of the weed seeds, the foreman of the gang should immerse some old bags or sacking in formalin—one pound to one gallon of water—and place them inside the machine, after which, all openings should be closed or covered up to retain the formaldehyde which evaporates. If thoroughly air-tight, or as air-tight as possible, the fumes will very effectively destroy the vitality of any smut spores while the machine is travelling from one farm to the other. After five to six hours fumigation, the inside of the machine contains no living smut spores. The outside of the machine, wagon, racks and any implements, etc., in use may be rapidly sterilised by means of an ordinary knapsack sprayer filled with the formalin solution above mentioned. After a little experience the whole procedure would not require more than one-half hour, and would cost little.

Farmers should insist on seeing this treatment carried out, and the thresher should be provided with a card setting forth that this treatment was carried out before leaving the farm, which card should be signed by the farmer and be demanded by the next farmer on the list, when the machine arrives on his premises. Farmers by exercising such care would greatly aid in the reduction of smut diseases throughout important grain-growing areas.

## PRICES OF COLONIAL AND FOREIGN PRODUCE IN BRITISH MARKETS, 1913.

WHEAT (per bushel of 60 lb.)

| Description               | June 30 |        | July 7 |        | July 14 |        | July 21 |        | July 28 |        |
|---------------------------|---------|--------|--------|--------|---------|--------|---------|--------|---------|--------|
|                           | \$ c.   | \$ c.  | \$ c.  | \$ c.  | \$ c.   | \$ c.  | \$ c.   | \$ c.  | \$ c.   | \$ c.  |
| Canadian No. 1.....       | -       | -      | -      | -      | 1 17    | - 1 17 | 1 17    | - 1 17 | 1 15    | - 1 16 |
| " No. 2.....              | 1 13    | - 1 14 | 1 13   | - 1 14 | 1 12    | - 1 14 | 1 12    | - 1 14 | 1 11    | - 1 12 |
| " No. 3.....              | 1 10    | - 1 11 | 1 10   | - 1 11 | 1 08    | - 1 09 | 1 08    | - 1 09 | 1 07    | - 1 08 |
| " No. 4.....              | 1 03    | - 1 06 | 1 03   | - 1 06 | 1 03    | - 1 05 | 1 01    | - 1 03 | 1 00    | - 1 01 |
| " feed.....               | 0 79    | - 0 82 | 0 79   | - 0 82 | 0 79    | - 0 82 | 0 79    | - 0 82 | 0 79    | - 0 82 |
| American best spring..... | 1 13    | - 1 14 | 1 13   | - 1 14 | 1 13    | - 1 14 | 1 13    | - 1 14 | 1 13    | - 1 14 |
| " ordinary spring.....    | 1 10    | - 1 11 | 1 10   | - 1 11 | 1 10    | - 1 11 | 1 10    | - 1 11 | 1 10    | - 1 11 |
| " red winter.....         | 1 08    | - 1 10 | 1 08   | - 1 10 | 1 08    | - 1 10 | 1 07    | - 1 08 | 1 07    | - 1 08 |
| " hard winter.....        | 1 07    | - 1 08 | 1 07   | - 1 08 | 1 07    | - 1 08 | 1 06    | - 1 07 | 1 06    | - 1 07 |
| Australian.....           | 1 17    | - 1 20 | 1 17   | - 1 20 | 1 17    | - 1 20 | 1 16    | - 1 17 | 1 16    | - 1 17 |
| Russian, fine.....        | 1 07    | - 1 10 | 1 07   | - 1 10 | 1 06    | - 1 07 | 1 06    | - 1 07 | 1 07    | - 1 08 |
| " good.....               | 1 01    | - 1 04 | 1 01   | - 1 04 | 1 00    | - 1 01 | 1 00    | - 1 01 | 1 00    | - 1 01 |
| " common.....             | 0 95    | - 0 98 | 0 95   | - 0 98 | 0 94    | - 0 97 | 0 97    | - 0 98 | 0 97    | - 0 98 |
| Californian.....          | 1 15    | - 1 18 | 1 15   | - 1 18 | 1 14    | - 1 17 | 1 14    | - 1 17 | 1 14    | - 1 17 |
| Blue Stem.....            | 1 14    | - 1 17 | 1 14   | - 1 17 | 1 13    | - 1 15 | 1 13    | - 1 15 | 1 13    | - 1 15 |
| White Walla.....          | 1 14    | - 1 15 | 1 14   | - 1 15 | 1 12    | - 1 14 | 1 12    | - 1 14 | 1 12    | - 1 14 |
| Red Walla.....            | 1 12    | - 1 14 | 1 12   | - 1 14 | 1 11    | - 1 12 | 1 11    | - 1 12 | 1 11    | - 1 12 |
| White Bombay.....         | 1 17    | - 1 19 | 1 17   | - 1 19 | 1 14    | - 1 16 | 1 14    | - 1 16 | 1 14    | - 1 16 |
| " Calcutta.....           | 1 17    | - 1 17 | 1 17   | - 1 17 | 1 14    | - 1 14 | 1 14    | - 1 14 | 1 14    | - 1 14 |
| " Karachi.....            | 1 17    | - 1 17 | 1 17   | - 1 17 | 1 14    | - 1 14 | 1 14    | - 1 14 | 1 14    | - 1 14 |
| Red Karachi.....          | 1 14    | - 1 16 | 1 14   | - 1 16 | 1 11    | - 1 13 | 1 11    | - 1 13 | 1 11    | - 1 13 |
| Argentine.....            | 1 08    | - 1 10 | 1 08   | - 1 10 | 1 10    | - 1 11 | 1 10    | - 1 11 | 1 10    | - 1 11 |



## OATS (per bushel of 34 lb.)

|                   |  |  |  |  |  |
|-------------------|--|--|--|--|--|
| Canadian.....     | 0 51 <sup>3</sup> / <sub>8</sub> -0 56 <sup>7</sup> / <sub>8</sub> | 0 51 <sup>3</sup> / <sub>8</sub> -0 56 <sup>7</sup> / <sub>8</sub> | 0 51 <sup>3</sup> / <sub>8</sub> -0 56 <sup>7</sup> / <sub>8</sub> | 0 51 <sup>3</sup> / <sub>8</sub> -0 54 <sup>1</sup> / <sub>2</sub> | 0 51 <sup>3</sup> / <sub>8</sub> -0 54 <sup>1</sup> / <sub>2</sub> |
| American.....     | 0 49 <sup>1</sup> / <sub>2</sub> -0 51 <sup>3</sup> / <sub>8</sub> | 0 49 <sup>1</sup> / <sub>2</sub> -0 51 <sup>3</sup> / <sub>8</sub> | 0 49 <sup>1</sup> / <sub>2</sub> -0 51 <sup>3</sup> / <sub>8</sub> | 0 49 <sup>1</sup> / <sub>2</sub> -0 51 <sup>3</sup> / <sub>8</sub> | 0 49 <sup>1</sup> / <sub>2</sub> -0 51 <sup>3</sup> / <sub>8</sub> |
| Bahia Blanca..... | 0 45 <sup>1</sup> / <sub>2</sub> -0 46 <sup>1</sup> / <sub>2</sub> | 0 45 <sup>1</sup> / <sub>2</sub> -0 46 <sup>1</sup> / <sub>2</sub> | 0 44 <sup>1</sup> / <sub>2</sub> -0 46 <sup>1</sup> / <sub>2</sub> | 0 46 <sup>1</sup> / <sub>2</sub> -0 47 <sup>1</sup> / <sub>2</sub> | 0 46 <sup>1</sup> / <sub>2</sub> -0 47 <sup>1</sup> / <sub>2</sub> |
| Buenos Ayres..... | 0 44 <sup>1</sup> / <sub>2</sub> -0 44 <sup>1</sup> / <sub>2</sub> | 0 44 <sup>1</sup> / <sub>2</sub> -0 44 <sup>1</sup> / <sub>2</sub> | 0 44 <sup>1</sup> / <sub>2</sub> -0 46 <sup>1</sup> / <sub>2</sub> | 0 44 <sup>1</sup> / <sub>2</sub> -0 46 <sup>1</sup> / <sub>2</sub> | 0 44 <sup>1</sup> / <sub>2</sub> -0 46 <sup>1</sup> / <sub>2</sub> |
| Russian.....      | 0 47 <sup>1</sup> / <sub>8</sub> -0 64 <sup>1</sup> / <sub>8</sub> | 0 47 <sup>1</sup> / <sub>8</sub> -0 64 <sup>1</sup> / <sub>8</sub> | 0 47 <sup>1</sup> / <sub>8</sub> -0 59 <sup>1</sup> / <sub>8</sub> | 0 47 <sup>1</sup> / <sub>8</sub> -0 59 <sup>1</sup> / <sub>8</sub> | 0 47 <sup>1</sup> / <sub>8</sub> -0 59 <sup>1</sup> / <sub>8</sub> |

## FLOUR (per 280 lb.)

| Description                    | June 30 |       | July 7 |       | July 14 |       | July 21 |       | July 28 |       |
|--------------------------------|---------|-------|--------|-------|---------|-------|---------|-------|---------|-------|
|                                | \$ c.   | \$ c. | \$ c.  | \$ c. | \$ c.   | \$ c. | \$ c.   | \$ c. | \$ c.   | \$ c. |
| Pillsbury's Best.....          | 6 93    | -7 00 | 6 93   | -7 00 | 6 93    | -7 00 | 6 93    | -7 00 | 7 00    | -7 06 |
| Iron Duke.....                 | 6 08    | -6 14 | 6 08   | -6 14 | 6 08    | -6 14 | 6 08    | -6 14 | 6 14    | -6 20 |
| Minnesota first.....           | 7 18    | -7 30 | 7 18   | -7 30 | 7 06    | -7 18 | 7 06    | -7 18 | 7 12    | -7 24 |
| "    straights.....            | 6 75    | -6 87 | 6 75   | -6 87 | 6 63    | -6 75 | 6 63    | -6 75 | 6 69    | -6 81 |
| "    medium.....               | 5 84    | -6 08 | 5 84   | -6 08 | 5 72    | -5 96 | 5 72    | -5 96 | 5 78    | -6 02 |
| Minneapolis first.....         | 6 87    | -7 00 | 6 87   | -7 00 | 6 87    | -6 87 | 6 87    | -6 87 | 6 93    | -7 00 |
| Duluth first.....              | 6 81    | -6 87 | 6 81   | -6 87 | 6 81    | -7 00 | 6 81    | -7 00 | 6 87    | -7 06 |
| American first patents..       | 7 12    | -7 24 | 7 12   | -7 24 | 7 12    | -7 24 | 7 12    | -7 24 | 7 18    | -7 30 |
| "    second.....               | 6 87    | -7 00 | 6 87   | -7 00 | 6 87    | -7 00 | 6 87    | -7 00 | 6 93    | -7 06 |
| "    first bakers'...          | 6 02    | -6 08 | 6 02   | -6 08 | 6 02    | -6 08 | 6 02    | -6 08 | 6 08    | -6 14 |
| "    second.....               | 5 78    | -5 84 | 5 78   | -5 84 | 5 78    | -5 84 | 5 78    | -5 84 | 5 84    | -5 90 |
| Manitoba patents.....          | 6 87    | -7 00 | 6 89   | -7 00 | 6 87    | -7 00 | 6 87    | -7 00 | 6 93    | -7 06 |
| "    straights.....            | 6 63    | -6 75 | 6 63   | -6 75 | 6 63    | -6 75 | 6 63    | -6 75 | 6 69    | -6 81 |
| "    first bakers'...          | -       | -     | -      | -     | 6 02    | -6 08 | 6 02    | -6 08 | 6 08    | -6 14 |
| "    second bakers'...         | -       | -     | -      | -     | 5 72    | -5 84 | 5 72    | -5 84 | 5 78    | -5 90 |
| "    lowest milling grade..... | -       | -     | -      | -     | 5 23    | -5 35 | 5 23    | -5 35 | 5 29    | -5 41 |
| Kansas best.....               | 6 57    | -6 81 | 6 57   | -6 81 | 6 57    | -6 81 | 6 57    | -6 81 | 6 57    | -6 81 |
| "    first.....                | 3 33    | -6 57 | 6 33   | -6 57 | 6 33    | -6 57 | 6 33    | -6 57 | 6 33    | -6 57 |
| "    seconds.....              | 6 08    | -6 33 | 6 08   | -6 33 | 6 08    | -6 33 | 6 08    | -6 33 | 6 08    | -6 33 |
| Californian.....               | 7 30    | -7 54 | 7 30   | -7 54 | 7 30    | -7 54 | 7 54    | -7 79 | 7 54    | -7 79 |
| Hungarian best.....            | 9 25    | -9 49 | 9 25   | -9 49 | 9 25    | -9 49 | 9 25    | -9 49 | 9 25    | -9 49 |
| "    fine.....                 | 9 00    | -9 25 | 9 00   | -9 25 | 8 76    | -9 00 | 8 76    | -9 00 | 8 76    | -9 00 |
| Australian.....                | 6 81    | -6 93 | 6 81   | -6 93 | 6 75    | -6 81 | 6 75    | -6 81 | 6 75    | -6 81 |
| French.....                    | 7 54    | -7 79 | 7 54   | -7 79 | 7 54    | -7 79 | 7 54    | -7 79 | 7 54    | -7 79 |
| Belgian.....                   | 7 54    | -7 79 | 7 54   | -7 79 | 7 54    | -7 79 | 7 54    | -7 79 | 7 54    | -7 79 |
| Galatz.....                    | 8 27    | -8 76 | 8 27   | -8 76 | 8 27    | -8 76 | 8 27    | -8 76 | 8 27    | -8 76 |

## CHEESE (per cwt. of 100 lb.)

| Description and market | July 2 |        | July 9 |        | July 16 |        | July 23 |        | July 30 |        |
|------------------------|--------|--------|--------|--------|---------|--------|---------|--------|---------|--------|
|                        | \$ c.  | \$ c.  | \$ c.  | \$ c.  | \$ c.   | \$ c.  | \$ c.   | \$ c.  | \$ c.   | \$ ct  |
| Canadian—              |        |        |        |        |         |        |         |        |         |        |
| Bristol.....           | 13 90  | -13 25 | 14 34  | -14 12 | 14 23   | -13 90 | 14 12   | -13 69 | 14 12   | -13 69 |
| Liverpool.....         | 13 58  | -13 15 | 14 12  | -13 69 | 14 01   | -13 58 | 14 12   | -13 69 | 14 12   | -13 69 |
| London.....            | 13 47  | -13 25 | 13 90  | -13 69 | 14 34   | -14 12 | 14 45   | -13 90 | 14 12   | -13 90 |
| Glasgow.....           | 13 04  | -      | -      | -      | -       | -      | -       | -      | 14 12   | -13 69 |
| New Zealand—           |        |        |        |        |         |        |         |        |         |        |
| Bristol.....           | 13 90  | -13 47 | 14 56  | -14 12 | 14 56   | -14 12 | 14 56   | -14 12 | 14 56   | -14 12 |
| London.....            | 13 90  | -13 69 | 14 34  | -14 12 | 14 78   | -14 34 | 14 56   | -14 12 | 14 34   | -14 12 |
| Glasgow.....           | 14 12  | -13 69 | 14 78  | -      | 14 78   | -      | 14 78   | -      | 14 56   | -13 90 |

## FRESH MEATS (per cwt. of 100 lb.)

| Description and market      | July 2  | July 9  | July 16 | July 23 | July 30 |
|-----------------------------|---------|---------|---------|---------|---------|
|                             | \$ cts. | \$ cts. | \$ cts. | \$ cts. | \$ cts. |
| Argentine, frozen—          |         |         |         |         |         |
| Birmingham... hind qrs..... | 8 62    | 8 62    | 8 62    | 8 62    | 8 62    |
| Birmingham... fore qrs..... | 6 84    | 6 84    | 6 84    | 6 59    | 6 59    |
| Leeds... hind qrs.....      | 8 37    | 8 87    | 8 62    | 8 37    | 8 37    |
| Leeds... fore qrs.....      | 6 59    | 6 59    | 6 84    | 6 59    | 6 59    |
| Liverpool... hind qrs.....  | 8 11    | 8 62    | 8 62    | 8 11    | 8 11    |
| Liverpool... fore qrs.....  | 6 59    | 6 59    | 6 59    | 6 59    | 6 59    |
| London... hind qrs.....     | 8 37    | 8 37    | 8 62    | 8 37    | 8 37    |
| London... fore qrs.....     | 6 59    | 6 59    | 6 34    | 6 34    | 6 34    |
| Manchester... hind qrs..... | 8 11    | 8 62    | 8 62    | 8 11    | 8 11    |
| Manchester... fore qrs..... | 6 59    | 6 59    | 6 59    | 6 59    | 6 59    |
| Dundee... hind qrs.....     | 8 62    | 8 62    | 8 87    | 8 87    | 8 87    |
| Dundee... fore qrs.....     | 6 85    | 6 85    | 7 10    | 6 85    | 6 85    |
| Edinburgh... hind qrs.....  | 8 62    | 8 62    | 8 62    | 8 62    | 8 62    |
| Edinburgh... fore qrs.....  | 6 59    | 6 85    | 6 85    | 6 85    | 6 85    |
| Glasgow... hind qrs.....    | 8 11    | 8 62    | 8 62    | 8 62    | 8 62    |
| Glasgow... fore qrs.....    | 6 59    | 6 59    | 6 59    | 6 59    | 6 59    |
| Argentine, chilled—         |         |         |         |         |         |
| Birmingham... hind qrs..... | 11 15   | 11 15   | 11 66   | 10 65   | 10 65   |
| Birmingham... fore qrs..... | 7 04    | 7 04    | 7 04    | 6 59    | 6 59    |
| Leeds... hind qrs.....      | 10 89   | 10 89   | 11 15   | 11 15   | 11 15   |
| Leeds... fore qrs.....      | 6 84    | 6 59    | 6 59    | 6 59    | 6 59    |
| Liverpool... hind qrs.....  | 11 15   | 11 15   | 11 66   | 10 65   | 9 63    |
| Liverpool... fore qrs.....  | 6 59    | 6 59    | 6 59    | 6 59    | 6 08    |
| London... hind qrs.....     | 11 66   | 11 91   | 11 66   | 11 15   | 10 65   |
| London... fore qrs.....     | 6 84    | 6 84    | 7 04    | 7 04    | 6 59    |
| Manchester... hind qrs..... | 11 15   | 11 15   | 11 66   | 10 65   | 9 63    |
| Manchester... fore qrs..... | 6 59    | 6 59    | 6 59    | 6 59    | 6 08    |
| Dundee... hind qrs.....     | 11 66   | 11 66   | 12 20   | 10 95   | 10 95   |
| Dundee... fore qrs.....     | 7 10    | 7 10    | 7 60    | 7 10    | 7 10    |
| Edinburgh... hind qrs.....  | 8 62    | 11 42   | 10 89   | 11 42   | 10 89   |
| Edinburgh... fore qrs.....  | 6 59    | 7 35    | 7 35    | 7 10    | 6 85    |
| Glasgow... hind qrs.....    | 8 11    | 1 66    | 12 20   | 11 66   | 10 95   |
| Glasgow... fore qrs.....    | 6 59    | 6 59    | 7 10    | 7 10    | 6 59    |
| Australian, frozen—         |         |         |         |         |         |
| Birmingham... hind qrs..... | 8 11    | 8 11    | 8 37    | 8 62    | 8 62    |
| Birmingham... fore qrs..... | 7 04    | 7 04    | 7 04    | 7 04    | 6 84    |
| Leeds... hind qrs.....      | 8 11    | 7 86    | 7 86    | 8 11    | 7 86    |
| Leeds... fore qrs.....      | 6 34    | 7 04    | 6 84    | 7 04    | 6 84    |
| Liverpool... hind qrs.....  | 7 60    | 7 60    | 8 11    | 8 11    | 7 60    |
| Liverpool... fore qrs.....  | 6 59    | 6 59    | 6 59    | 6 59    | 6 59    |
| London... hind qrs.....     | 8 37    | 8 37    | 8 11    | 8 37    | 8 37    |
| London... fore qrs.....     | 6 59    | 6 34    | 6 34    | 6 34    | 6 34    |
| Manchester... hind qrs..... | 7 60    | 7 60    | 8 11    | 8 11    | 7 60    |
| Manchester... fore qrs..... | 6 59    | 6 59    | 6 59    | 6 59    | 6 59    |
| Glasgow... hind qrs.....    | 8 11    | 8 35    | 8 62    | 8 62    | 8 62    |
| Glasgow... fore qrs.....    | 6 59    | 6 59    | 6 59    | 6 59    | 6 59    |

## GREEN BACON (per cwt. of 100 lb.)

| Description and market  | July 2 |       | July 9 |       | July 16 |       | July 23 |       | July 30 |       |
|-------------------------|--------|-------|--------|-------|---------|-------|---------|-------|---------|-------|
|                         | \$ c.  | \$ c. | \$ c.  | \$ c. | \$ c.   | \$ c. | \$ c.   | \$ c. | \$ c.   | \$ c. |
| Canadian sides—         |        |       |        |       |         |       |         |       |         |       |
| Bristol.....            | 16 51  | 15 86 | 16 73  | 16 08 | 16 95   | 16 29 | 17 38   | 16 73 | 18 25   | 17 38 |
| Liverpool.....          | 16 73  | 16 08 | 16 51  | 15 86 | 16 51   | 15 86 | 16 73   | 16 08 | 18 03   | 17 17 |
| London.....             | 16 73  | 16 29 | 16 95  | 16 51 | 17 17   | 16 51 | 17 17   | 16 29 | 17 60   | 17 17 |
| Glasgow.....            | —      | —     | —      | —     | —       | —     | —       | —     | 17 38   | —     |
| Canadian Cumberl'd cut— |        |       |        |       |         |       |         |       |         |       |
| Liverpool.....          | 16 95  | 16 51 | 17 60  | 16 95 | 17 60   | 16 95 | 17 81   | 17 17 | 17 81   | 17 17 |
| Glasgow.....            | 17 38  | —     | 17 38  | —     | 17 60   | —     | 17 60   | —     | 17 60   | —     |
| Danish sides—           |        |       |        |       |         |       |         |       |         |       |
| Bristol.....            | 17 60  | 17 17 | 18 03  | 17 38 | 18 03   | 17 38 | 18 25   | 17 60 | 19 13   | 18 25 |
| Liverpool.....          | 17 60  | 17 17 | 17 38  | 16 95 | 17 38   | 16 95 | 17 81   | 17 38 | 18 69   | 18 03 |
| London.....             | 18 03  | 17 38 | 18 03  | 17 38 | 18 03   | 17 38 | 18 47   | 18 03 | 19 35   | 18 91 |
| Glasgow.....            | 17 38  | —     | 17 38  | —     | 17 38   | —     | 17 38   | —     | 17 81   | —     |

## GREEN HAMS (per cwt. of 100 lb.)

|                     |       |       |       |       |       |       |       |       |       |       |
|---------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Canadian long cut—  |       |       |       |       |       |       |       |       |       |       |
| Bristol.....        | 20 00 | 19 56 | 20 00 | 19 56 | 20 44 | 19 56 | 20 88 | 20 00 | 20 88 | 20 00 |
| Liverpool.....      | 19 56 | 18 91 | 19 78 | 18 91 | 19 78 | 18 91 | 19 78 | 18 91 | 20 44 | 19 78 |
| London.....         | 19 78 | 19 13 | 20 22 | 19 56 | 20 22 | 19 56 | 20 44 | 20 06 | 20 88 | 20 44 |
| American long cut—  |       |       |       |       |       |       |       |       |       |       |
| Bristol.....        | 19 13 | 18 47 | 19 13 | 18 69 | 19 13 | 18 80 | 19 13 | 18 69 | 19 13 | 18 69 |
| Liverpool.....      | 18 56 | 18 14 | 18 58 | 18 14 | 18 58 | 18 14 | 18 80 | 18 37 | 18 80 | 18 37 |
| London.....         | 19 13 | 18 16 | 19 13 | 18 69 | 19 56 | 19 13 | 19 78 | 19 13 | 20 22 | 19 35 |
| Glasgow.....        | 20 66 | —     | 20 66 | —     | 20 66 | —     | 20 66 | —     | 20 66 | —     |
| American short cut— |       |       |       |       |       |       |       |       |       |       |
| Bristol.....        | 18 03 | 17 38 | 18 47 | 17 81 | 18 69 | 18 03 | 18 69 | 18 03 | 18 47 | 17 81 |
| Liverpool.....      | 17 92 | 17 17 | 18 58 | 17 71 | 18 58 | 17 71 | 18 58 | 17 71 | 18 58 | 17 71 |
| London.....         | 17 81 | 17 38 | 18 69 | 18 25 | 18 69 | 18 25 | 18 69 | 18 25 | 18 69 | 18 25 |
| Glasgow.....        | 19 56 | —     | 20 44 | —     | 20 44 | —     | 20 44 | —     | 20 44 | —     |

NOTE—The prices of grain are from the Market Supplements to the Mark Lane Express. The prices of meat and dairy produce are from the British official returns. Rate of conversion from English currency £1 = \$4.86.

## PUBLICATIONS OF THE CENSUS AND STATISTICS OFFICE.

Copies of the undermentioned publications will so far as available be sent free on application to Archibald Blue, Chief Officer, Census and Statistics Office, Ottawa.

THE CANADA YEAR BOOK. Second Series, 1905-1911.

Each of these seven Volumes contains a complete summary of the principal events of the year and the acts of the Dominion Parliament, with statistics of population, agriculture, forestry, minerals, manufactures, trade and commerce, public accounts, banking, post office, insurance, railways, canals, marine, fisheries, etc.

LONGEVITY AND SANITATION. Bulletin VIII. The substance of addresses delivered by Archibald Blue before the McMaster Convocation and the American Public Health Association.

REPORT ON THE CENSUS OF POPULATION AND AGRICULTURE OF THE NORTHWEST PROVINCES. Manitoba, Saskatchewan and Alberta, 1906.

THE BEET SUGAR INDUSTRY. Bulletin IX. The result of an investigation of Sugar Beet production in Canada and the manufacture of the roots into refined sugar, with Appendix A consisting of the Hearings of the Customs Tariff Committee, 1905, and Appendix B, Beet Sugar Production in Posen, Germany. 75 pp., 3 illustrations.

OCCUPATIONS OF THE PEOPLE. Bulletin XI. The figures in this Bulletin are compiled from data of the Census of 1901.

BULLETINS OF THE FIFTH CENSUS OF CANADA, 1911. i. Manufactures for the year 1910. ii. Dairying Industries for the year 1910. iv. Agriculture of Nova Scotia. v. Agriculture of New Brunswick. vi. Agriculture of Quebec. vii. Agriculture of Ontario. xii. Religions of Canada. xiii. Origins of the People. xiv. Birthplace of the People. xv. Educational Status of the People.

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# CENSUS AND STATISTICS MONTHLY

Vol. 6

OTTAWA, SEPTEMBER 1913.

No. 62

PUBLISHED BY AUTHORITY OF HONOURABLE GEORGE E. FOSTER, MINISTER OF TRADE AND COMMERCE. CORRESPONDENCE RELATING TO THE CENSUS AND STATISTICS MONTHLY SHOULD BE ADDRESSED TO ARCHIBALD BLUE, CHIEF OFFICER OF THE CENSUS AND STATISTICS OFFICE, DEPARTMENT OF TRADE AND COMMERCE, OTTAWA, CANADA.

## FIELD CROPS IN CANADA.

Report for the month ended August 31, 1913.

According to the returns made by crop-reporting correspondents at the end of last month, the weather conditions during August were favourable for ripening and harvesting the grain crops. In Ontario it was nearly all harvested by the end of the month, while in the Prairie provinces harvesting operations were about two-thirds completed and it was expected that threshing would be general by September 10. In the Maritime provinces the harvest is more backward, being only general about the end of the month. The average condition of spring wheat is 88·43 per cent of the standard of a full crop which is represented by 100; oats 87·85; barley 87·07; rye 80·49; peas 80·81; beans 78·67; buckwheat 77·81; mixed grains 89·04; flax 85·06; corn 79·78. On the whole these figures maintain the high standard set by last month's report and mark an advancement for spring wheat, oats and flax. Compared with the figures of the corresponding date last year, wheat is 88 to 84; oats and barley stand at 88 for each season; rye 80 to 84; mixed grains 89 to 87; flax 85 to 88. Potatoes are 86 against 89 last month and 92 last year, turnips are 84 for both this month and last as against 88 last year; mangolds are 83 against 84 last month and 87 last year. Pasture has maintained its condition fairly well since last month, having only lost one point, the figures being 81 against 82 last month and 92 a year ago.

From the reports furnished by correspondents the following preliminary estimates of yields are based on the areas sown. Of spring wheat the average yield per acre is provisionally placed at 21·41 bushels per acre, which upon an area of 8,990,500 acres makes the total yield of spring wheat to be 192,517,000 bushels. This quantity added to 18,481,800 bushels of fall wheat as published last month gives the total production of wheat at 210,998,800 bushels compared with the final estimate for 1912 of 199,236,000 bushels and for 1911 of 215,851,000 bushels. The yield per acre in 1912 was 20·99 bushels for fall wheat and 20·37 bushels for spring wheat.

Oats, with an average yield of 40·98 bushels per acre on 9,646,400 acres, gives a total production of 395,341,000 bushels as against an average yield of 39·25 bushels and a total yield of 361,733,000 bushels in 1912.

Barley, with a yield per acre of 31·05 bushels gives a total yield of 44,440,000 bushels as compared with an average yield of 31·10 bushels and a total of 44,014,000 bushels in 1912.

The estimated yield of rye is 2,425,000 bushels for 127,200 acres, being a yield per acre of 19.06 bushels as against a total of 2,594,000 bushels in 1912.

For the three Northwest provinces the total yield of spring wheat is estimated at 188,018,000 bushels, oats 244,125,000 bushels, barley at 28,156,000 bushels, rye at 612,000 and flax at 15,056,000 bushels as compared with a total yield in 1912 for spring wheat of 183,322,000 bushels, oats 221,857,000 bushels and barley of 26,671,000 bushels.

The general condition of live stock is very satisfactory, being expressed in percentages of a standard of 100 representing a healthy and thrifty state, as 94.27 for horses, 91.30 for milch cows, for other cattle 93.54, for sheep 90.41 and for swine 94.83.

Census and Statistics Office,  
Ottawa, September 15.

ARCHIBALD BLUE  
Chief Officer.

### I. Comparative condition of field crops, 1911-13.

| Field crops.            | Per cent of<br>Standard condition<br>August 31 |        |       | Field crops             | Per cent of<br>Standard condition<br>August 31 |       |       |
|-------------------------|--|--------|-------|-------------------------|--|-------|-------|
|                         | 1913   | 1912   | 1911  |                         | 1913   | 1912  | 1911  |
| Canada—                 | p. c.  | p. c.  | p. c. | Nova Scotia—            | p. c.  | p. c. | p. c. |
| Spring wheat .....      | 88.43  | 84.57  | 86.80 | Spring wheat .....      | 93.89  | 88.71 | 82.76 |
| Oats .....              | 87.85  | 88.15  | 84.44 | Oats .....              | 93.78  | 92.54 | 79.09 |
| Barley .....            | 87.07  | 87.29  | 84.73 | Barley .....            | 91.16  | 92.27 | 80.09 |
| Rye .....               | 80.49  | 84.14  | 70.51 | Rye .....               | 86.25  | 88.75 | 71.00 |
| Peas .....              | 80.81  | 74.03  | 72.17 | Peas .....              | 86.09  | 86.30 | 78.52 |
| Beans .....             | 78.67  | 76.71  | 80.92 | Beans .....             | 80.31  | 88.40 | 83.89 |
| Buckwheat .....         | 77.81  | 82.67  | 79.96 | Buckwheat .....         | 78.09  | 89.72 | 78.66 |
| Mixed grains .....      | 89.04  | 86.57  | 82.24 | Mixed grains .....      | 91.27  | 94.73 | 79.52 |
| Flax .....              | 85.06  | 87.84  | 85.28 | Flax .....              | 88.33  | 96.67 | 89.00 |
| Corn for husking .....  | 79.78  | 69.66  | 81.46 | Potatoes .....          | 83.63  | 91.42 | 83.82 |
| Potatoes .....          | 85.95  | 92.10  | 78.74 | Turnips .....           | 85.14  | 87.45 | 82.01 |
| Turnips .....           | 84.16  | 87.54  | 80.48 | Mangolds, carrots, etc. | 82.17  | 84.81 | 79.21 |
| Mangolds, carrots, etc. | 83.54  | 87.39  | 80.16 | Alfalfa .....           | 94.00  | 85.33 | 84.00 |
| Alfalfa .....           | 76.27  | 87.50  | 81.68 | Corn for fodder .....   | 82.86  | 83.21 | 80.39 |
| Corn for fodder .....   | 80.39  | 76.04  | 86.55 | Sugar beets .....       | 80.77  | 89.30 | 83.10 |
| Sugar beets .....       | 81.41  | 86.64  | 79.77 | Pasture .....           | 77.00  | 90.98 | 65.19 |
| Pasture .....           | 81.12  | 91.79  | 77.07 | Hay and clover .....    | 94.99  | —     | —     |
| P. E. Island—           |  |        |       | New Brunswick—          |  |       |       |
| Spring wheat .....      | 97.18  | 83.41  | 94.73 | Spring wheat .....      | 92.23  | 81.67 | 91.88 |
| Oats .....              | 95.39  | 98.97  | 75.22 | Oats .....              | 92.42  | 90.16 | 89.46 |
| Barley .....            | 95.94  | 96.51  | 80.08 | Barley .....            | 92.61  | 85.63 | 89.93 |
| Peas .....              | 95.77  | 89.52  | 71.41 | Rye .....               | 77.00  | 75.00 | 90.00 |
| Beans .....             | 84.82  | 83.63  | 78.19 | Peas .....              | 85.00  | 82.25 | 88.35 |
| Buckwheat .....         | 89.04  | 88.71  | 81.21 | Beans .....             | 78.09  | 70.13 | 93.04 |
| Mixed grains .....      | 98.44  | 100.29 | 81.48 | Buckwheat .....         | 88.90  | 89.29 | 88.06 |
| Flax .....              | 94.00  | 91.25  | 81.07 | Mixed grains .....      | 91.00  | 87.88 | 92.79 |
| Potatoes .....          | 86.97  | 95.74  | 89.56 | Potatoes .....          | 101.90   | 82.95 | 92.64 |
| Turnips .....           | 87.42  | 85.66  | 86.01 | Turnips .....           | 92.68  | 84.73 | 90.67 |
| Mangolds, carrots, etc. | 87.90  | 88.85  | 84.80 | Mangolds, carrots, etc. | 85.36  | 85.00 | 88.37 |
| Alfalfa .....           | 80.00  | 100.00 | 72.50 | Alfalfa .....           | 99.06  | 73.75 | 59.66 |
| Corn for fodder .....   | 82.81  | 81.58  | 94.06 | Corn for fodder .....   | 77.81  | 65.79 | 97.10 |
| Sugar beets .....       | 86.00  | 80.00  | 77.00 | Sugar beets .....       | 90.00  | 65.56 | 82.50 |
| Pasture .....           | 83.75  | 90.95  | 57.50 | Pasture .....           | 85.79  | 95.46 | 82.58 |
| Hay and clover .....    | 88.00  | —      | —     | Hay and clover .....    | 85.24  | —     | —     |

## I. Comparative condition of field crops, 1911-13—con.

| Field crops             | Per cent of<br>Standard condition<br>August 31 |       |       | Field crops             | Per cent of<br>Standard condition<br>August 31 |        |        |
|-------------------------|--|-------|-------|-------------------------|--|--------|--------|
|                         | 1913   | 1912  | 1911  |                         | 1913   | 1912   | 1911   |
| Quebec—                 | p. c.  | p. c. | p. c. | Saskatchewan—           | p. c.  | p. c.  | p. c.  |
| Spring wheat.....       | 89 50  | 77 90 | 92 88 | Spring wheat.....       | 89 90  | 89 21  | 87 51  |
| Oats.....               | 90 47  | 81 40 | 84 63 | Oats.....               | 87 67  | 91 32  | 90 10  |
| Barley.....             | 88 76  | 82 72 | 85 14 | Barley.....             | 89 72  | 95 58  | 90 99  |
| Rye.....                | 82 53  | 83 18 | 76 31 | Rye.....                | 84 60  | 95 50  | 104 15 |
| Peas.....               | 84 03  | 73 73 | 75 48 | Peas.....               | 87 22  | 94 00  | 88 46  |
| Beans.....              | 79 26  | 73 57 | 79 93 | Beans.....              | 91 67  | 91 66  | 80 31  |
| Buckwheat.....          | 80 84  | 78 79 | 80 03 | Mixed grains.....       | 91 67  | 91 94  | 93 93  |
| Mixed grains.....       | 90 54  | 81 30 | 84 43 | Flax.....               | 83 19  | 91 63  | 90 04  |
| Flax.....               | 91 21  | 80 19 | 74 21 | Potatoes.....           | 90 29  | 96 40  | 91 13  |
| Corn for husking.....   | 79 86  | 57 60 | 81 26 | Turnips.....            | 93 78  | 95 32  | 93 66  |
| Potatoes.....           | 87 68  | 84 98 | 67 61 | Mangolds, carrots, etc. | 94 95  | 95 16  | 88 99  |
| Turnips.....            | 83 32  | 82 81 | 76 31 | Alfalfa.....            | 86 96  | 91 25  | 93 19  |
| Mangolds, carrots, etc. | 81 61  | 82 20 | 77 06 | Corn for fodder.....    | 89 09  | 93 63  | 76 11  |
| Alfalfa.....            | 71 04  | 81 56 | 81 51 | Sugar beets.....        | 97 50  | 94 33  | 92 55  |
| Corn for fodder.....    | 72 12  | 71 37 | 88 44 | Pasture.....            | 94 07  | 97 63  | 93 54  |
| Sugar beets.....        | 82 81  | 81 03 | 75 54 | Hay and clover.....     | 90 79  | —      | —      |
| Pasture.....            | 69 82  | 80 76 | 68 07 | Alberta—                |  |        |        |
| Hay and clover.....     | 75 14  | —     | —     | Spring wheat.....       | 91 16  | 84 82  | 91 12  |
| Ontario—                |  |       |       | Oats.....               | 89 03  | 87 34  | 93 46  |
| Spring wheat.....       | 80 58  | 80 76 | 77 00 | Barley.....             | 91 67  | 91 10  | 91 40  |
| Oats.....               | 83 36  | 85 45 | 73 27 | Rye.....                | 89 00  | 90 53  | 91 87  |
| Barley.....             | 80 81  | 80 84 | 75 37 | Peas.....               | 86 36  | 84 61  | 92 92  |
| Rye.....                | 76 97  | 80 62 | 77 40 | Beans.....              | 84 17  | 76 28  | 77 35  |
| Peas.....               | 74 42  | 66 65 | 63 51 | Mixed grains.....       | 95 00  | 94 35  | 94 82  |
| Beans.....              | 75 30  | 75 02 | 78 72 | Flax.....               | 86 34  | 91 60  | 85 06  |
| Buckwheat.....          | 70 58  | 81 71 | 76 65 | Potatoes.....           | 92 89  | 90 99  | 92 94  |
| Mixed grains.....       | 84 77  | 85 29 | 76 99 | Turnips.....            | 92 33  | 91 14  | 92 01  |
| Flax.....               | 81 18  | 81 14 | 83 47 | Mangolds, carrots, etc. | 92 79  | 90 20  | 92 15  |
| Corn for husking.....   | 80 15  | 69 46 | 80 99 | Alfalfa.....            | 89 80  | 84 68  | 70 71  |
| Potatoes.....           | 74 87  | 90 36 | 60 82 | Corn for fodder.....    | 96 67  | 94 16  | 86 66  |
| Turnips.....            | 76 39  | 85 88 | 67 29 | Sugar beets.....        | 89 09  | 84 00  | 96 95  |
| Mangolds, carrots, etc. | 78 67  | 87 77 | 74 70 | Pasture.....            | 95 34  | 94 39  | 99 47  |
| Alfalfa.....            | 70 86  | 88 06 | 75 95 | Hay and clover.....     | 90 96  | —      | —      |
| Corn for fodder.....    | 82 60  | 75 62 | 86 51 | British Columbia—       |  |        |        |
| Sugar beets.....        | 76 93  | 87 09 | 74 46 | Spring wheat.....       | 89 79  | 97 50  | 83 05  |
| Pasture.....            | 72 74  | 93 57 | 62 28 | Oats.....               | 94 07  | 95 29  | 89 09  |
| Hay and clover.....     | 68 24  | —     | —     | Barley.....             | 93 86  | 92 50  | 83 77  |
| Manitoba—               |  |       |       | Rye.....                | 94 00  | —      | 100 00 |
| Spring wheat.....       | 84 59  | 84 53 | 82 60 | Peas.....               | 94 50  | 98 33  | 94 37  |
| Oats.....               | 83 44  | 93 86 | 91 16 | Mixed grains.....       | 93 00  | 100 00 | 93 75  |
| Barley.....             | 82 11  | 92 45 | 89 71 | Potatoes.....           | 87 41  | 95 42  | 83 83  |
| Rye.....                | 76 25  | 91 66 | 96 78 | Turnips.....            | 85 00  | 91 66  | 87 50  |
| Peas.....               | 100 00   | 97 50 | 95 50 | Mangolds, carrots, etc. | 93 64  | 91 87  | 86 94  |
| Beans.....              | 100 00   | 97 00 | 93 00 | Alfalfa.....            | 88 83  | 106 00 | 90 71  |
| Mixed grains.....       | 89 55  | 94 70 | 96 09 | Sugar beets.....        | 91 00  | 100 00 | 87 50  |
| Flax.....               | 83 40  | 87 87 | 89 60 | Pasture.....            | 89 92  | 105 66 | 84 56  |
| Potatoes.....           | 91 44  | 96 62 | 91 64 | Hay and clover.....     | 98 43  | —      | —      |
| Turnips.....            | 88 24  | 93 08 | 95 25 |                         |  |        |        |
| Mangolds, carrots, etc. | 92 83  | 95 02 | 82 55 |                         |  |        |        |
| Alfalfa.....            | 86 58  | 89 05 | 96 71 |                         |  |        |        |
| Corn for fodder.....    | 93 82  | 90 19 | 83 75 |                         |  |        |        |
| Sugar beets.....        | 95 71  | 97 60 | 99 23 |                         |  |        |        |
| Pasture.....            | 91 41  | 95 10 | 94 81 |                         |  |        |        |
| Hay and clover.....     | 82 32  | —     | —     |                         |  |        |        |

**II. Preliminary Estimate of the Yield of Spring Wheat, Oats, Barley, Rye and Flax seed, August 31, 1913, compared with final estimate of 1912.**

| Field crops                  | Area      |           | Yield per acre |       | Total yield |             |
|------------------------------|-----------|-----------|----------------|-------|-------------|-------------|
|                              | 1913      | 1912      | 1913           | 1912  | 1913        | 1912        |
|                              | acres     | acres     | bush.          | bush. | bush.       | bush.       |
| <b>Canada—</b>               |           |           |                |       |             |             |
| Spring wheat.....            | 8,990,500 | 8,977,400 | 21.41          | 20.37 | 192,517,000 | 182,840,000 |
| Oats.....                    | 9,646,400 | 9,216,900 | 40.98          | 39.25 | 395,341,000 | 361,733,000 |
| Barley.....                  | 1,430,800 | 1,415,200 | 31.05          | 31.10 | 44,440,000  | 44,014,000  |
| Rye.....                     | 127,200   | 136,110   | 19.06          | 19.06 | 2,425,000   | 2,594,000   |
| Flax.....                    | 1,287,300 | 1,677,800 | 11.78          | 12.92 | 15,168,000  | 21,681,500  |
| <b>Prince Edward Island—</b> |           |           |                |       |             |             |
| Spring wheat.....            | 29,500    | 30,700    | 21.25          | 18.39 | 627,000     | 565,000     |
| Oats.....                    | 176,200   | 177,000   | 37.00          | 40.77 | 6,519,000   | 7,216,000   |
| Barley.....                  | 4,200     | 4,400     | 30.14          | 32.04 | 127,000     | 141,000     |
| <b>Nova Scotia—</b>          |           |           |                |       |             |             |
| Spring wheat.....            | 12,500    | 12,800    | 20.13          | 20.19 | 252,000     | 258,000     |
| Oats.....                    | 98,600    | 97,600    | 33.74          | 32.53 | 3,327,000   | 3,175,000   |
| Barley.....                  | 5,500     | 5,600     | 27.75          | 27.22 | 153,000     | 152,000     |
| Rye.....                     | 800       | 910       | 19.00          | 16.40 | 15,000      | 15,000      |
| <b>New Brunswick—</b>        |           |           |                |       |             |             |
| Spring wheat.....            | 11,800    | 12,400    | 19.83          | 18.11 | 234,000     | 225,000     |
| Oats.....                    | 186,600   | 186,000   | 32.51          | 28.81 | 6,066,000   | 5,359,000   |
| Barley.....                  | 2,300     | 2,500     | 28.67          | 27.42 | 66,000      | 69,000      |
| <b>Quebec—</b>               |           |           |                |       |             |             |
| Spring wheat.....            | 68,800    | 63,100    | 19.29          | 16.17 | 1,327,000   | 1,020,000   |
| Oats.....                    | 1,176,600 | 1,170,400 | 31.61          | 25.86 | 37,192,000  | 30,267,000  |
| Barley.....                  | 86,000    | 91,300    | 25.57          | 23.69 | 2,199,000   | 2,163,000   |
| Rye.....                     | 16,700    | 19,200    | 16.73          | 15.41 | 279,000     | 296,000     |
| Flax.....                    | 1,600     | 1,300     | 15.65          | 9.66  | 25,000      | 12,500      |
| <b>Ontario—</b>              |           |           |                |       |             |             |
| Spring wheat.....            | 102,600   | 110,000   | 19.12          | 18.77 | 1,962,000   | 2,065,000   |
| Oats.....                    | 2,664,700 | 2,637,600 | 36.03          | 34.85 | 96,009,000  | 91,899,000  |
| Barley.....                  | 473,600   | 500,000   | 28.87          | 29.49 | 13,673,000  | 14,745,000  |
| Rye.....                     | 86,500    | 95,000    | 17.56          | 18.38 | 1,519,000   | 1,746,000   |
| Flax.....                    | 6,800     | 8,100     | 12.80          | 16.70 | 87,000      | 135,000     |
| <b>Manitoba—</b>             |           |           |                |       |             |             |
| Spring wheat.....            | 2,600,700 | 2,650,000 | 19.57          | 22.20 | 50,896,000  | 58,830,000  |
| Oats.....                    | 1,316,200 | 1,269,000 | 43.00          | 42.40 | 56,597,000  | 53,806,000  |
| Barley.....                  | 468,600   | 451,600   | 31.34          | 32.92 | 14,686,000  | 14,965,000  |
| Flax.....                    | 51,000    | 94,000    | 13.00          | 12.49 | 663,000     | 1,174,000   |
| <b>Saskatchewan—</b>         |           |           |                |       |             |             |
| Spring wheat.....            | 4,962,800 | 4,838,500 | 21.82          | 19.16 | 108,288,000 | 92,706,000  |
| Oats.....                    | 2,463,900 | 2,285,600 | 45.83          | 45.99 | 112,921,000 | 105,115,000 |
| Barley.....                  | 205,100   | 180,300   | 34.98          | 32.87 | 6,990,000   | 5,924,000   |
| Flax.....                    | 1,139,100 | 1,463,000 | 11.71          | 12.91 | 13,339,000  | 18,931,000  |
| <b>Alberta—</b>              |           |           |                |       |             |             |
| Spring wheat.....            | 1,198,400 | 1,256,200 | 24.06          | 21.54 | 28,834,000  | 27,059,000  |
| Oats.....                    | 1,525,700 | 1,359,300 | 48.90          | 46.36 | 74,647,000  | 62,936,000  |
| Barley.....                  | 184,000   | 174,900   | 35.22          | 33.05 | 6,480,000   | 5,780,000   |
| Rye.....                     | 23,200    | 21,000    | 26.36          | 25.56 | 612,000     | 537,000     |
| Flax.....                    | 88,800    | 111,400   | 11.87          | 12.83 | 1,054,000   | 1,429,000   |
| <b>British Columbia—</b>     |           |           |                |       |             |             |
| Spring wheat.....            | 3,400     | 3,700     | 28.40          | 30.33 | 97,000      | 112,000     |
| Rye.....                     | 37,900    | 35,000    | 55.50          | 56.00 | 2,160,000   | 1,960,000   |
| Barley.....                  | 1,500     | 1,600     | 44.17          | 45.33 | 66,000      | 73,000      |



## III. Condition of Live Stock on August 31, 1913 and 1912.

| Live Stock        | Per cent<br>of standard<br>condition. |                 | Live Stock        | Per cent<br>of standard<br>condition |                 |
|-------------------|---------------------------------------|-----------------|-------------------|--------------------------------------|-----------------|
|                   | Aug. 31<br>1913                       | Aug. 31<br>1912 |                   | Aug. 31<br>1913                      | Aug. 31<br>1912 |
|                   | p. c.                                 | p. c.           |                   | p. c.                                | p. c.           |
| Canada—           |                                       |                 | Ontario—          |                                      |                 |
| Horses.....       | 94.27                                 | 94.66           | Horses.....       | 92.91                                | 93.57           |
| Milch cows.....   | 91.77                                 | 94.90           | Milch cows.....   | 82.40                                | 93.69           |
| Other cattle..... | 93.04                                 | 96.00           | Other cattle..... | 89.00                                | 95.24           |
| Sheep.....        | 90.41                                 | 93.72           | Sheep.....        | 91.05                                | 91.89           |
| Swine.....        | 94.83                                 | 94.81           | Swine.....        | 93.76                                | 92.58           |
| P. E. Island—     |                                       |                 | Manitoba—         |                                      |                 |
| Horses.....       | 97.83                                 | 96.32           | Horses.....       | 93.77                                | 95.06           |
| Milch cows.....   | 96.77                                 | 94.29           | Milch cows.....   | 95.10                                | 96.33           |
| Other cattle..... | 96.21                                 | 96.29           | Other cattle..... | 96.94                                | 96.84           |
| Sheep.....        | 94.67                                 | 94.18           | Sheep.....        | 97.91                                | 96.24           |
| Swine.....        | 91.94                                 | 92.14           | Swine.....        | 96.80                                | 96.62           |
| Nova Scotia—      |                                       |                 | Saskatchewan—     |                                      |                 |
| Horses.....       | 96.92                                 | 95.85           | Horses.....       | 93.92                                | 94.11           |
| Milch cows.....   | 91.10                                 | 91.12           | Milch cows.....   | 95.91                                | 96.55           |
| Other cattle..... | 93.98                                 | 95.57           | Other cattle..... | 97.64                                | 97.78           |
| Sheep.....        | 95.65                                 | 95.15           | Sheep.....        | 95.81                                | 97.41           |
| Swine.....        | 96.75                                 | 94.75           | Swine.....        | 96.87                                | 96.44           |
| New Brunswick—    |                                       |                 | Alberta—          |                                      |                 |
| Horses.....       | 96.05                                 | 95.98           | Horses.....       | 95.90                                | 96.11           |
| Milch cows.....   | 94.15                                 | 94.67           | Milch cows.....   | 96.99                                | 96.68           |
| Other cattle..... | 92.33                                 | 95.51           | Other cattle..... | 98.51                                | 97.95           |
| Sheep.....        | 93.03                                 | 91.42           | Sheep.....        | 96.43                                | 98.65           |
| Swine.....        | 94.95                                 | 93.02           | Swine.....        | 96.70                                | 96.95           |
| Quebec—           |                                       |                 | British Columbia— |                                      |                 |
| Horses.....       | 93.38                                 | 94.54           | Horses.....       | 96.47                                | 97.17           |
| Milch cows.....   | 84.79                                 | 93.03           | Milch cows.....   | 96.38                                | 96.44           |
| Other cattle..... | 89.71                                 | 93.52           | Other cattle..... | 96.83                                | 95.83           |
| Sheep.....        | 92.14                                 | 93.29           | Sheep.....        | 95.80                                | 98.18           |
| Swine.....        | 91.64                                 | 94.38           | Swine.....        | 95.87                                | 99.00           |

## NOTES OF REPORTS FROM THE PROVINCES.

**Prince Edward Island.** Harvest in this province will be three weeks or more later than usual. Pastures are excellent and nearly all kinds of live stock look well. There has been no damage from joint worms or potato bugs, but grubs have been destructive in some sections. On the whole an average yield of cereals and hoed crops is expected.

**Nova Scotia.** Heavy frost did considerable damage to garden produce and buckwheat. The long period of dry weather dried up the pastures and many farmers have had to haul water for their stock. Hay and clover having got a good start before the drought set in are abundant and were harvested in exceptionally good condition. The dry weather shortened the grain crops to some extent but on the whole an average yield is expected. The fruit crop is poor. Cut worms have not done much damage since poisoning has been resorted to.

**New Brunswick.** Oats in some sections are affected by a disease which turns the leaf red. No harvesting to speak of has been done yet, but it has been ideal weather for hay making during the last two weeks and harvesting will be general about the 10th of September. Heavy frost from the 20th to the 25th did great damage especially to buckwheat, which will be only about half a crop. Pastures are a little poor but all kinds of live stock look well.

**Quebec.** Owing to the protracted period of very warm dry weather, grains in general have ripened too rapidly, consequently the yield will be light and the quality not up to the standard. About three-quarters of the grain was harvested but no threshing has been done. Pastures were badly dried out and as a result milch cows are thin. Corn for fodder is far below the average. Fruit of all kinds may be considered a failure. Potatoes on good soil well worked will be a fair crop, on land which did not receive proper attention they will scarcely average a half crop, while plantings on light sandy soil were so wilted by the hot dry weather that the later rains did not help them. A few correspondents report frost on the 24th and 25th of August.

**Ontario.** In the northern part of the province unprecedented dry weather has caused a shortage of all crops. Pastures are pretty well dried up but have improved somewhat after the much needed rain. Although cattle and sheep had to be turned out to feed on the roadside they have held their own. Buckwheat, corn and all kinds of garden produce have been injured by the early frost. Late sown oats will be light in the grain, but other grains will be better than expected. In eastern Ontario live stock are in good condition considering the poor pastures, but a lot of young cattle had to be sold on account of the scarcity of feed. Straw will be short, but the grain has been harvested in good condition. One correspondent reports a strip about two miles wide and forty miles long hailed out completely. In the southwestern counties live stock are reported as excellent. It is stated wheat will average 30 bushels to the acre and in one case 50 bushels. On account of the dry weather grasshoppers have been numerous, and have damaged buckwheat, potatoes, pastures and some low trees. The weather has been favourable for harvesting and the crops have all been gathered about the 20th and a good deal of threshing has been done before the end of the month. The bean crop has been injured by rust. In the central counties frost and dry weather have made all crops somewhat light. Potatoes, that escaped injury from frost are a good yield. There has been no destruction by storms.

**Manitoba.** The returns from Manitoba indicate that the favourable condition of crops reported last month has been maintained and that the outlook is satisfactory. About two-thirds of grains was in shock and it was expected that threshing would be general throughout the province by 10th September. From one or two sections come reports of injury to wheat from an insect which nips off the heads. The straw of wheat and oats is rather light but the heads are well filled. Correspondents in southern Manitoba complain of many fields being ruined by sow-thistle. A few cases of influenza among horses are reported. Beef cattle and hogs are said to be scarce.

**Saskatchewan.** Harvest was well under way at the end of August and the outlook was stated to be excellent if wet weather did not set in for the saving of a full crop. Sowings on new land were yielding better than those on old land and where it was attempted to grow two crops in succession without summer fallowing the invariable result was a poor crop. Correspondent after correspondent states that never were the results of careful tillage more apparent than this year.

The destruction caused by gophers is a general cause of complaint. Farmers claim that it is useless to continue poisoning them as they come by thousands from the vacant lands held by companies and speculators. The depredation of mallard ducks has caused farmers in some sections to hasten the stacking and threshing of barley. Owing to the plentiful growth of grass live stock are in good condition. A few cases of influenza or distemper are reported.

**Alberta.** Crops on the whole are in excellent condition and if no adverse seasonal conditions set in before the grain is threshed the yield and quality will both be well above the average. Here as in Saskatchewan the correspondents report the evil effects of large unoccupied tracts of land held for speculative purposes being propagating centres for weeds and gophers. The general trend of the reports is that a stricter enforcement of the Noxious Weeds Act would be a blessing. Stock for the most part are in good condition as pastures were plentiful.

**British Columbia.** Excellent weather has prevailed during August and crops are making a good showing. Fruits are showing the effects of the dry hot spell in July. Several reports state that where the orchards kept clean by repeated cultivation the yield will not only be more plentiful but the quality of the fruit will be better.

## DEPARTMENT OF AGRICULTURE.

**Experimental Farms and Stations.** At the Central Experimental Farm, Ottawa, the temperatures during August ranged very much higher than that for the corresponding period last year. The highest temperature during the month just past was 97.2 degrees and the lowest was 38.0 degrees, as compared with a highest of 81.5 and a lowest of 40.4 during August, 1912. The mean temperature for August last was 67.05 degrees as compared with 62.54 degrees as the mean for August, 1912. The rainfall was much below that of last year, the total precipitation being 3.13 inches, as compared with 4.94 inches during August, 1912. Rain fell on 12 days, whereas there were 19 days on which rain fell in the same month of the previous year.

The sunshine recorded was much more than last year, the total amount of bright sunshine during the month of August being 258.6 hours, giving a daily average of 8.34 hours, while in 1912 the total amount was only 178.8 hours, with a daily average of 5.76 hours, for the same month.

The apple crop in the vicinity of Ottawa is a good one, while the yield of plums is only fair. Vegetables, on the whole, did well in spite of the

dry weather. Potatoes suffered from drought and the yield will be considerably lessened thereby. The warm, dry weather was very conducive to the ripening of cereals, and although the straw is short, the grain filled well and both yield and quality were better than expected. Harvesting was, in the ease and rapidity of its execution, a pleasant contrast to the same operation in 1912, all grain being saved in good condition. Rain late in the month will help the root and corn crops greatly.

It will be noted that from August 1st, 1913, Mr. T. J. Harrison, B.S.A. assumed the duties of Superintendent of the Experimental Farm at Indian Head, succeeding Mr. Angus Mackay in that position. Mr. Mackay has well earned the greater leisure he has desired for some time past, by twenty-six years of distinguished service as Superintendent of the Indian Head Farm, a period during which he has seen the main phases of the change of the Canadian West from a land "beyond the frontier" to one of the foremost farming districts of the Dominion, and, towards the effecting of this change, has contributed no small share.

J. A. Clark, Superintendent of the Experimental Station at Charlottetown, P.E.I., reports:—"The weather during August was very favourable for growth and for the harvesting of the balance of the hay crop and the early grain.

"The hay turned out much better than was expected and was all saved in excellent condition. The first grain cut on the Experimental Station was Daubeney oats on the 22nd. Harvest became general about the 30th of the month. The cereals are better than an average crop, Roots are looking well; Indian corn is backward.

"There were 2380 visitors shown about the Experimental Station during the month. The pic-nics to the Station, commencing in July, have been continued making nineteen in all this summer, up to date. The Flower Show held in Charlottetown August 28 and 29 was a great success both in exhibits and attendance."

W. W. Baird, Superintendent, Experimental Farm, Nappan, N.S., reports: "August, for the greater part, has been an excellent month for farm work. Though rain fell on nine different dates, the total precipitation was not heavy.

"Notwithstanding the backward spring, the remainder of the season has been such good growing weather that the hay crop in general, and more particularly on this Farm, has quite surpassed the average production and was saved in excellent condition. Grains and roots have continued to make satisfactory growth during the past month. This is especially true of roots and Indian corn. Small fruits have all been picked, but the crop has been rather disappointing. Apples will be only a very medium crop. All live stock are doing well."

G. A. Langelier, Superintendent, Experimental Station, Cap Rouge, Que., states:—"August was dry and warm. The highest temperature recorded was 83 degrees, compared with 77 last year, whilst the mean for the month was 61.58, which is 2.38 degrees higher than in 1912. The greatest difference, however, is in the precipitation; 10.21 inches last year and only 1.97 this. The drought, fortunately, came too late to affect the hay and grain crops but everything else suffered. Even corn, the warm weather



plant, has been checked, no doubt from lack of moisture. The farmers who cultivate often will be well paid this season. All the grain on the Station is cut and most of it is threshed."

"The exhibit of French Canadian horses, and of grain, vegetables, honey and flowers from this Station at the Quebec Provincial Exhibition was greatly admired. The floral display was awarded a diploma and the whole exhibit a gold medal.

W. O. McKillican, Superintendent, Experimental Farm, Brandon, Man., reports:—"August has been a favourable month for the ripening and harvesting of the crop. In the district around Brandon cutting was almost completed in August and threshing operations have commenced. On the Experimental Farm cutting is finished except on the land that was flooded in May, where the crop is late. Threshing is about half finished and is in full swing at the end of the month. Recent showers have greatly improved corn and roots, which now promise to give very satisfactory yields."

T. J. Harrison, Superintendent of the the Experimental Farm at Indian Head, Sask., reports:—"The weather during the month of August has been favourable for the ripening and harvesting of the heavy crop in southern Saskatchewan. With the exception of a few heavy rainstorms, which, in places, lodged the grain badly, making it difficult to cut, and, in a few districts, hail threshing it partly out, there has been no damage to the grain. At the present date about two-thirds of the crop has been cut and threshing will start about the 10th or 12th September.

"The work on the Experimental Farm has consisted largely in cutting wheat, barley and oats. The first grain to be cut was a field of Prelude wheat, which was cut on August 11 and threshed on August 25, giving a yield of 25 bushels, 25 lbs., per acre. Fall wheat and fall rye were also threshed, the former yielding 25 bushels and the latter 37 bushels, per acre. The alfalfa was cut the second time on the 12th and 13th of the month and gave another large crop of first class fodder. The weather at the close of the month is fine and warm and the harvesting of the 1913 crop without injury from frost seems to be assured."

Wm. A. Munro, Superintendent, Experimental Station, Rosthern, Sask., states:—"Very heavy rains fell on the 6th, 7th and 8th, which delayed outside operations and did some damage by lodging oats and barley. Some difficulty was experienced during the first half of the month in getting sufficient help in this district, but the situation in this regard improved later on. Three-quarters of the grain on the Experimental Station has been cut. The remainder is in a fair way to ripen without frost.

"Haying was completed early in the month and oats, barley and some wheat have also been cut. Considerable work was done in the preparation of exhibition material."

R. E. Everest, Superintendent, Experimental Station, Scott, Sask., reports:—"The month of August was very favourable for the maturing of the grain crop. During the month frequent showers fell, interspersed with bright, warm weather, the result of which was an early harvest of grain of good quality. This district has escaped damage from storm and where the work on the land has been well done a good crop is now assured. Cutting

grain on this Station commenced August 11. In the district harvest became general by August 25, and at the close of the month the grain crop is fully one-half in the shock."

W. H. Fairfield, Superintendent, Experimental Station, Lethbridge, Alta., says:—"The weather during the month of August has been favourable for harvesting operations. There has been some rainfall, but not an excessive amount. By August 31st, in the vicinity of Lethbridge, about 85 to 90 per cent of the grain had been cut and threshing had been started in a few cases. In the Spring Coulee and Cardston districts and also in the Pincher Creek district there was about 80 percent of the grain cut. On the Station, the grain ripened quite uniformly and perhaps a little earlier than usual. The favourable weather during the latter part of the month made it possible for us to thresh for the last two weeks and practically all of the plots and most of the larger fields were threshed by the end of August. The quality of the grain was fair."

G. H. Hutton, Superintendent, Experimental Station, Lacombe, Alta., reports:—"Good ripening weather characterized August and harvest opened earlier on the average this year, in this part of the province, than it has since 1906. With the exception of one week, the weather was favourable for haying and a larger crop of upland prairie hay has been stacked this year than is usual. Most of the hay has been put up in good condition. The hay market has been good, timothy selling at local points at \$12.00 per ton, f. o. b. car.

"Hogs are being marketed in large numbers with the price holding from 7½c. to 8c. per lb. live weight at point of shipment. Since the opening of 1913 one dealer alone has paid over \$100,000.00 for hogs at this point. These figures indicate that a large quantity of grain is finding a satisfactory outlet through live stock channels.

"The crop of raspberries and of currants has been satisfactory, the former yielding better than any other year since the Station was established. A number of double roses which have wintered outside produced bloom this season and the show of flowers has been good.

"Live stock at the Station are doing well. Two heifers in the Record of Performance Test are making a very creditable showing."

P. H. Moore, Superintendent, Experimental Farm, Agassiz, B.C., states: "The fore part of the month, although warm, was very showery and this retarded all Farm operations to a certain extent, but, since the middle of the month, we have had exceptionally good harvest weather and, at the time of writing, nearly all the grain on the Experimental Farm is harvested. The corn has made excellent growth and, although the fields are a little uneven, the average height is about seven feet and the corn is in full bloom.

"The stock on the Farm are all in excellent condition. Some interesting results on the trial of feeding summer silage have been obtained this past month. The cows nearly all freshened in the spring and had run to pasture until they had fed it off quite closely and had dropped considerably in their milk. They were still allowed to run on this pasture and they were fed all the green feed (peas, oats and tares) that they could eat, with a small allowance of grain. They came up slightly in the milk and it

took 215.7 lb. of green feed to produce 100 lb. milk, costing \$3.24c. They were then changed to silage and left on the same pasture which, in the meantime, was getting poorer. They were allowed the same grain ration and we obtained an increase in milk, without counting the two weeks' advance on the lactation period. It took 147.1 lb. of corn silage to produce 100 lb. milk at a cost of .38. Taking the total ration into consideration, the increase of milk over the other ration cost \$1.80 per 100 lb. to produce, which is the lowest market price received here, but, to offset this, we gained in the condition of the cows, we stopped the normal decrease owing to lactation period and had extra milk at least at selling price. This is, of course, just one trial and should be repeated several times. Owing to the apparent greed with which the cows eat this ration in preference to any other, we put it forth as an argument in favour of the summer silo. Several tons of oat, pea and vetch silage have been put up, but it is still too warm to feed and will be reported on later."

J. H. GRIDDALE,

Director, Dominion Experimental Farms.

Ottawa, Sept. 10.

#### Meteorological Record for August, 1913.

| Experimental Farm<br>or Station at— | Degrees of temperature, F. |        |       | Precipitation<br>in<br>inches | Hours of sunshine |        |
|-------------------------------------|----------------------------|--------|-------|-------------------------------|-------------------|--------|
|                                     | Highest                    | Lowest | Mean  |                               | Possible          | Actual |
| Ottawa, Ont. ....                   | 97.2                       | 38.0   | 67.05 | 3.13                          | 473               | 258.6  |
| Charlottetown, P.E.I. ....          | 79.5                       | 43.0   | 64.42 | 2.89                          | 476               | 251.2  |
| Nappan, N.S. ....                   | 80.0                       | 33.0   | 61.00 | 3.76                          | 474               | 238.1  |
| Cap Rouge, Que. ....                | 83.0                       | 40.2   | 61.58 | 1.97                          | 479               | 230.7  |
| Brandon, Man. ....                  | 94.0                       | 41.0   | 61.40 | 3.56                          | 491               | 235.6  |
| Indian Head, Sask. ....             | 81.0                       | 36.0   | 61.61 | 2.35                          | 494               | 245.5  |
| Rosthern, Sask. ....                | 82.1                       | 39.7   | 60.00 | 2.12                          | 507               | 248.7  |
| Scott, Sask. ....                   | 86.1                       | 34.3   | 59.89 | 2.62                          | 505               | 238.8  |
| Leithbridge, Alta. ....             | 92.8                       | 35.8   | 54.21 | 1.93                          | 491               | 321.2  |
| Lacombe, Alta. ....                 | 84.0                       | 35.5   | 57.60 | 2.43                          | 505               | 311.1  |
| Agassiz, B.C. ....                  | 91.0                       | 46.0   | 64.47 | 2.71                          | 489               | 202.5  |

**Seed Branch.** With comparatively few exceptions, seed dealers are trying to conduct their business in conformity with the Seed Control Act and are working in co-operation with the seed inspectors in an attempt to put as good a quality of seed on the market as crop conditions will allow. Last season it was exceptionally hard for dealers to secure good stock of clean seed, owing to the very light crop, and seed grain was also hard to get in sufficient quantity at prices that the average farmer was willing to pay. In spite of these difficulties, there were comparatively few violations of the Seed Control Act; and in a large proportion of the cases where violations did occur, they were of minor importance and through mistakes that are difficult to completely eliminate in handling seed. However, a number of violations occurred last spring through what appeared to be

repeated carelessness or a deliberate attempt to sell impure seed regardless of the Seed Control Act. In some cases retail dealers purchased seed from wholesalers who were careless about observing the Act. Under such circumstances, a retailer when prosecuted may escape fine by exposing the name of the wholesaler from whom he purchased the seed, provided that he can prove that the seed was purchased in good faith as complying with the Act and that its condition or marking was not altered after it came into his possession. The following dealers have been prosecuted and the cases reported this season. Several other cases are to be disposed of.

F. K. Oxley, Kelowna, B.C., offering for sale rejected timothy containing 1,004 weed seeds per ounce; No. 2 red clover not marked with the grade; and No. 2 alsike not marked with the grade. Not fined; seed purchased from the A. E. McKenzie Co., Brandon, Man.

J. Tanton & Son, London, Ont., selling timothy seed not marked with the grade. Pleaded guilty and fined.

H. A. Griswold, farmer, Burgessville, Ont., selling No. 3 red clover seed not marked with the grade. Not fined; seed purchased from J. H. N. Green, Simcoe, Ont.

W. J. Curry, Orangeville, Ont., offering for sale No. 3 red clover seed marked No. 2. Not fined; seed purchased from James Goodall, Toronto, Ont.

Jones & May, Exeter, Ont., selling timothy seed not marked with the grade. Pleaded guilty and fined.

W. W. Stephen, Meaford, Ont., offering for sale No. 3 timothy seed marked No. 1, No. 3 timothy marked No. 2, Rejected alsike marked No. 1, Rejected Mammoth red clover marked No. 2, and Rejected red clover marked No. 3. Pleaded guilty and was fined.

Rufus Dalton, Delhi, Ont., offering for sale two lots of Rejected red clover, one containing 200 noxious and a total of 968 weed seeds and the other 142 noxious and a total of 152 weed seeds per ounce. Pleaded guilty and was fined.

George A. White, Trenton, Ont., offering for sale Rejected alsike containing 560 noxious weed seeds and a total of 1,856 weed seeds per ounce. Pleaded guilty and was fined.

A. Savlov, Sutton, Ont., offering for sale Rejected red clover containing 392 noxious weed seeds per ounce. Pleaded guilty and was fined.

R. P. Coulter, Stirling, Ont., offering for sale Rejected red clover containing 162 noxious weed seeds per ounce. Pleaded guilty and was fined.

Archibald Tait, Bowmanville, Ont., offering for sale No. 3 red clover not marked with the grade. Pleaded guilty and was fined.

T. M. Caton, Cherry Valley, Ont., selling western grown oats for seed, not labelled and containing 128 noxious weed seeds per pound. Pleaded guilty and was fined.

Fred. A. Perry, Napanee, Ont., offering for sale rejected red clover containing 108 noxious and a total of 916 weed seeds per ounce. Pleaded guilty and was fined.

A. S. Kimmerly, Napanee, Ont., offering for sale Rejected red clover containing 96 noxious and a total of 656 weed seeds per ounce. Pleaded guilty and fined.



Dobson & Crosby, Uxbridge, Ont., offering for sale No. 3 timothy with out the grade being marked. Pleaded guilty and fined. Offering for sale Rejected red clover containing 848 weed seeds per ounce. Not fined; seed purchased from Walter Lapp, Uxbridge, Ont.

D. H. Mickle, Wales, Ont., offering for sale Rejected red clover containing 160 noxious and a total of 1,360 weed seeds per ounce. Not fined; seed purchased from James Goodall, Toronto, Ont.

Samples of timothy and alsike seed are being received at the seed laboratory in large numbers for so early in the season. Nearly all of the timothy samples so far received represent lots of old seed and many of them are of poor general quality and low vitality. Last year much of the timothy in Eastern Ontario and Quebec was harvested in poor condition and the effects are being shown in the seed that has been carried over, as most of it is dark in color and some is more or less musty. A large proportion of alsike samples are from the new crop and on the whole they are of good quality, being much superior to last season's crop both in freedom from weed seeds and general quality.

E. D. Eddy, for Seed Commissioner.

**Dairy and Cold Storage Branch.** The agreements between this Department and the Canadian Pacific and Grand Trunk Railways for the supply of iced refrigerator cars for the shipment of carload lots of fruit to Montreal and Quebec for export expires on October 1st. Under this agreement, which became effective on August 1st, the Department pays the cost of icing up to \$5 per car.

The special refrigerator car services for butter which have been in force in Ontario and Quebec since May 12th will terminate on October 9th. These cars are operated under a guarantee of earnings from this Department and furnish a pick-up service for small or large shipments for which shippers pay only the regular less-than-carload freight rates.

Another dairy record centre has been established at Meteghan, N.S., making a total of 22 centres where recorders are taking a dairy census of the district besides looking primarily after cow testing.

Despite the drought in various sections the average yield of milk for July in Ontario was slightly higher than in 1912: this July the production of 5,234 cows recorded in the Ontario centres was 810 pounds of milk and 26.5 pounds of fat. One of the best centres is that at Ways' Mills, Que., where 813 cows owned by 66 men were recorded in July.

Officials of the Dairy Division have been in attendance so far at 18 fall fairs, principally to advocate cow testing to the farmers present. In addition to this, they act as judges of dairy produce, and at 4 points have conducted milking competitions. These tests for production, held on the fair grounds, are attracting a great deal of attention; it is noteworthy that winning cows are usually owned by members of cow testing associations. The real value of a cow, that is, her annual profit-making capacity above the cost of feed, is being regularly checked up by an increasing number of dairy farmers who are quick to appreciate the value of cow testing.

Considerable quantities of Ontario pears have been exported to Great Britain this season and have realized good prices. Peaches are now moving for export with fair prospects of a good market in England and Scotland. The Liverpool steamer which sailed on the 16th instant had one carload of Ontario peaches on board. This shipment was in fine condition when unloaded from the refrigerator car at Montreal, as the temperature of the fruit was down to 40 degrees. The cargo inspectors employed at Montreal by this Department pay particular attention to shipments of tender fruit in order that same may be promptly and safely transferred from the car to the steamer and properly stowed in the ship.

Officers of this Branch are now packing about 50 boxes of Fameuse and about 100 boxes of McIntosh Red apples for shipment to the Canadian Exhibit at the International Exhibition at Ghent, Belgium. The Fameuse are being obtained at La Trappe, Que., and the McIntosh Reds at Morrisburg, Ont.

During the past summer this Branch has compiled and printed a list, more or less complete, of wholesale and retail apple dealers in Manitoba, Saskatchewan and Alberta and also in Kenora and Keewatin in Northern Ontario. This circular is mailed free on application.

The following convictions for violation of the Inspection and Sale Act have recently been secured by our fruit inspection staff:

Samuel Whittaker, Grimsby, Ont., convicted July 17 of over-facing 3 crates of raspberries, that is the boxes on the top layer contained better fruit than those below.

Lincoln Fleming, Owen Sound, convicted August 23rd of over-facing 5 baskets of tomatoes.

R. O. Crooks, Beamsville, Ont., convicted August 30th of over-facing 10 baskets of tomatoes.

E. F. Warner, Stony Creek, Ont., convicted August 29th, of over-facing 4 baskets of Astrachan apples.

Owing to the generally poor quality of the apple crop this season and to the scarcity of apples of any kind, there is a greater temptation than usual to place inferior specimens in the No. 1 and No. 2 Grades, and consequently many cases of false packing or grading of apples have already been reported in which prosecution is advised. It appears to be difficult for growers and packers to realize that the standard for a No. 1 or No. 2 apple does not vary from year to year according as the crop is of good or poor quality.

J. A. RUDDICK, Commissioner.

Ottawa, Ont., sept. 20th, 1913.

## CROP REPORTS FROM OTHER COUNTRIES.

**England and Wales.** The Board of Agriculture Report (September 1) states that the dry weather of August has been very favourable to harvesting operations throughout England and Wales; and, indeed, as rather improving the condition of the wheat and barley. Corn cutting, which had commenced in early districts before the end of July, proceeded rapidly during August; and in most parts the bulk had been cut, and a good deal carried in, in the south, under favourable conditions.

Wheat is decidedly the best of the cereals, and often turning out a little better than anticipated a month ago. In many parts a full average crop is being obtained, but, taking the country as a whole, it will probably prove to be about 2 per cent, below the average. Barley is also somewhat better than a month ago, and the probable yield is about 6 per cent below average. Oats are the worst of the three cereals, and estimates of their yield have rather been reduced than otherwise. Straw is generally rather short. Beans and peas are being got in satisfactorily, but they are also short crops.

The potato crop is very generally healthy, but the tubers are very small, owing to want of rain, and the yield will almost certainly be below the average, even although the recent rains should effect an improvement. Very few reports of disease have been received.

Both turnips (swedes) and mangolds have suffered badly from the want of rain, especially the former. Turnips and swedes according to appearances on the 1st of September, look like being only four-fifths of an average crop; but they are not hopeless although some fields have failed, and good rains would be by no means too late to effect great improvement. Most reporters, in fact, expect that rain on the last two days of the month will be of great benefit to the roots. Mangolds, although not so deficient as turnips, are nevertheless a poor crop and also in need of rain.

Prospects for hops have rather fallen off during the month; the persistent drought having been accompanied by persistent attacks of aphis, which necessitated very frequent washing. Generally speaking, this has been successful, and has probably saved many crops. Prospects are still the best in Kent, and worst in Hereford and Worcester; and the yield throughout the country will probably be 15 per cent below average.

Apples, plums, and pears are all below average, particularly the last named.

Pastures generally became very bare during August, and stock consequently hardly did so well as they should, as a rule. Water for stock became short in many districts, particularly in the north, but the rain at the end of the month remedied this. In some districts the milk yield was low, reports to this effect being chiefly, although not exclusively, received from the home counties.

Labour on the whole was sufficient for requirements, but it is almost universally reported that this was due to the relatively restricted demand consequent upon the very favourable conditions for harvesting and other operations.

Summarising the returns, and expressing an average crop by 100, the condition of the crops on 1st September indicated probable yields which may be denoted by the following percentages: wheat, 98; barley, 94; oats, 88; beans, 97; peas, 95; potatoes, 95; turnips and swedes, 80; mangolds, 87; hops, 85.

**Australia.** Broomhall's Corn Trade News under date September 2nd states as follows: "It is confirmed that crop prospects in South Australia have greatly improved, owing to the rains. To-day we have a cable from our Sydney agent, and the news is confirmed from other quarters that the area under wheat in New South Wales has increased by some 750,000 acres, the actual figures being 3,730,000 acres this year, compared with 2,935,000

last year. Present crop prospects are excellent, and our Sydney agent has mentioned the possibility of a 100,000,000 bushels' crop (last year 89,000,000 bushels), but of course all depends on the weather of this month and next."

**Ireland.** The Department of Agriculture and Technical Instruction for Ireland reports under date of 16th August as follows: "The total area of corn and green crops including flax and fruit amounted in 1913 to 2,348,583 acres as compared with 2,358,056 acres in 1912, a decrease of 9,473 acres or 4 per cent. There is a decrease of 10,851 acres or 24·2 per cent. in the total area under wheat. There are also decreases of 1,042 acres or 13·4 per cent in the area of rye and 225 acres or 13·2 per cent. in the total area of beans and peas. The area of oats has increased by 2,913 acres or 3 per cent and barley and here show an increase of 7,581 acres or 4·6 per cent.

The total area of potatoes in 1913 is 582,313 acres as compared with 595,184 acres in 1912, a decrease of 12,871 acres or 2·2 per cent. The area of turnips in 1913 amounts to 276,596 acres as compared with 271,771 acres in 1912, an increase of 4,825 acres or 1·8 per cent. There are also decreases in the areas sown to mangolds, beet-root and cabbage, carrots and parsnips.

The area under flax is 59,305 acres in 1913 as compared with 55,062 acres in 1912—an increase of 4,243 acres or 7·7 per cent. The increase is general throughout the flax-growing counties. In Antrim there is an increase of 1,152 acres, in Armagh of 347 acres, in Cavan of 187 acres, in Donegal of 381 acres, in Down of 701 acres, in Fermanagh of 72 acres, in Londonderry of 608 acres, in Monaghan of 40 acres, and in Tyrone of 643 acres.

**United State.** The Crop Reporting Board of U. S. Department of Agriculture issued on Sept. 9th the following estimates of the acreage, condition and yield of the principal field crops:

| Crops            | Area<br>1913 | Condition         |                   |                     | Yield per acre    |                 | Total yield      |                  |
|------------------|--------------|-------------------|-------------------|---------------------|-------------------|-----------------|------------------|------------------|
|                  |              | Sept. 1<br>1913   | Sept. 1<br>1912   | ten year<br>average | 1913              | 1912<br>(final) | 1913             | 1912<br>(final)  |
|                  | 000<br>acres | p.c.              | p.c.              | p.c.                | bush.             | bush.           | million<br>bush. | million<br>bush. |
| Corn.....        | 106,884      | 65·1              | 82·1              | 80·9                | 22·0              | 29·2            | 2,351            | 3,125            |
| Winter wheat...  | 30,938       | —                 | —                 | —                   | 16·5 <sup>2</sup> | 15·1            | 511 <sup>2</sup> | 400              |
| Spring wheat...  | 18,693       | 75·3 <sup>1</sup> | 90·8 <sup>1</sup> | 76·9 <sup>1</sup>   | 13·0              | 17·2            | 243              | 330              |
| All wheat.....   | 49,601       | —                 | —                 | —                   | 15·2              | 15·9            | 754              | 730              |
| Oats.....        | 38,341       | 74·0 <sup>1</sup> | 92·3 <sup>1</sup> | 79·3 <sup>1</sup>   | 27·8              | 37·4            | 1,066            | 1,418            |
| Barley.....      | 7,255        | 73·4 <sup>1</sup> | 88·9 <sup>1</sup> | 81·1 <sup>1</sup>   | 23·2              | 29·7            | 168              | 224              |
| Rye.....         | 2,134        | —                 | —                 | —                   | 16·3 <sup>2</sup> | 16·8            | 35 <sup>2</sup>  | 36               |
| Buckwheat....    | 841          | 75·4              | 91·6              | 87·0                | 18·2              | 22·9            | 15               | 19               |
| White potatoes.. | 3,685        | 69·9              | 87·2              | 79·4                | 88·1              | 113·4           | 325              | 421              |
| Flax.....        | 2,425        | 74·9              | 86·3              | 80·9                | 8·4               | 9·8             | 20               | 28               |
| Tobacco.....     | 1,144        | 74·5              | 81·1              | 81·5                | lb.               | lb.             | lb.              | lb.              |
| Hay (all tame).. | 48,293       | —                 | —                 | —                   | 752·4<br>ton      | 785·5<br>ton    | 861<br>tons      | 963<br>tons      |
|                  |              |                   |                   |                     | 1·31 <sup>2</sup> | 1·47            | 63 <sup>2</sup>  | 73               |

<sup>1</sup> Interpreted from condition Reports. <sup>2</sup> Preliminary estimate.



And in a general review of crops issued by the Bureau of Statistics of the Department of Agriculture on September 10 it is stated: "The month of August was unfavourable for crop development in the United States, the composite condition of all crops September 1 being 10.1 per cent below the average conditions on September 1 of recent years (mostly 10 year averages) as on August 1 conditions were 6.2 per cent below the August 1 average. Compared with a year ago prospects at this time are about 12.2 per cent poorer. Last year crop prospects steadily improved as the season advanced, final outturn being the largest on record; on the other hand this year prospects to September 1 have tended to decline with the advance of the season. The extent of departure from average conditions on September 1 of all crops combined for the United States, 100 representing average (not normal) prospects on September 1 of recent years was 89.9 per cent.

The condition or production if harvested of various crops on September 1 compared with their average represented by 100 on September 1 of recent years was as follows:

|                   |      |                  |       |                    |       |
|-------------------|------|------------------|-------|--------------------|-------|
| Corn.....         | 80.5 | Apples.....      | 87.7  | Potatoes.....      | 88.0  |
| Spring wheat..... | 97.9 | Peaches.....     | 88.8  | Tomatoes.....      | 93.8  |
| Oats.....         | 93.3 | Pears.....       | 90.5  | Cabbages.....      | 90.8  |
| Barley.....       | 90.5 | Grapes.....      | 90.0  | Onions.....        | 92.5  |
| Buckwheat.....    | 86.7 | Watermelons..... | 97.7  | Beans (dry).....   | 94.1  |
| Flax.....         | 92.6 | Cantaloupes..... | 101.2 | Beans (green)..... | 91.9  |
| Alfalfa.....      | 92.6 | Cranberries..... | 99.0  | Tobacco.....       | 91.4  |
| Millet.....       | 76.5 | Oranges.....     | 91.7  | Hops.....          | 103.5 |
| Kafir corn.....   | 70.8 |                  |       |                    |       |

The number of stock hogs in the country September 1, is estimated to be about the same as a year ago.

The acreage of clover for seed is estimated to be 4.2 per cent more than last year.

Indications are for a total production of all cereals of 111,484,000 tons or 26.1 per cent less than last year, 1.4 per cent more than 1911, 10.8 per cent less than 1910.

Potato prospects are for 22.8 per cent less than last year, 10.9 per cent more than 1911, and 6.9 per cent less than 1910.

Hay production is estimated at about 12.7 per cent less than last year, 15.6 per cent more than 1911, and 8.5 per cent less than 1910.

Prices paid to producers of the United States on September 1, 1913 and 1912 respectively, averaged as follows:

| -               | 1913  | 1912  | -                  | 1913  | 1912  |
|-----------------|-------|-------|--------------------|-------|-------|
|                 | \$    | \$    |                    | \$    | \$    |
| Corn, bush..... | 754   | 776   | Buckwheat, bus...  | 700   | 766   |
| Wheat, ".....   | 771   | 858   | Potatoes, bus..... | 753   | 650   |
| Oats, ".....    | 393   | 350   | Hay, ton.....      | 11.89 | 12.14 |
| Barley, ".....  | 552   | 535   | Butter, lb.....    | 259   | 242   |
| Flax, ".....    | 1 278 | 1 626 | Eggs, lb.....      | 195   | 191   |
| Rye, ".....     | 630   | 708   | Chickens, lb.....  | 124   | 113   |

Similarly, on August 15 :

|                            | 1913 | 1912 |
|----------------------------|------|------|
|                            | \$   | \$   |
| Hogs, per cwt.....         | 7 79 | 7 11 |
| Cattle, beef, per cwt..... | 5 91 | 5 38 |
| Veal, per cwt.....         | 7 53 | 6 62 |
| Sheep, per cwt.....        | 4 32 | 4 26 |
| Lambs, per cwt.....        | 5 50 | 5 60 |

Russia. H. M. ambassador at St. Petersburg reports that the Ministry of Agriculture under date of August 14th published officially the estimated yield of the harvest for 1913 taking the sixty-four governments of European Russia to be as follows (in millions of bushels):

|             | 1913<br>Million<br>bushels | 1912<br>Million<br>bushels |
|-------------|----------------------------|----------------------------|
| Rye.....    | 924                        | 1,011                      |
| Wheat.....  | 789                        | 623                        |
| Barley..... | 533                        | 456                        |
| Maize.....  | 61                         | 79                         |
| Oats.....   | 969                        | 915                        |

Thus the first estimate as to the probable yield for 1913 shows an anticipated increase in the wheat, barley and oat crops with a decrease in the rye and maize crops. The wheat crop promises to be particularly plentiful.

The acting H. M. Consul, Odessa, under date, August 26th reports as follows: 'The sunshine of the last three weeks has made it comparatively certain that there will be a trade revival of considerable volume in South Russia this Autumn.

The economic position three weeks ago (that is to say at the beginning of August N.S. 1913) was very similar to that which presented himself at the same time in 1912. In both years early summer prognostications for the grain harvest were most favourable: and in both years hopes of a record harvest were disappointed through heavy rain in July which did much damage to the crops. But here fortunately the similarity ends. Rain was almost continuous in 1912 throughout August and September, so that a fairly heavy crop in quantity turned out very inferior in quality and much of it was unfit for export. But in 1913 the three important weeks at the beginning of August have been fine. All the crops (except of course maize) are cut, and threshing has been going on in fine harvesting weather. The extreme importance of fine weather at this time to the Russian peasants is explained by acquaintance with their primitive agricultural methods. For instance they are ignorant of the method of standing their sheaves in shocks so that it may escape damage by rain, but place the sheaves crosswise on the ground. Again the cut corn is, in the majority of cases, not stacked,

but threshed where it is cut. There are usually no barns to store the grain in case of bad weather. Bad weather from now onwards would of course do much damage, but much good work has been done, and there is every probability that the total yield for South Russia will be above the average in quantity, while certain crops such as barley and winter wheat promise to be of first class quality.

As regards two other important South Russia crops, beet-root and maize, the first promises very well while the second will only be fair, as last year's bad failure left little seed for this year.

As regards the preparations for next year's crops ploughing is being carried on under excellent conditions and it is said that a larger area will be planted with winter wheat than has ever been the case before. The demand for seed drills is very large at present, and good business is being done in agricultural implements of all kinds. Payments for machinery sold last year on credit are coming in well.

**India.** The Indian Trade Journal publishes the following reports from Bengal and Assam. The report from Bengal says: During the week ending August 18th general rain fell all over the province. In West Bengal the standing crops have been seriously damaged by the excessive rains and unusually heavy floods of the previous week. Retransplantation of winter rice in parts of damaged area is going on. Relief is being given to the distressed. Condition of cattle in the tracts affected by floods is bad. In East Bengal the prospects of crops are fair. Harvesting of jute and *aus* paddy is in progress. Want of fodder is felt in parts of Jessore, Mirdnapore, Howrah, Bugra and Dacca. Reports of damage to standing crops by insect pests have been received from parts of Nadia and Khulna. Cattle disease has been reported from five districts only. The price of common rice has risen by about 2·5 per cent as compared with that of the previous week.

The report from Assam says: During the week ending August 18th good rainfall in all districts generally facilitated agricultural operations, but more rain is still wanted in the western and central parts of the Brahmaputra Valley for transplantation of rice. Ploughing for and transplantation of late rice, harvesting of early rice, and jute and tea manufacture continue. Outturn of early rice is average. Prospects of jute are fair and those of tea generally good. Average price of common rice has fallen slightly. Cattle-disease is reported from four districts; fodder is insufficient in Surma Valley and Kamrup.

**Germany.** The Imperial Statistical Office, Berlin, states that the cool and wet weather which set in at the end of June and lasted until towards the end of July had not in spite of the low temperature reacted unfavourably on the growth of the products. In the northern and northwestern parts of the Empire numerous thunderstorms brought after long drought in some places plentiful, though not evenly distributed, moisture, while the southern and western districts, which had in the earlier months plentiful rainfall, on the whole received too much moisture. Towards the end of July finer weather came in almost everywhere. Warm and dry days repaired much of the damage which had been done by the previous very

unfavourable weather. There were many complaints as to the great growth of weeds in grain and potato fields; here and there they were entirely overgrown by weeds.

**WINTER SOWINGS.** Even though the development of the winter cereals, and especially their germination was injured by the lack of warmth, winter products in general find a favourable verdict. The ripening of the grains was certainly more or less retarded, yet the beginning later on of favourable weather caused the rye harvest to be fairly advanced. The winter wheat on the whole promises good results; as compared with the preceding month its condition is improved somewhat and on an average shows for the Empire 2·4 (2·5). Winter rye and spelt are valued as in June at 2·6 and 2·3.

**SUMMER SOWINGS.** The wet weather was less injurious to summer seeding than to winter, though in it also, especially oats and barley, there was much beating down, nevertheless the conditions of the products were on an average noted as satisfactory. In consequence of the unseasonable weather the ripening and harvesting of all summer sown cereals was retarded. For the Empire percentages for summer-rye and summer-barley are the same as in the preceding month, 2·6 and 2·4. Summer-wheat improved up to 2·6 (2·7) while oats had a real improvement, namely 2·8 on 2·4.

**POTATOES.** It is reported from many places that they are suffering from the unfavourable weather and in many places have begun to spoil. The appearance of the "Curling-disease and Black-leg-disease" is often complained of. In spite of this on an average for the Empire they are more favourably noted than in the preceding month, namely 2·5 (2·7). Should the fine weather continue a satisfactory crop may be hoped for.

**☐ CLOVER and LUCERNE.** Housing the crop was made difficult by the damp weather and could not be saved in good condition everywhere, so that the quality of the fodder is frequently reduced. To the aftergrowth the rainfalls were very beneficial, the second cutting promises, particularly on the early mown meadows, to be a very good one. For the Empire the percentage for clover shows 2·6 (2·7), and for Lucerne as 2·5 (2·5).



## INTERNATIONAL INSTITUTE OF AGRICULTURE.

The Bulletin of Agricultural statistics for August contains tables showing the area cultivated, the condition of the crop and the productions of cereals. For the 18 countries reported in the tables the production of wheat is 103·9 per cent of last year's yield; rye 91·2 per cent; barley 100·1 per cent; oats 89·7 per cent of the production in 1912. In table II the average yields per acre of wheat, rye, barley and oats in 1913 as compared with 1912 are given. The average for 1913 and 1912 for Canada will be found on page 2.

## I. Area and production of Wheat, Rye, Barley and Oats in 1913, compared with 1912, in countries of Northern Hemisphere.

| Countries             | Harvested<br>1912 | Harvest of 1913  |                       | Harvested<br>1912 | Estimate of 1913 |                       |
|-----------------------|-------------------|------------------|-----------------------|-------------------|------------------|-----------------------|
|                       |                   | total<br>figures | compared<br>with 1912 |                   | total<br>figures | compared<br>with 1912 |
|                       | 000<br>acres      | 000<br>acres     | p. c.                 | 000<br>bush.      | 000<br>bush.     | p. c.                 |
| Wheat—                |                   |                  |                       |                   |                  |                       |
| Prussia.....          | 2,796             | 2,883            | 103·1                 | 100,992           | 94,105           | 93·2                  |
| Belgium.....          | 307               | 304              | 99·4                  | 15,348            | 14,651           | 95·5                  |
| Bulgaria.....         | 2,760             | 2,545            | 91·9                  | 63,750            | 64,301           | 100·9                 |
| Denmark.....          | 106               | 100              | 100·0                 | 3,615             | 4,127            | 114·1                 |
| Spain.....            | 9,625             | 9,414            | 97·8                  | 109,784           | 110,098          | 100·3                 |
| England and Wales..   | 1,863             | 1,800            | 96·6                  | 53,443            | 55,064           | 103·0                 |
| Hungary (proper)....  | 8,748             | 7,701            | 88·0                  | 173,328           | 145,238          | 83·8                  |
| Italy.....            | 11,751            | 11,805           | 100·5                 | 165,721           | 199,518          | 120·4                 |
| Luxemburg.....        | 27                | 27               | 102·4                 | 665               | 693              | 104·3                 |
| Russia in Europe..... | 60,666            | 62,070           | 102·3                 | 623,761           | 674,706          | 108·2                 |
| Switzerland.....      | 104               | 105              | 100·4                 | 3,178             | 3,509            | 110·4                 |
| Canada (a).....       | 781               | 826              | 105·7                 | 16,396            | 18,482           | 112·7                 |
| United States.....    | 45,815            | 49,602           | 108·3                 | 730,279           | 743,531          | 101·8                 |
| India (1).....        | 31,141            | 29,569           | 95·0                  | 370,514           | 358,389          | 96·7                  |
| Japan.....            | 1,216             | 1,226            | 100·8                 | 25,692            | 27,026           | 105·2                 |
| Russia in Asia.....   | 10,729            | 13,103           | 122·1                 | 103,270           | 137,830          | 133·5                 |
| Algeria (2).....      | 2,743             | 2,354            | 85·8                  | 19,921            | 27,558           | 138·3                 |
| Tunis.....            | 1,410             | 1,236            | 87·6                  | 3,858             | 5,512            | 142·9                 |
| Totals.....           | 192,681           | 196,760          | 102·1                 | 2,583,515         | 2,684,338        | 103·9                 |
| Rye—                  |                   |                  |                       |                   |                  |                       |
| Prussia.....          | 11,832            | 11,808           | 99·8                  | 331,169           | 343,496          | 103·7                 |
| Belgium.....          | 650               | 641              | 98·6                  | 21,313            | 21,453           | 100·7                 |
| Bulgaria.....         | 531               | 457              | 86·0                  | 12,401            | 11,810           | 95·2                  |
| Denmark.....          | 682               | 682              | 100·0                 | 18,894            | 17,979           | 95·2                  |
| Spain.....            | 1,944             | 1,904            | 97·9                  | 18,867            | 25,023           | 132·6                 |
| Hungary (proper)..... | 2,795             | 2,674            | 95·7                  | 54,142            | 51,042           | 94·3                  |
| Italy.....            | 305               | 306              | 100·5                 | 5,285             | 5,712            | 108·1                 |
| Luxemburg.....        | 26                | 26               | 101·3                 | 652               | 687              | 105·5                 |
| Russia in Europe..... | 70,794            | 71,888           | 101·5                 | 1,010,983         | 867,349          | 85·8                  |
| Switzerland.....      | 61                | 60               | 99·0                  | 1,705             | 1,752            | 102·8                 |
| United States.....    | 2,117             | 2,134            | 100·8                 | 35,664            | 34,789           | 97·5                  |
| Russia in Asia.....   | 3,584             | 3,100            | 120·0                 | 33,075            | 27,729           | 83·8                  |
| Totals.....           | 94,321            | 95,680           | 101·4                 | 1,544,150         | 1,408,821        | 91·2                  |

(a) Winter sown.

(1) About 99·7 p. c. of the total reported area under wheat in India.

(2) Excluding the Department of Algiers.

**I. Area and production of Wheat, Rye, Barley and Oats in 1913, compared with 1912, in countries of Northern Hemisphere—con.**

| Countries              | Harvested<br>1913 | Harvest of 1913  |                       | Harvested<br>1912 | Estimate of 1913 |                       |
|------------------------|-------------------|------------------|-----------------------|-------------------|------------------|-----------------------|
|                        |                   | total<br>figures | compared<br>with 1912 |                   | total<br>figures | compared<br>with 1912 |
|                        | 000<br>acres      | 000<br>acres     | p. c.                 | 000<br>bush.      | 000<br>bush.     | p. c.                 |
| <b>Barley—</b>         |                   |                  |                       |                   |                  |                       |
| Prussia.....           | 2,090             | 2,090            | 100·0                 | 90,580            | 80,385           | 88·7                  |
| Belgium.....           | 84                | 84               | 99·7                  | 4,253             | 4,220            | 99·2                  |
| Bulgaria.....          | 642               | 568              | 88·5                  | 18,372            | 20,668           | 112·5                 |
| Denmark.....           | 578               | 578              | 100·0                 | 24,981            | 24,904           | 100·7                 |
| Spain.....             | 3,298             | 3,794            | 115·0                 | 59,995            | 63,742           | 106·2                 |
| England and Wales..... | 1,451             | 1,455            | 99·9                  | 46,187            | 46,375           | 100·4                 |
| Hungary (proper).....  | 2,603             | 3,004            | 115·4                 | 70,140            | 76,546           | 109·1                 |
| Italy.....             | 604               | 622              | 103·0                 | 8,403             | 11,253           | 133·9                 |
| Luxemburg.....         | 3                 | 3                | 103·8                 | 92                | 91               | 98·3                  |
| Russia in Europe.....  | 28,119            | 30,191           | 107·4                 | 455,967           | 462,694          | 101·5                 |
| Switzerland.....       | 12                | 13               | 108·6                 | 427               | 450              | 105·4                 |
| United States.....     | 7,530             | 7,255            | 96·3                  | 223,819           | 167,997          | 75·1                  |
| Japan.....             | 3,132             | 3,106            | 99·2                  | 99,574            | 101,074          | 101·5                 |
| Russia in Asia.....    | 824               | 1,081            | 131·3                 | 12,325            | 16,552           | 134·3                 |
| Algeria (2).....       | 2,671             | 3,003            | 112·4                 | 24,574            | 60,627           | 246·7                 |
| Tunis.....             | 1,188             | 988              | 83·2                  | 3,077             | 6,430            | 209·0                 |
| <b>Totals.....</b>     | <b>54,835</b>     | <b>57,835</b>    | <b>105·5</b>          | <b>1,142,757</b>  | <b>1,144,008</b> | <b>100·1</b>          |
| <b>Oats—</b>           |                   |                  |                       |                   |                  |                       |
| Prussia.....           | 7,091             | 7,091            | 100·0                 | 378,093           | 374,795          | 99·1                  |
| Belgium.....           | 648               | 671              | 103·6                 | 33,023            | 43,162           | 130·7                 |
| Bulgaria.....          | 395               | 420              | 106·2                 | 11,347            | 16,210           | 142·9                 |
| Denmark.....           | 996               | 996              | 100·0                 | 48,765            | 47,103           | 96·6                  |
| Spain.....             | 1,279             | 1,341            | 104·9                 | 21,680            | 25,260           | 116·5                 |
| England and Wales..... | 2,072             | 2,033            | 98·1                  | 83,925            | 84,047           | 100·1                 |
| Hungary (proper).....  | 2,473             | 3,021            | 122·2                 | 72,253            | 93,083           | 128·8                 |
| Italy.....             | 1,254             | 1,255            | 100·1                 | 26,642            | 37,479           | 140·7                 |
| Luxemburg.....         | 77                | 77               | 100·0                 | 2,758             | 3,417            | 123·9                 |
| Russia in Europe.....  | 41,218            | 41,778           | 101·4                 | 916,014           | 884,761          | 96·6                  |
| Switzerland.....       | 82                | 81               | 98·9                  | 3,780             | 4,792            | 126·8                 |
| United States.....     | 37,918            | 38,342           | 101·1                 | 1,334,909         | 967,532          | 72·5                  |
| Japan.....             | 115               | 120              | 104·4                 | 5,176             | 5,077            | 98·1                  |
| Russia in Asia.....    | 4,810             | 5,734            | 119·2                 | 89,888            | 125,333          | 139·4                 |
| Algeria (2).....       | 401               | 377              | 94·1                  | 10,006            | 12,320           | 123·1                 |
| Tunis.....             | 134               | 133              | 99·3                  | 2,334             | 3,891            | 166·7                 |
| <b>Totals.....</b>     | <b>100,963</b>    | <b>103,470</b>   | <b>102·5</b>          | <b>3,040,593</b>  | <b>2,728,261</b> | <b>89·7</b>           |

(2) Excluding the Department of Algiers.

(3) Rye and maslin.

### II. Average yields per acre of Wheat, Rye, Barley and Oats in 1913, compared with 1912.

|                        | Wheat |       | Rye   |       | Barley |       | Oats  |       |
|------------------------|-------|-------|-------|-------|--------|-------|-------|-------|
|                        | 1913  | 1912  | 1913  | 1912  | 1913   | 1912  | 1913  | 1912  |
|                        | bush  | bush  | bush  | bush  | bush   | bush  | bush  | bush  |
| Prussia.....           | 32.56 | 36.13 | 29.16 | 28.04 | 38.48  | 43.31 | 52.74 | 53.27 |
| Belgium.....           | 37.17 | 38.66 | 33.46 | 32.82 | 50.19  | 50.37 | 64.29 | 50.91 |
| Bulgaria.....          | 25.28 | 23.05 | 25.81 | 23.42 | 36.43  | 28.62 | 38.57 | 28.60 |
| Denmark.....           | 41.19 | 36.13 | 26.29 | 27.72 | 43.12  | 43.31 | 47.23 | 49.07 |
| Spain.....             | 11.75 | 11.45 | 13.22 | 9.72  | 16.73  | 18.26 | 18.89 | 17.07 |
| England and Wales..... | 30.63 | 28.70 | ..... | ..... | 31.78  | 31.78 | 41.46 | 40.41 |
| Hungary (proper).....  | 18.88 | 19.78 | 19.12 | 19.44 | 25.46  | 26.95 | 30.70 | 29.13 |
| Italy.....             | 16.95 | 14.13 | 18.64 | 17.37 | 18.03  | 13.94 | 29.91 | 21.25 |
| Luxemburg.....         | 25.28 | 24.83 | 26.29 | 25.33 | 30.67  | 32.34 | 44.61 | 35.95 |
| Russia in Europe.....  | 10.85 | 10.26 | 12.11 | 14.34 | 15.24  | 16.17 | 21.25 | 22.30 |
| Switzerland.....       | 32.56 | 30.48 | 28.68 | 28.20 | 35.32  | 34.57 | 59.30 | 35.16 |
| United States.....     | 15.02 | 15.91 | 16.25 | 16.89 | 23.24  | 29.74 | 25.19 | 35.16 |
| India.....             | 12.19 | 11.90 | ..... | ..... | .....  | ..... | ..... | ..... |
| Japan.....             | 22.00 | 21.11 | ..... | ..... | 32.53  | 31.78 | 42.25 | 44.87 |
| Russia in Asia.....    | 10.56 | 9.67  | 8.92  | 12.75 | 15.24  | 14.87 | 21.78 | 18.63 |
| Algeria.....           | 11.75 | 7.29  | ..... | ..... | 20.26  | 9.11  | 32.80 | 24.93 |
| Tunis.....             | 4.46  | 2.68  | ..... | ..... | 6.51   | 2.60  | 29.13 | 17.32 |

### III. Area and Condition of Cereals on August 1, 1913,

| Countries       | Wheat                     |                          |             |             |             | Rye                       |                          |             |             |             |
|-----------------|---------------------------|--------------------------|-------------|-------------|-------------|---------------------------|--------------------------|-------------|-------------|-------------|
|                 | Area to be harvested 1913 | Per cent of area of 1912 | Condition   |             |             | Area to be harvested 1913 | Per cent of area of 1912 | Condition   |             |             |
|                 |                           |                          | Aug. 1 1913 | July 1 1913 | Aug. 1 1912 |                           |                          | Aug. 1 1913 | July 1 1913 | Aug. 1 1912 |
|                 |                           |                          |             |             |             |                           |                          |             |             |             |
| France.....     | 000 acres                 | p. c.                    | p. c.       | p. c.       | p. c.       | 000 acres                 | p. c.                    | p. c.       | p. c.       | p. c.       |
| Scotland.....   | 16,177                    | 99.7                     | .....       | .....       | .....       | 2,961                     | 99.7                     | .....       | .....       | .....       |
| Norway.....     | 12                        | 100.0                    | 100         | 100         | 104         | 37                        | 100.0                    | 90          | 75          | 105         |
| Sweden.....     | .....                     | .....                    | 110         | 105         | 120         | .....                     | .....                    | 94          | .....       | 108         |
| Canada (1)..... | 8,991                     | 100.1                    | 107         | 99          | .....       | 127                       | 92.9                     | 108         | 98          | .....       |
|                 | Barley                    |                          |             |             |             | Oats                      |                          |             |             |             |
| France.....     | 1,879                     | 100.2                    | .....       | .....       | .....       | 9,881                     | 100.4                    | .....       | .....       | .....       |
| Scotland.....   | .....                     | .....                    | 100         | 105         | 105         | .....                     | .....                    | 95          | 100         | 105         |
| Norway.....     | 84                        | 100.0                    | 100         | 100         | .....       | 263                       | 100.0                    | 110         | 100         | .....       |
| Sweden.....     | .....                     | .....                    | 115         | 107         | 118         | .....                     | .....                    | 118         | 107         | 123         |
| Canada.....     | 1,431                     | 101.1                    | 106         | 99          | .....       | 9,646                     | 104.7                    | 105         | 98          | .....       |

(1) Spring sown.

## BRITAIN'S MEAT SUPPLIES.

According to a report issued by the Board of Agriculture and Fisheries, England, 1912 was in some respects abnormal as regards supplies of meat. The number of cattle imported alive has been declining year by year since 1905, when 565,000 were landed. In 1911 the number had fallen to 200,000 but in 1912 it fell to less than one-fourth of that, the total received being only 49,000. Imports of live sheep, which practically ceased in 1910, but recovered slightly in 1911, fell again to 15,000 in 1912. The decadence of the trade in animals "on the hoof" has been balanced by the increased imports of animals "in the carcass". The quantity of fresh beef imported in 1912 exceeded, for the first time, 8,000,000 cwt., having doubled in ten years. The imports of fresh mutton amounted to over 5,000,000 cwt., being somewhat less than in 1910 and 1911, but over 1,000,000 cwt., more than they were ten years ago. Taking all kinds of meat together, the aggregate oversea receipts were in 1912, as in 1911, about 21,000,000 cwt., but the value was nearly £2,500,000 (\$12,150,000) more, the total reaching £46,521,000 (\$226,092,060).

On the whole, however, if all kinds of meat including that imported alive are taken into account, the aggregate imports have not substantially increased in recent years, or at any rate have not kept pace with the growth of population. It cannot be said that this is due to increased home supplies. The significant, and possibly from the consumer's point of view somewhat ominous, fact is that oversea supplies show insufficient expansion; or to speak more precisely, that the contraction of the supplies from North America on which reliance has for so long been placed has not been balanced by the increased supplies from the Southern Hemisphere to the extent necessary to meet the increased demand. During the past six years the quantity of dead meat received from the United States has declined from 6½ million cwt. in 1907 to less than three million cwt. in 1912, while those from Canada have fallen from nearly one million cwt. to less than half a million cwt. Supplies from New Zealand have shown no expansion, and practically the whole of the increased supplies have come from Argentina and Australia. The insignificance to which imports of live animals have been reduced has already been noted, but the tendency to replace this trade by the importation of dead meat has been evident for many years past. The value of the live cattle imported in 1912 was less than £1,000,000 (\$4,860,000), while in 1897 it was nearly £10,500,000 (\$51,030,000). The United States supplied 39,987 head of the imports last year, Canada 6,800 and the Channel Islands 2,125. The value of live sheep imports in 1912 was £23,793 (\$115,634) as compared with £1,782,544 (\$8,663,163) for 1895, in which year the imports were unusually large. The United States supplied 14,237 of the year's total and Canada the remainder.



The imports of chilled beef fell from 3,933,000 cwt. in 1911 to 3,876,000 cwt., the increase of the supplies from Argentina being less than the reduction of those from the United States, which sent only 4,000 cwt. of chilled beef. The imports of frozen beef increased, especially from Argentina and Uruguay, but the receipts of frozen mutton were considerably smaller from every country but New Zealand. Australia sent only 978,000 cwt. as compared with 1,292,000 cwt. in 1911; Argentina 1,589,000 cwt. as compared with 1,782,000 cwt. New Zealand, however, supplied 2,165,000 cwt., an addition of 184,000 cwt. in the year.

## PRICES OF COLONIAL AND FOREIGN PRODUCE IN BRITISH MARKETS, 1913.

### WHEAT (per bushel of 60 lb.)

| Description               | August 4 |         | August 11 |         | August 18 |         | August 25 |         |
|---------------------------|----------|---------|-----------|---------|-----------|---------|-----------|---------|
|                           | \$ cts.  | \$ cts. | \$ cts.   | \$ cts. | \$ cts.   | \$ cts. | \$ cts.   | \$ cts. |
| Canadian No. 1.....       | 1 14     | -1 14½  | 1 14      | -1 14½  | 1 11½     | -1 12½  | 1 11½     | -1 12½  |
| " No. 2.....              | 1 09½    | -1 11½  | 1 09½     | -1 11½  | 1 08½     | -1 09½  | 1 08½     | -1 09½  |
| " No. 3.....              | 1 06     | -1 06½  | 1 06      | -1 06½  | 1 03      | -1 06   | 1 03      | -1 06   |
| " No. 4.....              | 0 98½    | -1 00½  | 0 98½     | -1 00½  | 0 97½     | -1 00½  | 0 97½     | -1 00½  |
| " feed.....               | 0 78     | -0 81   | 0 78      | -0 81   | 0 77      | -0 82½  | 0 77      | -0 82½  |
| American best spring..... | 1 11     | -1 13½  | 1 11      | -1 13½  | 1 10½     | -1 11½  | 1 10½     | -1 11½  |
| " ordinary.....           | 1 0½     | -1 10½  | 1 08½     | -1 10½  | 1 07½     | -1 08½  | 1 07½     | -1 08½  |
| " red winter.....         | 1 06     | -1 07½  | 1 06      | -1 07½  | 1 04½     | -1 06   | 1 04½     | -1 06   |
| " hard winter.....        | 1 04     | -1 06   | 1 04      | -1 06   | 1 03      | -1 04½  | 1 03      | -1 04½  |
| Australian.....           | 1 14½    | -1 16½  | 1 14½     | -1 16½  | 1 14½     | -1 16½  | 1 14½     | -1 16½  |
| Russian fine.....         | 1 04½    | -1 06   | 1 04½     | -1 06   | 1 04      | -1 06   | 1 04      | -1 06   |
| " good.....               | 0 98     | -1 00½  | 0 98      | -1 00½  | 0 98      | -1 00½  | 0 98      | -1 00½  |
| " common.....             | 0 95     | -0 97½  | 0 95      | -0 97½  | 0 95      | -0 97½  | 0 95      | -0 97½  |
| Californian.....          | 1 12     | -1 15½  | 1 12      | -1 15½  | 1 12      | -1 15½  | 1 12      | -1 15½  |
| Blue Stem.....            | 1 11     | -1 14   | 1 11      | -1 14   | 1 11      | -1 14   | 1 11      | -1 14   |
| White Walla.....          | 1 11     | -1 12½  | 1 11      | -1 12½  | 1 11      | -1 12½  | 1 11      | -1 12½  |
| Red Walla.....            | 1 09     | -1 11½  | 1 09      | -1 11½  | 1 09      | -1 11½  | 1 09      | -1 11½  |
| White Bombay.....         | 1 13     | -1 14½  | 1 12      | -1 14   | 1 12      | -1 14   | 1 12      | -1 14   |
| " Calcutta.....           | 1 12     | -1 13½  | 1 11      | -1 12½  | 1 11      | -1 12½  | 1 11      | -1 12½  |
| " Karachi.....            | 1 12     | -1 13½  | 1 11      | -1 12½  | 1 11      | -1 12½  | 1 11      | -1 12½  |
| Red Karachi.....          | 1 10     | -1 11½  | 1 09      | -1 11½  | 1 09      | -1 11½  | 1 09      | -1 11½  |
| Argentine.....            | 1 08½    | -1 10½  | 1 08½     | -1 10½  | 1 08½     | -1 10½  | 1 08½     | -1 10½  |

### OATS (per bushel of 34 lb.)

|                   |       |        |       |        |       |        |       |        |
|-------------------|-------|--------|-------|--------|-------|--------|-------|--------|
| Canadian.....     | 0 51½ | -0 54½ | 0 51½ | -0 54½ | 0 51½ | -0 54½ | 0 51½ | -0 54½ |
| American.....     | 0 49  | -0 51½ | 0 49  | -0 51½ | 0 49  | -0 51½ | 0 49  | -0 51½ |
| Bahia Blanca..... | 0 46½ | -0 47½ | 0 46½ | -0 47½ | 0 46½ | -0 47½ | 0 46½ | -0 47½ |
| Buenos Aires..... | 0 44½ | -0 46½ | 0 44  | -0 46½ | 0 44  | -0 46½ | 0 44  | -0 46½ |
| Russian.....      | 0 47  | -0 59  | 0 47  | -0 59  | 0 47  | -0 59  | 0 47  | -0 59  |
| Prussian.....     | 0 51½ | -0 56½ | 0 51½ | -0 56½ | 0 51½ | -0 56½ | 0 51½ | -0 56½ |

## FLOUR (per 280 lb.)

| Description                    | August 4 |        | August 11 |        | August 18 |        | August 25 |        |
|--------------------------------|----------|--------|-----------|--------|-----------|--------|-----------|--------|
|                                | \$ c.    | \$ c.  | \$ c.     | \$ c.  | \$ c.     | \$ c.  | \$ c.     | \$ c.  |
| Pillsbury, Best.....           | 7 00     | - 7 06 | 7 00      | - 7 06 | 6 87      | - 6 93 | 6 87      | - 6 93 |
| Iron Duke.....                 | 6 14     | - 6 20 | 6 14      | - 6 20 | 6 02      | - 6 08 | 6 02      | - 6 08 |
| Minnesota first.....           | 7 12     | - 7 24 | 7 12      | - 7 24 | 7 00      | - 7 12 | 7 00      | - 7 12 |
| "    straights.....            | 6 69     | - 6 81 | 6 69      | - 6 81 | 6 57      | - 6 69 | 6 57      | - 6 69 |
| "    medium.....               | 5 78     | - 6 02 | 5 78      | - 6 02 | -         | -      | -         | -      |
| Minneapolis, first.....        | 6 93     | - 7 00 | 6 93      | - 7 00 | 6 81      | - 6 87 | 6 81      | - 6 87 |
| Duluth, first.....             | 6 87     | - 7 06 | 6 87      | - 7 06 | 6 75      | - 6 93 | 6 75      | - 7 93 |
| American, first pat.....       | 7 18     | - 7 30 | 7 18      | - 7 30 | 7 06      | - 7 18 | 7 06      | - 7 18 |
| "    second pat.....           | 6 93     | - 7 06 | 6 93      | - 7 06 | 6 81      | - 7 00 | 6 81      | - 7 00 |
| "    first bakers'.....        | 6 08     | - 6 14 | 6 08      | - 6 14 | 5 96      | - 6 02 | 5 96      | - 6 02 |
| "    second ".....             | 5 84     | - 5 90 | 5 84      | - 5 90 | 5 72      | - 5 78 | 5 72      | - 5 78 |
| Manitoba, pat.....             | 6 93     | - 7 06 | 6 93      | - 7 06 | 6 81      | - 6 93 | 6 81      | - 6 93 |
| "    straights.....            | 6 69     | - 6 81 | 6 69      | - 6 81 | 6 57      | - 6 69 | 6 57      | - 6 69 |
| "    first bakers'.....        | 6 08     | - 6 14 | 6 08      | - 6 14 | 5 96      | - 6 02 | 5 96      | - 6 02 |
| "    second ".....             | 5 78     | - 5 90 | 5 78      | - 5 90 | 5 65      | - 5 78 | 5 65      | - 5 78 |
| "    lowest milling grade..... | 5 29     | - 5 41 | 5 29      | - 5 41 | -         | -      | -         | -      |
| Kansas, best.....              | 6 57     | - 6 81 | 6 57      | - 6 81 | 6 45      | - 6 69 | 6 45      | - 6 69 |
| "    first.....                | 6 33     | - 6 57 | 6 33      | - 6 57 | -         | -      | -         | -      |
| "    second.....               | 6 08     | - 6 33 | 6 08      | - 6 33 | 5 96      | - 6 20 | 5 96      | - 6 20 |
| Californian.....               | 7 54     | - 7 79 | 7 54      | - 7 79 | 7 54      | - 7 79 | 7 54      | - 7 79 |
| Hungarian, best.....           | 9 25     | - 9 49 | 9 25      | - 9 49 | 9 00      | - 9 25 | 9 00      | - 9 25 |
| "    fine.....                 | 8 76     | - 9 00 | 8 76      | - 9 00 | -         | -      | -         | -      |
| Australian.....                | 6 75     | - 6 81 | 6 75      | - 6 81 | 6 75      | - 6 81 | 6 75      | - 6 81 |
| French.....                    | 7 54     | - 7 79 | 7 54      | - 7 79 | 7 54      | - 7 79 | 7 54      | - 7 79 |
| Belgian.....                   | 7 54     | - 7 79 | 7 54      | - 7 79 | 7 54      | - 7 79 | 7 91      | - 8 03 |
| Galatz.....                    | 8 27     | - 8 76 | 8 27      | - 8 76 | 8 27      | - 8 76 | 8 27      | - 8 76 |

## CHEESE (per cut, 100 lb.)

| Description and Market | August 6 |         | August 13 |         | August 20 |         | August 27 |         |
|------------------------|----------|---------|-----------|---------|-----------|---------|-----------|---------|
|                        | \$ c.    | \$ c.   | \$ c.     | \$ c.   | \$ c.     | \$ c.   | \$ c.     | \$ c.   |
| Canadian—              |          |         |           |         |           |         |           |         |
| Bristol.....           | 14 12    | - 13 69 | 14 12     | - 13 69 | 14 23     | - 13 69 | 14 23     | - 13 69 |
| Liverpool.....         | 14 12    | - 13 69 | 14 23     | - 13 69 | 14 23     | - 13 69 | 14 23     | - 13 69 |
| London.....            | 14 34    | - 14 12 | 14 34     | - 14 12 | 14 34     | - 14 12 | 14 34     | - 14 12 |
| Glasgow.....           | 14 12    | - 13 90 | 14 12     | - 13 90 | 14 12     | - 13 69 | 14 12     | - 13 69 |
| New-Zealand—           |          |         |           |         |           |         |           |         |
| Bristol.....           | 14 56    | - 14 12 | 14 56     | - 14 12 | 14 56     | - 14 34 | 14 56     | - 14 34 |
| London.....            | 14 34    | - 14 12 | 14 56     | - 14 39 | 14 56     | - 14 34 | 14 78     | - 14 56 |
| Glasgow.....           | 14 56    | - 14 12 | 14 56     | - 14 12 | 14 56     | - 14 12 | 14 56     | - 14 12 |

NOTE. The prices of grain are from The "Mark Lane Express". The prices of meat and dairy produce are from The British official returns. Rate of conversions from English currency: £1=\$4.86.

## FRESH MEATS (per cwt. of 100 lb.)

| Description and market  | August 6 | August 13 | August 20 | August 27 |
|-------------------------|----------|-----------|-----------|-----------|
|                         | \$ c.    | \$ c.     | \$ c.     | \$ c.     |
| Argentine, frozen—      |          |           |           |           |
| Birmingham... hind qrs. | 8 62     | 8 62      | 8 37      | 8 11      |
| Birmingham... fore qrs. | 6 59     | 6 59      | 6 34      | 6 08      |
| Leeds... hind qrs.      | 8 37     | 8 62      | 8 37      | 8 37      |
| Leeds... fore qrs.      | 6 59     | 6 59      | 6 03      | 6 08      |
| Liverpool... hind qrs.  | 8 11     | 8 11      | 8 11      | 8 11      |
| Liverpool... fore qrs.  | 6 59     | 6 59      | 6 08      | 6 08      |
| London... hind qrs.     | 8 37     | 8 11      | 8 11      | 8 11      |
| London... fore qrs.     | 6 34     | 5 83      | 5 83      | 5 83      |
| Manchester... hind qrs. | 8 11     | 8 11      | 8 11      | 8 11      |
| Manchester... fore qrs. | 6 59     | 6 59      | 6 08      | 6 08      |
| Dundee... hind qrs.     | 8 62     | 8 11      | 8 11      | 8 11      |
| Dundee... fore qrs.     | 6 59     | 6 08      | 6 59      | 6 59      |
| Edinburgh... hind qrs.  | 8 35     | 8 35      | 8 35      | 8 11      |
| Edinburgh... fore qrs.  | 6 59     | 6 59      | 6 33      | 6 33      |
| Glasgow... hind qrs.    | 8 35     | 8 35      | 8 35      | 8 35      |
| Glasgow... fore qrs.    | 6 59     | 6 59      | 6 59      | 6 59      |
| Argentine, chilled—     |          |           |           |           |
| Birmingham... hind qrs. | 10 65    | 10 65     | 10 65     | 10 65     |
| Birmingham... fore qrs. | 6 59     | 6 59      | 6 59      | 6 59      |
| Leeds... hind qrs.      | 11 15    | 10 89     | 10 14     | 10 14     |
| Leeds... fore qrs.      | 6 59     | 6 59      | 6 08      | 6 08      |
| Liverpool... hind qrs.  | 10 14    | 10 14     | 10 14     | 10 14     |
| Liverpool... fore qrs.  | 6 59     | 6 59      | 6 08      | 6 08      |
| London... hind qrs.     | 10 39    | 10 65     | 11 16     | 10 14     |
| London... fore qrs.     | 6 34     | 6 59      | 6 59      | 6 34      |
| Manchester... hind qrs. | 10 65    | 10 14     | 10 14     | 10 14     |
| Manchester... fore qrs. | 6 59     | 6 59      | 6 59      | 6 08      |
| Dundee... hind qrs.     | 10 89    | 10 89     | 10 65     | 10 65     |
| Dundee... fore qrs.     | 6 85     | 6 85      | 6 59      | 6 59      |
| Edinburgh... hind qrs.  | 10 14    | 10 41     | 10 65     | 10 41     |
| Edinburgh... fore qrs.  | 6 08     | 6 85      | 6 33      | 6 33      |
| Glasgow... hind qrs.    | 10 95    | 10 95     | 10 95     | 10 95     |
| Glasgow... fore qrs.    | 6 59     | 6 59      | 6 59      | 6 59      |
| Australian, frozen—     |          |           |           |           |
| Birmingham... hind qrs. | 8 37     | 8 37      | 8 11      | 7 86      |
| Birmingham... fore qrs. | 6 59     | 6 59      | 6 59      | 6 59      |
| Leeds... hind qrs.      | 7 86     | 8 11      | 7 86      | 7 60      |
| Leeds... fore qrs.      | 6 84     | 6 59      | 6 08      | 6 34      |
| Liverpool... hind qrs.  | 7 60     | 7 60      | 7 04      | 7 04      |
| Liverpool... fore qrs.  | 6 59     | 6 59      | 6 59      | 6 08      |
| London... hind qrs.     | 8 37     | 8 11      | 8 11      | 8 11      |
| London... fore qrs.     | 6 34     | 5 83      | 5 83      | 5 83      |
| Manchester... hind qrs. | 7 60     | 7 60      | 7 04      | 7 04      |
| Manchester... fore qrs. | 6 59     | 6 59      | 6 59      | 6 08      |
| Glasgow... hind qrs.    | 8 11     | 8 11      | 8 11      | 8 11      |
| Glasgow... fore qrs.    | 6 59     | 6 59      | 6 59      | 6 59      |

## GREEN HAMS (per cwt. of 100 lb.)

|                      |             |             |             |             |
|----------------------|-------------|-------------|-------------|-------------|
| Canadian long cut.—  |             |             |             |             |
| Bristol              | 20 88—20 00 | 20 88—20 00 | 20 88—20 44 | 20 66—20 00 |
| Liverpool            | 20 44—19 78 | 20 44—19 78 | 20 44—19 78 | 20 44—19 35 |
| London               | 20 88—      | 20 88—20 44 | 20 66—20 22 | 20 44—      |
| American long cut.—  |             |             |             |             |
| Bristol              | 19 13—18 69 | 19 13—18 47 | 18 24—17 38 | 18 25—17 38 |
| Liverpool            | 18 58—18 03 | 18 37—17 38 | 18 14—17 38 | 18 14—17 17 |
| London               | 19 56—18 69 | 20 22—19 35 | 20 60—18 47 | 20 00—18 47 |
| Glasgow              | 20 66—      | —           | 17 38—      | 19 13—      |
| American short cut.— |             |             |             |             |
| Bristol              | 18 47—17 81 | 18 25—17 60 | 17 81—16 95 | 17 38—16 51 |
| Liverpool            | 18 37—17 49 | 18 14—17 06 | 17 71—16 62 | 17 49—16 40 |
| London               | —           | 18 47—17 81 | 18 24—17 60 | 17 17—16 29 |
| Glasgow              | 20 00—      | —           | 16 95—      | 18 47—      |

## GREEN BACON (per cwt. of 100 lb.)

| Description and Market    | August 6 |         | August 13 |         | August 20 |         | August 27 |         |
|---------------------------|----------|---------|-----------|---------|-----------|---------|-----------|---------|
|                           | \$ c.    | \$ c.   | \$ c.     | \$ c.   | \$ c.     | \$ c.   | \$ c.     | \$ c.   |
| Canadian sides—           |          |         |           |         |           |         |           |         |
| Bristol.....              | 18 24    | - 17 38 | 18 24     | - 17 38 | 17 38     | - 16 73 | 16 95     | - 16 29 |
| Liverpool.....            | 18 02    | - 17 17 | 17 60     | - 16 73 | 16 73     | - 15 86 | 16 51     | - 15 64 |
| London.....               | 18 47    | - 17 81 | 18 24     | - 17 81 | 17 60     | - 17 38 | 16 95     | - 16 51 |
| Glasgow.....              | -        | -       | -         | -       | -         | -       | 17 00     | -       |
| Canadian Cumberland cuts— |          |         |           |         |           |         |           |         |
| Liverpool.....            | 17 81    | - 17 17 | 17 38     | - 16 73 | 17 38     | - 16 73 | 17 38     | - 16 29 |
| Glasgow.....              | -        | -       | -         | -       | -         | -       | -         | -       |
| Danish sides—             |          |         |           |         |           |         |           |         |
| Bristol.....              | 19 56    | - 18 47 | 19 56     | - 18 47 | 18 60     | - 17 60 | 18 03     | - 17 17 |
| Liverpool.....            | 18 69    | - 18 03 | 18 03     | - 17 17 | 17 38     | - 16 73 | 17 17     | - 16 51 |
| London.....               | 19 35    | - 18 91 | 18 69     | - 18 24 | 17 81     | - 16 95 | 17 38     | - 16 73 |
| Glasgow.....              | 18 24    | -       | 18 24     | -       | 17 81     | -       | 17 38     | -       |

## THE WEATHER DURING AUGUST.

The Dominion Meteorological Office reports the mean temperature for the month was above normal on Vancouver Island and the Southern Mainland of British Columbia ; also nearly everywhere in the Western provinces and over the greater part of Ontario. It was below normal very locally in Ontario, and almost generally in Quebec and the Maritime provinces. The greatest positive departure of about 3° occurred in Southern Manitoba, while the negative departures were nowhere much over 1°.

The rainfall during the month was greatly in excess of average throughout the Prairie provinces, the positive departure reaching as high as 140 per cent in parts of southwestern Saskatchewan. In Ontario the drought of July continued on into August, but was partially broken on the 9th, when rain occurred, which in some places was quite heavy. This was again followed by a dry spell, lasting until the 22nd, when a general and heavy rain fell, and rains were then recorded at frequent intervals until the close of the month. In Quebec and the Maritime provinces there was everywhere a great deficiency of rain, the extreme negative departure being in South-western Nova Scotia, where only about one-sixth of the normal fall occurred.

The weather of the month was generally cool in British Columbia with the rainfall about the average in most districts. At Vancouver 228 hours of bright sunshine were recorded as against 237 in Victoria. In the Western provinces there was a considerable amount of cloudy weather during the month with the rainfall much above the usual quantity, but practically no frost was recorded although damage was caused in some districts by hail. At Edmonton 225 hours of bright sunshine were recorded during the month and in that district there was considerable precipitation, there being one hail storm with little or no damage and rain on seventeen days. August opened in Ontario with a continuance of the drought which had prevailed for such a long period over such a large portion of the province and this was not



broken until on in the month when rain fell heavily, effectually checking the forest fires which were destroying so much valuable property. In Quebec the weather of the month was remarkably fine and much more seasonable than that of the previous months. In Quebec 234 hours of bright sunshine were recorded. In the Maritime provinces the weather was for the most part fine, warm and pleasant. No extremely high temperatures being recorded and the precipitation light.

## PUBLICATIONS OF THE CENSUS AND STATISTICS OFFICE.

Copies of the undermentioned publications will so far as available be sent free on application to Archibald Blue, Chief Officer, Census and Statistics Office, Ottawa.

THE CANADA YEAR BOOK. Second Series, 1905-1912.

Each of these eight Volumes contains a complete summary of the principal events of the year and the acts of the Dominion Parliament, with statistics of population, agriculture, forestry, minerals, manufactures, trade and commerce, public accounts, banking, post office, insurance, railways, canals, marine, fisheries, etc.

LONGEVITY AND SANITATION. Bulletin viii. The substance of addresses delivered by Archibald Blue before the McMaster Convocation and the American Public Health Association.

REPORT ON THE CENSUS OF POPULATION AND AGRICULTURE OF THE NORTHWEST PROVINCES. Manitoba, Saskatchewan and Alberta, 1906.

THE BEET SUGAR INDUSTRY. Bulletin ix. The result of an investigation of Sugar Beet production in Canada and the manufacture of the roots into refined sugar, with Appendix A consisting of the Hearings of the Customs Tariff Committee, 1905, and Appendix B, Beet Sugar Production in Posen, Germany. 75 pp., 3 illustrations.

OCCUPATIONS OF THE PEOPLE. Bulletin xi. The figures in this Bulletin are compiled from data of the Census of 1901.

BULLETINS OF THE FIFTH CENSUS OF CANADA, 1911. i. Manufactures for the year 1910. ii. Dairying Industries for the year 1910. iv. Agriculture of Nova Scotia. v. Agriculture of New Brunswick. vi. Agriculture of Quebec. vii. Agriculture of Ontario. viii. Agriculture of Manitoba. ix. Agriculture of Saskatchewan. xii. Religions of Canada. xiii. Origins of the People. xiv. Birthplace of the People. xv. Educational Status of the People. xvi. Mineral Production.

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# CENSUS AND STATISTICS MONTHLY

Vol. 6

OTTAWA, OCTOBER 1913.

No. 63

PUBLISHED BY AUTHORITY OF HONOURABLE GEORGE E. FOSTER, MINISTER OF TRADE AND COMMERCE. CORRESPONDENCE RELATING TO THE CENSUS AND STATISTICS MONTHLY SHOULD BE ADDRESSED TO ARCHIBALD BLUE, CHIEF OFFICER OF THE CENSUS AND STATISTICS OFFICE, DEPARTMENT OF TRADE AND COMMERCE, OTTAWA, CANADA.

## FIELD CROPS IN CANADA.

Report for the month ended September 30, 1913.

From the reports of correspondents made at the end of the last month provisional estimates of the yield of the principal grain crops and also the average quality of these crops at harvest time are made.

During the month ended September 30 ideal weather for the ingathering of the grain crops prevailed over all Canada. In the greater part of Ontario and in the Western provinces harvesting operations were well completed by the middle of September and only in parts of Quebec and the Maritime provinces, where the spring opens later, was harvesting carried on during the latter end of the month.

The estimates given a month ago are slightly greater than those now issued, which may be presumed to be based more or less on results of threshing. The final estimates based altogether on threshing results and calculated on corrected areas will be issued as usual on December 15.

For spring wheat the estimate for the end of September is 188,468,000 bushels as compared with 182,840,000 bushels last year. For fall wheat the estimate is 19,107,000 bushels as against 16,396,000 bushels last year and 18,481,000 bushels in the preliminary estimate this year. The total estimated wheat production this year is therefore 207,575,000 bushels as compared with 199,236,000 bushels last year, an increase of 8,339,000 bushels or 4 1/4 per cent. The yield per acre for all wheat is 21.15 bushels as compared with 20.42 bushels last year. Oats show a total yield of 391,418,000 bushels and an average yield of 40.57 bushels as compared with 361,733,000 bushels and an average yield of 39.25 bushels. Barley gives an estimated total yield of 44,348,000 bushels and an average of 31.00 bushels per acre as compared with 44,014,000 bushels and an average of 31.10 bushels in 1912. For this year the total production of rye is 2,559,000 bushels, of peas 3,974,000 bushels, of buckwheat 7,600,000 bushels, of flax 14,912,000 bushels, of mixed grains 17,178,000 bushels, of corn for husking 14,086,000 bushels, of beans 989,500 bushels as compared with a total yield last year for rye of 2,594,000 bushels, for peas of 3,773,500 bushels, for buckwheat of 10,193,000 bushels, for flax of 21,681,500 bushels, for mixed grains of 17,952,000 bushels for corn for husking of 16,569,800 bushels, for beans of 1,040,800 bushels.

For the three Northwest provinces the total yield of spring wheat is estimated at 183,852,000 bushels, of fall wheat at 5,264,000 bushels, of oats at 239,595,000 bushels, of barley at 27,904,000 bushels of rye at 686,000 bushels, of flax at 14,808,000 bushels.

The average quality of these crops measured upon a per cent basis of 100 as representing grain well headed, well filled, well saved and unaffected to any appreciable extent by frost, rust, smut, etc., is as follows: spring wheat 89.17, oats 90.52, barley 88.25, rye 85.41, peas 81.71, beans 78.48, buckwheat 73.40, mixed grains 90.59, flax 82.68, corn or husking 75.16. Of these wheat, oats, barley and rye are above the average quality for either of the last two years.

The potato and root crops continue to show good figures, as representing average condition during growth. The condition of potatoes is 83.59, turnips 82.62, mangolds 83.64, sugar beets 82.63.

Census and Statistics Office,  
Ottawa, Oct. 15 1914.

ARCHIBALD BLUE,  
Chief Officer.

**1. Provisional statement of the yield of Cereal Crops, September 30, 1913, compared with final estimate of 1912.**

| Field crops           | Area      |           | Yield per acre |       | Total yield |             |
|-----------------------|-----------|-----------|----------------|-------|-------------|-------------|
|                       | 1913      | 1912      | 1913           | 1912  | 1913        | 1912        |
|                       | acres     | acres     | bush.          | bush. | bush.       | bush.       |
| Canada—               |           |           |                |       |             |             |
| Fall wheat            | 825,800   | 781,000   | 23.14          | 20.99 | 19,107,600  | 16,396,000  |
| Spring wheat          | 8,990,500 | 8,977,400 | 20.96          | 20.37 | 188,468,000 | 182,840,000 |
| All wheat             | 9,816,300 | 9,758,400 | 21.15          | 20.42 | 207,575,000 | 199,236,000 |
| Oats                  | 9,646,400 | 9,216,900 | 40.57          | 39.25 | 391,418,000 | 361,733,000 |
| Barley                | 1,430,800 | 1,415,200 | 31.00          | 31.10 | 44,348,000  | 44,014,000  |
| Rye                   | 127,200   | 136,110   | 20.12          | 19.06 | 2,559,000   | 2,594,000   |
| Peas                  | 212,980   | 250,820   | 18.65          | 15.04 | 3,974,100   | 3,773,500   |
| Beans                 | 52,950    | 59,800    | 18.68          | 17.40 | 989,500     | 1,040,800   |
| Buckwheat             | 352,100   | 387,000   | 21.58          | 26.34 | 7,600,000   | 10,193,000  |
| Flax                  | 1,287,300 | 1,677,800 | 11.58          | 12.92 | 14,912,000  | 21,681,500  |
| Mixed grains          | 501,600   | 522,100   | 34.24          | 34.38 | 17,178,000  | 17,952,000  |
| Corn for husking      | 272,650   | 292,850   | 51.66          | 56.58 | 14,086,000  | 16,569,800  |
| Prince Edward Island— |           |           |                |       |             |             |
| Spring wheat          | 29,500    | 30,700    | 23.17          | 18.39 | 684,000     | 565,000     |
| Oats                  | 176,200   | 177,000   | 37.57          | 40.77 | 6,620,000   | 7,216,000   |
| Barley                | 4,200     | 4,400     | 31.63          | 32.04 | 133,000     | 141,000     |
| Peas                  | 70        | 70        | 22.33          | 22.33 | 1,600       | 1,600       |
| Buckwheat             | 2,600     | 2,700     | 26.25          | 36.83 | 68,000      | 99,000      |
| Mixed grains          | 7,500     | 7,500     | 40.76          | 45.83 | 308,000     | 344,000     |
| Nova Scotia—          |           |           |                |       |             |             |
| Spring wheat          | 12,500    | 12,800    | 20.42          | 20.19 | 255,000     | 258,000     |
| Oats                  | 98,600    | 97,600    | 34.81          | 32.53 | 3,432,000   | 3,175,000   |
| Barley                | 5,500     | 5,600     | 29.22          | 27.22 | 161,000     | 152,000     |
| Rye                   | 800       | 910       | 23.33          | 16.40 | 19,000      | 15,000      |
| Peas                  | 170       | 900       | 26.60          | 26.50 | 4,500       | 4,900       |
| Beans                 | 870       | 900       | 27.00          | 26.95 | 24,000      | 24,000      |
| Buckwheat             | 7,200     | 7,500     | 25.04          | 26.27 | 180,000     | 197,000     |
| Mixed grains          | 4,100     | 4,300     | 35.31          | 34.70 | 145,000     | 149,000     |
| Corn for husking      | 150       | 150       | 46.67          | 58.50 | 7,000       | 8,800       |
| New Brunswick—        |           |           |                |       |             |             |
| Spring wheat          | 11,800    | 12,400    | 21.52          | 18.11 | 254,000     | 225,000     |
| Oats                  | 186,600   | 186,000   | 33.03          | 28.81 | 6,158,000   | 5,359,000   |
| Barley                | 2,300     | 2,500     | 28.88          | 27.42 | 89,000      | 69,000      |
| Peas                  | 500       | 560       | 22.60          | 16.14 | 11,000      | 9,000       |
| Beans                 | 280       | 300       | 16.00          | 19.25 | 4,500       | 5,800       |
| Buckwheat             | 59,900    | 60,500    | 27.88          | 24.36 | 1,670,000   | 1,474,000   |
| Mixed grains          | 1,100     | 1,300     | 32.10          | 27.36 | 35,000      | 36,000      |



**I. Provisional statement of the yield of Cereal Crops, September 30, 1913,  
compared with final estimate of 1912.**

| Field crops       | Area      |           | Yield<br>per acre |       | Total yield |             |
|-------------------|-----------|-----------|-------------------|-------|-------------|-------------|
|                   | 1913      | 1912      | 1913              | 1912  | 1913        | 1912        |
|                   | acres     | acres     | bush.             | bush. | bush.       | bush.       |
| Quebec—           |           |           |                   |       |             |             |
| Spring wheat      | 68,800    | 63,100    | 18.79             | 16.17 | 1,293,000   | 1,020,000   |
| Oats              | 1,176,600 | 1,170,400 | 29.81             | 25.86 | 35,074,000  | 30,267,000  |
| Barley            | 86,000    | 91,300    | 24.77             | 23.69 | 2,130,000   | 2,163,000   |
| Rye               | 16,700    | 19,200    | 19.44             | 15.44 | 325,000     | 296,000     |
| Peas              | 25,800    | 29,000    | 18.68             | 15.11 | 466,000     | 438,000     |
| Beans             | 8,500     | 9,400     | 19.66             | 15.59 | 167,000     | 147,000     |
| Buckwheat         | 92,200    | 114,600   | 22.68             | 26.44 | 2,091,000   | 3,030,000   |
| Oats              | 1,600     | 1,300     | 14.74             | 9.66  | 24,000      | 12,500      |
| Mixed grains      | 115,700   | 129,000   | 26.93             | 26.74 | 3,116,000   | 3,209,000   |
| Corn for husking  | 19,100    | 21,000    | 21.90             | 24.47 | 418,000     | 514,000     |
| Ontario—          |           |           |                   |       |             |             |
| Fall wheat        | 571,000   | 561,000   | 24.08             | 20.63 | 13,750,000  | 11,573,000  |
| Spring wheat      | 102,600   | 110,000   | 19.80             | 18.77 | 2,031,000   | 2,065,000   |
| All wheat         | 673,600   | 671,000   | 23.42             | 20.32 | 15,781,000  | 13,638,000  |
| Oats              | 2,664,700 | 2,637,000 | 36.98             | 34.85 | 98,541,000  | 91,899,000  |
| Barley            | 473,600   | 500,000   | 29.32             | 29.49 | 13,886,000  | 14,745,000  |
| Rye               | 86,500    | 95,000    | 17.68             | 18.38 | 1,529,000   | 1,746,000   |
| Peas              | 185,500   | 220,000   | 18.69             | 14.95 | 3,467,000   | 3,289,000   |
| Beans             | 43,000    | 49,200    | 18.46             | 17.57 | 794,000     | 864,000     |
| Buckwheat         | 190,200   | 201,700   | 18.88             | 26.74 | 3,591,000   | 5,393,000   |
| Flax              | 6,800     | 8,100     | 11.81             | 16.70 | 80,000      | 135,000     |
| Mixed grains      | 373,200   | 389,000   | 36.47             | 36.54 | 13,611,000  | 14,214,000  |
| Corn for husking  | 253,400   | 271,700   | 53.91             | 59.06 | 13,661,000  | 16,047,000  |
| Manitoba—         |           |           |                   |       |             |             |
| Fall wheat        | 3,900     | 3,100     | 22.50             | 22.22 | 84,000      | 69,900      |
| Spring wheat      | 2,600,700 | 2,650,000 | 20.34             | 22.20 | 52,898,000  | 58,830,000  |
| All wheat         | 2,604,600 | 2,653,100 | 20.34             | 22.20 | 52,982,000  | 58,899,000  |
| Oats              | 1,316,200 | 1,269,000 | 44.28             | 42.40 | 58,281,000  | 53,806,000  |
| Barley            | 468,600   | 454,600   | 32.28             | 32.92 | 15,126,000  | 14,965,000  |
| Flax              | 51,000    | 94,000    | 12.34             | 12.49 | 629,000     | 1,174,000   |
| Saskatchewan—     |           |           |                   |       |             |             |
| Fall wheat        | 72,000    | 53,000    | 21.20             | 21.56 | 1,526,000   | 1,143,000   |
| Spring wheat      | 4,962,800 | 4,838,500 | 20.71             | 19.16 | 102,780,000 | 92,706,000  |
| All wheat         | 5,034,800 | 4,891,500 | 20.71             | 19.18 | 104,306,000 | 93,849,000  |
| Oats              | 2,463,000 | 2,285,600 | 44.64             | 45.99 | 109,988,000 | 105,115,000 |
| Barley            | 205,100   | 180,300   | 32.39             | 32.87 | 6,625,000   | 5,926,000   |
| Flax              | 1,139,100 | 1,463,000 | 11.31             | 12.94 | 12,883,000  | 18,931,000  |
| Alberta—          |           |           |                   |       |             |             |
| Fall wheat        | 176,000   | 161,000   | 20.76             | 21.88 | 2,654,000   | 3,515,000   |
| Spring wheat      | 1,198,400 | 1,256,200 | 23.51             | 21.54 | 28,174,000  | 27,059,000  |
| All wheat         | 1,374,400 | 1,417,200 | 23.16             | 21.57 | 31,828,000  | 30,574,000  |
| Oats              | 1,525,700 | 1,359,300 | 46.75             | 46.30 | 71,326,000  | 62,936,000  |
| Barley            | 184,000   | 174,900   | 33.44             | 33.05 | 6,153,000   | 5,780,000   |
| Rye               | 23,200    | 21,000    | 29.57             | 25.56 | 686,000     | 537,000     |
| Flax              | 88,800    | 111,400   | 14.60             | 12.83 | 1,296,000   | 1,429,000   |
| British Columbia— |           |           |                   |       |             |             |
| Fall wheat        | 2,900     | 2,900     | 31.83             | 33.00 | 93,000      | 96,000      |
| Spring wheat      | 3,100     | 3,700     | 29.25             | 30.33 | 99,000      | 112,000     |
| All wheat         | 6,000     | 6,600     | 30.47             | 31.51 | 192,000     | 208,000     |
| Oats              | 37,900    | 35,000    | 52.72             | 56.00 | 1,998,000   | 1,960,000   |
| Barley            | 1,500     | 1,600     | 30.00             | 45.23 | 45,000      | 73,000      |
| Peas              | 940       | 1,000     | 25.00             | 39.66 | 24,000      | 31,000      |

## II. Comparative Quality of Cereal Crops, 1913, 1912 and 1911.

| Field crops      | Average quality of field crops |                     |                     | Field crops       | Average quality of field crops |                     |                     |
|------------------|--------------------------------|---------------------|---------------------|-------------------|--------------------------------|---------------------|---------------------|
|                  | Sept.<br>30<br>1913            | Sept.<br>30<br>1912 | Sept.<br>30<br>1911 |                   | Sept.<br>30<br>1913            | Sept.<br>30<br>1912 | Sept.<br>30<br>1911 |
| Canada—          | p. c.                          | p. c.               | p. c.               | Quebec—con.       | p. c.                          | p. c.               | p. c.               |
| Spring wheat     | 89 17                          | 83 70               | 79 31               | Buckwheat         | 75 81                          | 79 97               | 74 90               |
| Oats             | 90 52                          | 86 01               | 83 30               | Mixed grains      | 91 36                          | 78 55               | 85 21               |
| Barley           | 88 25                          | 84 48               | 83 07               | Flax              | 82 64                          | 76 86               | 80 05               |
| Rye              | 85 41                          | 80 82               | 82 25               |                   |                                |                     |                     |
| Peas             | 81 71                          | 66 41               | 71 35               | Ontario—          |                                |                     |                     |
| Beans            | 78 48                          | 68 81               | 81 54               | Spring wheat      | 81 55                          | 78 76               | 77 29               |
| Buckwheat        | 73 40                          | 80 87               | 73 60               | Oats              | 87 58                          | 83 92               | 75 35               |
| Mixed grains     | 90 59                          | 90 59               | 82 82               | Barley            | 84 06                          | 79 44               | 77 43               |
| Flax             | 82 68                          | 83 86               | 75 33               | Rye               | 81 54                          | 76 90               | 79 11               |
| Corn for husking | 75 16                          | 71 92               | 83 97               | Peas              | 75 09                          | 59 80               | 62 27               |
|                  |                                |                     |                     | Beans             | 74 83                          | 72 26               | 77 80               |
| P. E. Island—    |                                |                     |                     | Buckwheat         | 64 90                          | 76 03               | 72 38               |
| Spring wheat     | 81 55                          | 85 00               | 94 39               | Mixed grains      | 87 68                          | 102 39              | 79 23               |
| Oats             | 87 58                          | 101 14              | 83 09               | Flax              | 78 86                          | 86 32               | 80 61               |
| Barley           | 84 06                          | 97 06               | 83 63               | Corn for husking  | 78 96                          | 75 16               | 82 69               |
| Peas             | 75 09                          | 84 64               | 73 00               |                   |                                |                     |                     |
| Beans            | 74 83                          | 76 67               | 81 33               | Manitoba—         |                                |                     |                     |
| Buckwheat        | 64 90                          | 90 26               | 77 58               | Spring wheat      | 89 43                          | 82 72               | 83 77               |
| Mixed grains     | 87 68                          | 100 00              | 86 67               | Oats              | 89 01                          | 88 17               | 90 40               |
| Flax             | 78 86                          | 86 43               | 89 00               | Barley            | 86 14                          | 84 33               | 87 75               |
|                  |                                |                     |                     | Rye               |                                | 95 00               | 100 00              |
| Nova Scotia—     |                                |                     |                     | Mixed grains      | 85 00                          | 90 00               | 96 25               |
| Spring wheat     | 89 94                          | 83 73               | 83 89               | Flax              | 82 65                          | 83 23               | 84 65               |
| Oats             | 92 33                          | 89 35               | 80 08               |                   |                                |                     |                     |
| Barley           | 90 90                          | 88 72               | 81 92               | Saskatchewan—     |                                |                     |                     |
| Rye              | 63 33                          | 85 00               | 79 27               | Spring wheat      | 90 50                          | 83 19               | 75 42               |
| Peas             | 86 57                          | 84 81               | 82 22               | Oats              | 86 90                          | 89 19               | 84 27               |
| Beans            | 76 00                          | 77 61               | 80 47               | Barley            | 87 92                          | 89 99               | 84 55               |
| Buckwheat        | 74 67                          | 88 65               | 69 94               | Rye               | 95 00                          | 100 83              | 100 00              |
| Mixed grains     | 92 95                          | 91 27               | 80 27               | Peas              | 89 16                          | 85 00               | 79 23               |
| Flax             | 100 00                         | 93 75               | 87 60               | Beans             | 100 00                         | —                   | —                   |
|                  |                                |                     |                     | Flax              | 81 26                          | 85 44               | 72 05               |
| New Brunswick—   |                                |                     |                     | Alberta—          |                                |                     |                     |
| Spring wheat     | 93 39                          | 71 49               | 87 26               | Spring wheat      | 90 79                          | 84 34               | 68 19               |
| Oats             | 93 77                          | 87 77               | 92 30               | Oats              | 92 96                          | 89 99               | 84 01               |
| Barley           | 92 61                          | 79 69               | 85 86               | Barley            | 90 49                          | 90 81               | 84 06               |
| Rye              | 100 00                         | 100 00              | 82 50               | Rye               | 94 77                          | 92 97               | 88 33               |
| Peas             | 90 75                          | 78 13               | 78 89               | Peas              | 63 80                          | 78 75               | 76 55               |
| Beans            | 71 48                          | 57 76               | 85 63               | Mixed grains      | 88 75                          | 89 71               | 86 86               |
| Buckwheat        | 86 67                          | 84 50               | 74 87               | Flax              | 85 06                          | 83 79               | 56 20               |
| Mixed grains     | 91 15                          | 84 46               | 86 73               |                   |                                |                     |                     |
|                  |                                |                     |                     | British Columbia— |                                |                     |                     |
| Quebec—          |                                |                     |                     | Spring wheat      | 98 88                          | 88 66               | 83 21               |
| Spring wheat     | 90 82                          | 84 16               | 84 91               | Oats              | 96 20                          | 97 39               | 88 25               |
| Oats             | 93 88                          | 77 97               | 86 99               | Barley            | 88 33                          | 96 00               | 87 85               |
| Barley           | 91 12                          | 80 32               | 85 29               | Rye               | —                              | 100 00              | 100 00              |
| Rye              | 88 71                          | 75 41               | 81 32               | Peas              | 100 00                         | 97 00               | 71 00               |
| Peas             | 86 12                          | 64 64               | 78 46               | Mixed grains      | 90 00                          | 99 00               | 91 66               |
| Beans            | 84 60                          | 64 71               | 84 06               |                   |                                |                     |                     |

### III. Comparative Condition of Fodder and Root Crops for the months of September, August and July 1913

| Field crops             | Per cent condition of the crops |                    |                    | Field crops              | Per cent condition of the crops |                    |                    |
|-------------------------|---------------------------------|--------------------|--------------------|--------------------------|---------------------------------|--------------------|--------------------|
|                         | Sept.<br>30<br>1913             | Aug.<br>31<br>1913 | July<br>31<br>1913 |                          | Sept.<br>30<br>1913             | Aug.<br>31<br>1913 | July<br>31<br>1913 |
| <b>Canada—</b>          | p. c.                           | p. c.              | p. c.              | <b>Ontario—</b>          | p. c.                           | p. c.              | p. c.              |
| Potatoes .....          | 83 59                           | 85 95              | 89 23              | Potatoes .....           | 71 94                           | 74 87              | 81 92              |
| Turnips .....           | 82 62                           | 84 16              | 83 95              | Turnips .....            | 75 33                           | 76 39              | 75 68              |
| Mangolds, carrots, etc. | 83 64                           | 83 54              | 84 31              | Mangolds, carrots, etc.  | 78 13                           | 78 67              | 79 66              |
| Sugar beets .....       | 82 63                           | 81 41              | 84 31              | Sugar beets .....        | 78 02                           | 76 93              | 80 44              |
| Corn for fodder .....   | 81 66                           | 80 39              | 86 60              | Corn for fodder .....    | 80 62                           | 82 60              | 87 91              |
| Alfalfa .....           | 78 60                           | 76 27              | 76 35              | Alfalfa .....            | 74 24                           | 70 86              | 69 06              |
| <b>P. E. Island—</b>    |                                 |                    |                    | <b>Manitoba—</b>         |                                 |                    |                    |
| Potatoes .....          | 88 16                           | 86 97              | 87 71              | Potatoes .....           | 88 76                           | 91 44              | 92 17              |
| Turnips .....           | 85 52                           | 87 42              | 89 67              | Turnips .....            | 87 68                           | 88 24              | 88 43              |
| Mangolds, carrots, etc. | 85 71                           | 87 90              | 90 58              | Mangolds, carrots, etc.  | 88 78                           | 92 83              | 88 07              |
| Sugar beets .....       | 88 33                           | 86 00              | 82 00              | Sugar beets .....        | 89 00                           | 95 71              | 87 50              |
| Corn for fodder .....   | 74 38                           | 82 81              | 87 94              | Corn for fodder .....    | 94 52                           | 93 82              | 92 03              |
| Alfalfa .....           | 100 00                          | 80 00              | 85 00              | Alfalfa .....            | 88 86                           | 86 58              | 84 38              |
| <b>Nova Scotia—</b>     |                                 |                    |                    | <b>Saskatchewan—</b>     |                                 |                    |                    |
| Potatoes .....          | 83 10                           | 83 63              | 92 05              | Potatoes .....           | 87 30                           | 90 29              | 91 06              |
| Turnips .....           | 83 20                           | 85 14              | 90 29              | Turnips .....            | 86 30                           | 93 78              | 89 80              |
| Mangolds, carrots, etc. | 81 26                           | 82 17              | 88 44              | Mangolds, carrots, etc.  | 92 88                           | 94 95              | 89 25              |
| Sugar beets .....       | 86 52                           | 80 77              | 95 38              | Sugar beets .....        | 91 61                           | 97 50              | 86 00              |
| Corn for fodder .....   | 82 03                           | 82 86              | 84 60              | Corn for fodder .....    | 80 31                           | 89 09              | 84 50              |
| Alfalfa .....           | 87 85                           | 94 00              | 84 00              | Alfalfa .....            | 88 22                           | 86 96              | 86 45              |
| <b>New Brunswick—</b>   |                                 |                    |                    | <b>Alberta—</b>          |                                 |                    |                    |
| Potatoes .....          | 97 56                           | 101 90             | 97 73              | Potatoes .....           | 89 76                           | 92 89              | 90 04              |
| Turnips .....           | 88 48                           | 92 68              | 91 68              | Turnips .....            | 91 87                           | 92 33              | 92 10              |
| Mangolds, carrots, etc. | 86 51                           | 85 3               | 89 13              | Mangolds, carrots, etc.  | 92 27                           | 92 79              | 91 45              |
| Sugar beets .....       | 92 25                           | 90 00              | 86 90              | Sugar beets .....        | 91 50                           | 89 09              | 92 31              |
| Corn for fodder .....   | 85 71                           | 77 81              | 72 50              | Corn for fodder .....    | 74 16                           | 96 67              | 72 50              |
| Alfalfa .....           | 81 66                           | 90 00              | 71 25              | Alfalfa .....            | 81 78                           | 89 80              | 85 34              |
| <b>Quebec—</b>          |                                 |                    |                    | <b>British Columbia—</b> |                                 |                    |                    |
| Potatoes .....          | 85 92                           | 87 68              | 92 27              | Potatoes .....           | 85 22                           | 87 41              | 90 47              |
| Turnips .....           | 83 28                           | 83 32              | 82 02              | Turnips .....            | 78 63                           | 85 00              | 86 20              |
| Mangolds, carrots, etc. | 82 95                           | 81 61              | 82 04              | Mangolds, carrots, etc.  | 85 41                           | 93 64              | 94 90              |
| Sugar beets .....       | 79 73                           | 82 81              | 84 79              | Sugar beets .....        | 83 00                           | 91 00              | 96 75              |
| Corn for fodder .....   | 78 18                           | 77 27              | 85 30              | Corn for fodder .....    | 89 16                           | 94 17              | 75 83              |
| Alfalfa .....           | 71 52                           | 71 04              | 76 04              | Alfalfa .....            | 89 00                           | 88 83              | 93 25              |

### Total area, yield per acre and total yield of the three Northwest provinces (Manitoba, Saskatchewan and Alberta.)

| Crop               | Area      | Yield per acre |             | Total yield |
|--------------------|-----------|----------------|-------------|-------------|
|                    |           | acres          | bush.       |             |
| Fall wheat .....   | 251,900   | 20 90          | 5,264,000   |             |
| Spring wheat ..... | 8,761,900 | 20 98          | 183,852,000 |             |
| All wheat .....    | 9,013,800 | 20 98          | 189,116,000 |             |
| Oats .....         | 5,305,800 | 45 16          | 239,505,000 |             |
| Barley .....       | 857,700   | 32 53          | 27,904,000  |             |
| Rye .....          | 23,200    | 29 57          | 686,000     |             |
| Flax .....         | 1,278,900 | 11 58          | 14,808,000  |             |

## NOTES OF REPORTS FROM THE PROVINCES.

**Prince Edward Island.** The crops generally have been saved in good condition, the only exception being corn which has been more or less of a failure. The hay crop turned out better than was expected. Wheat is above the average although injured somewhat by smut and joint worm. Oats on the whole are well filled and free from rust and blight. Local frosts on the 5th and 6th injured corn and potatoes. The latter however will be a fairly good crop.

**Nova Scotia.** Frost early in the month injured nearly all the crops, especially those late sown. Dry weather also affected root crops to such an extent that turnips, mangolds, etc. are almost a complete failure. Apples are better than was expected, and will bring good prices. The grain was not all gathered at the end of September and very little threshing has been done, but there is every prospect of a full crop. The potato crop is much lighter than usual but the quality is good.

**New Brunswick.** All crops are fairly good though rain at harvest time caused farmers to hurry them in before sufficiently dry. Threshing is not yet complete but what is done turned out very well. Potatoes are extra good both in quality and quantity. Beans, having been affected by rust and frost, will not be a full crop. Frost also damaged buckwheat to a great extent.

**Quebec.** In the Lake St. John District frosts occurred two or three times a week since the beginning of September. Correspondents say that not more than ten per cent of the crops in the district were housed at the beginning of the month. Frequent cold rains were experienced. In the Ottawa Valley, as a general rule, the quality of all farm products is excellent but the quantity on account of the drought and heavy frosts in May and June was the lowest experienced for many years in the district. In the other counties on the north shore of the St. Lawrence the grain crops were abundant and harvested in good condition. In the Eastern Townships and Montreal Districts all early crops were harvested in good order. In some instances the late grains were caught by a severe frost on September 6th. Potatoes are practically all dug and are a fair crop with very little rot showing. In general late roots will not give as heavy a crop as they promised earlier in the season. From counties along the south shore of the St. Lawrence come excellent reports regarding potatoes and field roots and judging from the threshing already done the yield promises to be greater than that of last year.

**Ontario.** The general trend of the reports from all parts of the province is that it was the driest summer for a number of years and that more early frosts than is usual were experienced. In Eastern Ontario fall wheat and hay not having been affected to the same extent as other crops by the frost and dry weather are giving the best yield but in no instance are they up to the average. Potatoes though retarded by drought and early frosts are of good quality and will give a fair yield. In Western Ontario the oats and barley are well filled. In most parts of the province threshing is nearly all done and the farmers are agreeably surprised at the results. Rain



came too late to help the root crops materially but improved the pastures very much, and this means money to the farmers from the improved condition of cattle and the continued good flow of milk. Scarcity of farm help is reported from nearly all parts of the province. Complaints come from sections of northern Ontario regarding the damage done to fences and buildings by forest fires, which in many instances were the result of carelessness.

**Manitoba.** Crops from lands ploughed deeply in the fall are good while those from the shallow spring-ploughed areas are universally poor. Threshing is nearly completed and as in the other western provinces the quality is proving extra fine. Marquis wheat is again reported as yielding very heavily. There is said to be a surplus of green feed and straw without a sufficient number of live stock to use it to advantage. Corn for fodder is becoming a more popular crop with the farmers while the areas under alfalfa do not seem to be increasing.

**Saskatchewan.** Ideal weather has prevailed for harvesting and threshing is well on the way. Many reports state that though the yield is proving rather disappointing the quality is of high grade, much of the wheat grading No. 1 Northern. The lower yield is largely due to the damage done by hail and gophers. In places high winds shelled much wheat just previous to cutting. Stock of all kinds are in good condition. On the whole the season has been a fairly satisfactory one.

**Alberta.** The grain is all stooked and threshing has commenced. The quality of the grain is extra good, one corresponding reporting that his wheat averaged 68 pounds to the bushel, oats 40 to 46 pounds and barley 52 to 58 pounds. Poor cultivation and late seeding is responsible for the smaller yield in some quarters. Hail, high winds and gophers also did a certain amount of damage. Garden crops are reported to be excellent. A new and early variety of potatoes is said to be needed. As in former years the number of cars is insufficient. Farm help is scarce.

**British Columbia.** Fine, dry weather hastened the threshing of grain and it is now finished. Root crops were affected to some extent by the lack of rain, except where irrigation was practised. On the whole reports are very satisfactory.

## DEPARTMENT OF AGRICULTURE

**Experimental Farms and Stations.** At the Central Farm, Ottawa, the temperatures recorded during September, average slightly higher than for the corresponding period a year ago, the highest being 88, the lowest 30, and the mean 56.83, compared with extremes of 80, and 28.5 and a mean temperature of 58.01 for last year. The weather has been exceptionally fine—with rainfall less than normal, amounting to 2.69 inches, divided up between eight days, as against 4.01 inches in September, 1912, when precipitation was recorded on twenty different days. The bright sunshine of the month averages 7.41 hours a day, more than twice as much as in 1912, when the average for September was only 3.4 hours daily.

The cutting of the Indian corn on the Central Farm was begun on the 22nd and it had practically all been got in the silo by the 30th, the yield being considerably below the average. Roots have made good growth during the latter part of the season and should give an average return. The potato crop has also improved and is likely to be much better than had been feared.

A good deal of attention has been given from time to time of late to the improvement of the roads at the Central Farm, and, as a result of this work, especially during the past five or six weeks, they are now in much better condition than ever before.

J. A. Clark, Superintendent of the Station at Charlottetown, P.E.I., reports: "The first week of September was fine and quite warm, and this was followed by a fortnight of wet weather, when conditions again became favourable for harvesting operations, and most of the crop has now been saved in good condition, including late grain, which ripened up well and has been practically all cut during the month. The cereal plots have turned out quite a little above the average. Roots and corn are growing splendidly. Considerable fall ploughing has been done. The first frost to damage flowers and vegetables occurred on the 30th. Good progress has been made at tile draining. Exhibits have been shown by this Station at two county fairs and at the Provincial Exhibition."

W. W. Baird, Superintendent of the Farm at Nappan, N.S., reports: September, with the exception of a few days at the beginning, has been very cool, and it has been a fairly good month for harvesting. Though rain has been recorded on eight different days, the precipitation totals only 2.7 inches. At this Farm the grain has been all harvested and stored; but, throughout the surrounding districts it is much later and in some cases it is doubtful if it will have time to ripen. Corn has made fair growth and is now ready to cut, while roots continue to make satisfactory progress. The tree fruits are now being picked, apples not being more than half a crop, but plums giving an average return, the demand for both being quite keen. All live stock are in good condition and doing well. The work engaging attention at this Farm, other than harvesting, has included threshing plot grain, repairing drains, stumping and clearing new land, and ploughing. There have been two excursions to the Farm during the month, those holding them being the I.O.G.T. of Cumberland, on the 1st, and the Collingwood Corner Sunlay School on the 3rd, as well as many other visitors."

G. A. Langelier, Superintendent of the Station at Cap Rouge, Que., reports: "September has been a little warmer than the corresponding month of 1912, and the precipitation is also heavier. The greatest difference is in the hours of sunshine, there being 209.3 hours of bright sunshine during the month this year compared with only 91.2 hours a year ago. The first frost occurred during the night of the 14th, when corn was frozen; it had to be cut pretty soon afterwards, and the yield in tons will show a decrease of probably 25 per cent, while the ensilage will contain approximately as much as if the corn had been cut before it froze. At the station, the bulk of the fall ploughing has been done during the month, and all the grain was threshed on the field, as there was not barn room to

accommodate the straw. Trenches are just now being dug with the ditching machine in a 35-acre field, which is being drained, and good results are being got, though two inches per hundred feet of fall is all that can be allowed in most places. Farmers in this district are busy digging potatoes, and have all their grain in. The season, on the average, has been a very good one."

W. C. McKillican, Superintendent of the Farm at Brandon, Man., reports: "September has been an ideal month for the farmers of Manitoba. Fine weather has prevailed almost continuously, and, as a result, the work of harvesting, threshing and shipping the grain crop has progressed rapidly. In this district harvesting was finished early in the month, and, by its close, a large part of the threshing had been completed. The favourable weather has meant high grade grain, nearly all the wheat marketed being No. 1 or No. 2 Northern. On the Experimental Farm, threshing has been completed, while a large crop of fodder corn has been cut and stored in the silo. At the end of the month, roots are being harvested and fall ploughing is in full swing."

T. J. Harrison, Superintendent of the Farm at Indian Head, Sask., reports: "The weather during September has been, on the whole, favourable for farm operations. Cutting was completed about the 9th, and, as the grain was dry, threshing began at once. With the exception of one or two light showers, which caused the wheat to go off colour a trifle, threshing progressed under ideal conditions. At the present date (Sept. 30th), about 75 per cent of the grain in this immediate district has been threshed and balance should be completed in ten days. Reports of large yields are coming in from all points and the profitable results from good cultivation are everywhere in evidence. On the Experimental Farm, the work during the month has consisted largely in cutting and threshing grain and cutting fodder corn and filling the silo. The grain all gave good yields: One field of Marquis wheat on summer fallow yielding 47 bushels 20 lb. per acre, and Red Fife on stubble, 28 bushels per acre. Fodder corn has also given a good crop, yielding about 18 tons of green fodder per acre, which went into the silo in good condition, having been cut before the first frost, which came on the 20th. Owing to the heavy rainfall in August and the warm weather of September, weeds have made considerable growth on the summer fallows, and, if they are killed this fall, it should result in cleaner crops next summer."

Wm. A. Munro, Superintendent of the Station at Rosthern, Sask., reports: "September has been unusually free from severe frosts, with the result that vegetables have been able to develop to a higher state of maturity than for many years. This is applicable particularly to potatoes, tomatoes, squash and corn. At the Experimental Station little threshing has yet been done outside of one 2 acre field of barley, which has yielded 107 bushels. Considerable progress has been accomplished in the building of a granary and workshop. The potato crop this year is being stored in boxes instead of making bins for them. Whether this is advantageous or not, should be known at the end of the season."

R. E. Everest, superintendent of the Station at Scott, Sask., reports: "September has been one of the most acceptable months of a good season."

Early in this period harvesting was completed and then threshing commenced, and now, at its close, the bulk of the crop is safely separated from the straw. The threshing of varietal plots at the station here is over, the threshing of cultural experiment plots nearly so, and, in the rotation fields, peas, bean and oats have been finished. The threshed grain is well matured, of good grade, and a fair yield in the case of peas, wheat and oats; but barley is somewhat disappointing. In wheats, Marquis is the heaviest yielder; while in oats Victory is the variety giving the biggest return. The potato crop (recently gathered) is quite fair, the tubers being of good size and clean and yielding up to 356 bush 24 lb. per acre. Further work has been done on an experimental building in course of construction, and in a short time it is expected that this structure will be completed and in use. Conditions in this part of Saskatchewan have considerably improved with the present harvest, and the general tone of the farming community is for caution and thoroughness in future operations."

G. H. Hutton, superintendent of the station at Lacombe, Alta., reports: "Light precipitation on four different dates, amounting to only .59 of an inch and interfering very little with harvesting operations, is the remarkable record of September. This ideal weather has rendered possible the rapid completion of the work of harvesting and has put the threshing farther advanced at this date than in any year since 1906. Samples of grain will be up to standard. The growth of straw is not up to the average but the grain is better in quality than in the ordinary year. In addition to these advantages, the fact that shipments are being rapidly handled constitutes another important consideration in connection with this season's operations. Large quantities of hay have been shipped, at prices which have been quite satisfactory, although the hay market, towards the close of the month, is not as brisk as it was during the first half of September. Work at this station has included the finishing of the grain harvest, threshing, digging potatoes, pulling mangolds and carrots, cultural operations and the usual attention to the live stock. The heifers in the "Record of Performance" promise well. The steers purchased for winter feeding are a good average lot and should give a good account of themselves this season."

W. H. Fairfield, Superintendent at the Station at Lethbridge, Alta., reports: "The weather during September has been, on the whole, extremely favourable for threshing operations. At the end of the month probably from 40 to 50 p. c. of the grain in the southern part of Alberta has been threshed. At this Station threshing has been completed: mangolds have been lifted; and the last cutting of alfalfa hay has been put in the stack, it being somewhat lighter than usual."

P. H. Moore, Superintendent of the Farm at Agassiz, B. C., reports: "The first week in September was very wet but the weather has since been fine and warm and harvesting has been completed. The yields are a little less than the average, but the grain is of good quality. The potato crop has been, if anything, heavier than usual. There is an abundant catch of clover on the grain fields that were seeded down in the spring. The stock on the Farm are all in good shape. For housing the brood sows six new cots have been built at the very reasonable cost of \$7.00 each, which includes material and labour. These are "A" cots, 6 ft. wide and 8 ft. long,



with a 7 ft. slope to the sides. They have been constructed of rough lumber, 1 by 12, and the cracks battened with 1 by 4 and built on a 4 by 4 runner, one horse being able to move them round with ease. Last winter this method of wintering was tried with some of the swine, in cots somewhat rougher but of the same shape, and in the spring these sows were in better condition on the same amount of feed, and gave more even and more vigorous litters, than those kept in the piggery. It is proposed to try this plan again with the brood stock this winter, confidence being felt that it will give good results."

The records of temperature, precipitation and sunshine at the several Experimental Farms and Stations for the month of September are given in the following table:

**Meteorological Record for September, 1913.**

| Experimental Farm<br>or Station at— | Degrees of temperature, F. |        |       | Precipitation<br>in<br>inches | Hours of sunshine |        |
|-------------------------------------|----------------------------|--------|-------|-------------------------------|-------------------|--------|
|                                     | Highest                    | Lowest | Mean  |                               | Possible          | Actual |
| Ottawa, Ont. ....                   | 88°                        | 30°    | 56·83 | 2·69                          | 376               | 222·5  |
| Charlottetown, P.E.I. .             | 75°                        | 39°    | 56·13 | 3·98                          | 376               | 182·4  |
| Nappan, N.S. ....                   | 78°                        | 31°    | 54·59 | 2·7                           | 376               | 165·95 |
| Cap Ronce, Que. ....                | 82°                        | 28·2   | 56·6  | 4·01                          | 376               | 209·3  |
| Brandon, Man. ....                  | 87·3                       | 23°    | 54°   | ·68                           | 378               | 198·1  |
| Indian Head, Sask. ....             | 88°                        | 26°    | 53·33 | ·55                           | 375               | 200·9  |
| Rosethorn, Sask. ....               | 84·3                       | 29·7   | 50·6  | 2·35                          | 378               | 231·5  |
| Scott, Sask. ....                   | 86°                        | 20·1   | 51·24 | 1·24                          | 378               | 234·5  |
| Lethbridge, Alta. ....              | 80°                        | 24·4   | 50·9  | ·59                           | 375               | 210·4  |
| Lacombe, Alta. ....                 | 89·3                       | 26·2   | 59·9  | 1·65                          | 378               | 276·5  |
| Agassiz, B.C. ....                  | 78°                        | 40°    | 56·5  | 7·68                          | 378               | 170·7  |

J. H. GRISDALE,

Director Experimental Farms.

Ottawa, Oct. 9. 1913.

**Dairy and Cold Storage Branch.** The writer attended the Third International Congress of Refrigeration which was held last month (8th to 24th) in New York, Washington and Chicago, as the representative of the Government of Canada. There were over 800 delegates registered. Practically every country in Europe, and in North and South America was represented, and there were also delegates from Australasia, China and Japan. The formal opening of the Congress was held in Washington. The delegates were welcomed by the Honourable W. J. Bryan, Secretary of State, and were received by President Wilson at the White House. A very pleasant function in the Washington program was a reception at the beautiful new building of the Pan American Union, which was attended by many of the foreign Ministers.

The main business sessions of the Congress were held in Chicago. The program was divided into 6 sections, all holding sessions concurrently. Over one hundred papers were presented to the Congress covering the various

applications of refrigeration. The writer read a paper in Section III on the Advantages of Small Cold Storage Warehouses in Country Districts.

There was a delegation of 15 members from Russia, and the reports which they presented showed a very rapid development of refrigeration in that country since the first Congress was held in Paris in 1908, especially in the transport of butter from Siberia to the Baltic ports, and in the storage and shipment of fruits from Samarkand and Tashkend to Moscow and St. Petersburg.

The conditions in Russia and also in Argentine, are so similar in many respects to those which prevail in Canada, that intercourse with the delegates from these two countries was very interesting and profitable. This contact with leading men from all over the world, meeting for a common purpose, was probably the most useful feature of the Congress.

A refrigeration exposition was held at Chicago in connection with the Congress. A large display of refrigerating machinery and appliances, refrigerator cars, etc., were brought together for the first time. The United States Department of Agriculture erected a special cold storage room in which was arranged an educational display of all kinds of food products under refrigeration.

One of the numerous functions in connection with the Congress was a banquet held at the Sherman Casino, for which 1500 covers were laid. The food for this banquet, as far as possible, was taken out of cold storage and the history of each item in the menu was attached for the information of the guests. The banquet was considered a great success.

Convictions have been secured, for the false marking of apples, against the following persons, since the publication of the September Census and Statistics Monthly:

|   |         |
|---|---------|
| John Wilson, Ingersoll, Ont., Sept. 18, fined . . .   | \$50.00 |
| A. R. McKenzie, Colborne, Ont., Sept. 27, fined . . . | 25.00   |
| W. H. Philips, Belleville, Ont., Oct. 3, fined . . .  | 15.00   |
| John Coyle, Colborne, Ont., Oct. 7, fined . . . . .   | 25.00   |

J. A. RUDDICK.

Dairy and Cold Storage Commissioner.

**Seed Branch.** The following is an additional list of dealers who have been prosecuted for violation of Seed Control Act since the publication of the September Census and Statistics Monthly. Unless otherwise indicated, the defendants were fined and paid the costs of court. Where the name of the firm who supplied the seed to the retailer is given, the defendant was given the benefit of subsection 2, section 12, of the Act, which provides that where it is proven that the seed was purchased in good faith from a seedsman domiciled in Canada, the retailer shall not be liable beyond the costs of prosecution. Such cases may be carried against the wholesaler.

Frank Stannard, Nanaimo, B.C., for offering oats for seed containing noxious weed seeds and not labelled. Seed purchased from Vancouver Milling Co., Vancouver, B.C.

Seth Wilton Co., Murrayville, B.C., same offence as above. Seed purchased from Vancouver Milling Co.

Smith & Parr, Aldergrove, B.C., same offence as above. Seed purchased from Vancouver Milling Co.

Sylvester Feed Co., Victoria, B.C., for selling cabbage seed in packets germinating below two-thirds of the standard for good seed.

R. A. Webster, Cochrane, Alta., for offering oats and barley not labelled and containing noxious weed seeds.

H. Wilson, Edmonton, Alta., for offering wheat, oats and barley not labelled and containing noxious weed seeds.

Hamilton & Son, Edmonton, for offering oats not labelled and containing noxious weed seeds.

Tuttle & Dauphin, Strathcona, Alta., for offering wheat not labelled and containing noxious weed seeds, and timothy seed not marked with the grade.

Timothy purchased from the Brackman-Ker Milling Co., Victoria, B.C., wheat from Potter Co., Edmonton, Alta.

Huston & Co., Glencoe, Ont., for selling rejected red clover seed marked No. 3.

R. J. Petch, Wardsville, Ont., for selling rejected red clover seed.

R. M. Pincombe, Strathroy, Ont., for offering red clover seed marked No. 2 which was rejected.

E. C. Gould, Wyevalle, Ont., for offering alsike seed marked No. 3 containing 768 noxious and a total of 2,128 weed seeds per ounce.

J. H. McDonald, Listowel, Ont., for offering three lots of rejected timothy seed.

Fred Bender, Listowel, Ont., for offering red clover, alsike and alfalfa marked No. 1 which was No. 2.

Kester & Son, Thamesville, Ont., for offering rejected red clover seed. Seed purchased from E. J. Woollard, Bobcaygeon, Ont.

Hutchinson Bros., Bracebridge, Ont., for offering seed wheat not labelled and containing 164 noxious weed seed per pound. Seeds purchased from Brown Bros., Barry, Ont.

Mark Varey, Hockley, Ont., for offering rejected red clover seed.

T. F. Bailey, Crumlin, Ont., for offering rejected alsike seed marked No. 2. Seed purchased from Hookway & Son, London, Ont.

Peterson & Wright, Kingsville, Ont., for offering rejected red clover seed and later in the season rejected seed marked No. 1.

Thomas Symington, Napanee, Ont., for offering rejected timothy, red clover and alsike seed.

J. Henry & Son, Orono, Ont., for offering rejected red clover and alsike seed, the latter marked No. 3.

Dame Rose de Lima Curringnan, Lawrenceville, Que., for selling two lots of White Cluster oats not labelled and containing noxious weed seeds. These oats were sold at ten cents per pound.

Joseph Laverdure, Thetford Mines, Que., for offering No. 3 alsike seed marked No. 2 and rejected red clover.

Gerin & Bouley, Coaticook, Que., for offering rejected timothy seed.

Denault Grain & Provision Co., Sherbrooke, for selling oats not labelled and containing noxious weed seeds.

The following ten dealers in Chicoutimi and Lake St. John District, Quebec, for selling for seed, oats containing large quantities of noxious weed seeds and with many of the lots low in vitality:

Côté, Boivin & Co., Chicoutimi.

Juste Dufour, Grande Baie.

J. E. Tremblay, St. Alphonse.

J. A. Guay, Chicoutimi.

Thomas L. Coulombe, St. Joseph d'Alma.

Joseph Bouchard, Hebertville Station.

J. A. Gagnon, Hebertville Station.

Deschenes & Houde, Hebertville Station.

John Beaumont, St. Bruno.

G. E. Potvin, Roberval.

Harvey Frères, St. Joseph d'Alma, for offering mixed clover seed containing 2,512 weed seed per ounce.

O. Chevalier & Fils, Joliette, Que., for offering rejected timothy seed.

O. Thibault, St. Gervais, Que., for offering oats not labelled containing 124 noxious weed seeds per pound and germinating 55 %.

F. Blais, Beaumont, Que., for offering oats not labelled containing 276 noxious weed seeds per pound.

During September 337 samples of seed were received at the Ottawa seed laboratory, an increase of 20 per cent over the same month last year. The samples graded under Seed Control Act standards were:—

| —               | No. 1 | No. 2 | No. 3 | Rejected | Total. |
|-----------------|-------|-------|-------|----------|--------|
| Timothy.....    | 5     | 43    | 80    | 15       | 143    |
| Alsike.....     | 17    | 36    | 55    | 24       | 132    |
| Red Clover..... | 7     | 6     | 4     | 1        | 18     |
| Alfalfa.....    | 13    | 2     | ..    | ..       | 15     |

This year forty per cent of the alsike samples graded No. 1 or No. 2, while last year during the same month there were none No. 1 and only 16 per cent No. 2. Of the total number of samples received during September, only 18 were sent by farmers.

GEO. H. CLARK, Seed Commissioner.

## CROP REPORTS FROM OTHER COUNTRIES.

**England and Wales.** The Board of Agriculture and Fisheries (October 1) reporting on Agricultural conditions in England and Wales refers to the beneficial effects generally upon the crops of the varied weather of September, with the single exception that it had proved a hindrance in the case of such corn as had not been harvested by the end of the month. In the hilly districts a certain proportion still remained out, and in a few cases the quality was thought to be affected by the wet.



Potato lifting had generally commenced, and in some districts was well advanced. The tubers are sound, and there is very little mention of disease, except in the south east and one or two other districts. The crop has greatly benefited from the rains during the month. In Lincoln, it is expected to give nearly an average yield, and not much below in Lancashire. Throughout the country, the yield will probably prove to be about 97 per cent of the average.

Roots have made good growth during the month, and prospects show an improvement over the 1st of September. But the previous droughty weather had left the crops thin and irregular, with numerous failures, so that the damage can only be partially repaired. The moister north and west have much better crops than the east and south; indeed North Wales expects a fully average yield of turnips and swedes. Mangolds will probably yield better than turnips in the country as a whole. Prospects now are that turnips and swedes will yield 83 per cent, and mangolds 89 per cent of the ten years' average.

Seeds, like roots, suffered from the prolonged dry weather, and, as in their case, the rain, which has enabled them to grow well, came too late to make them at all promising in the east and south. In the west and north, they are often reported as vigorous and healthy, although there are even there many exceptions. On the whole, they cannot be considered satisfactory.

Autumn cultivation is generally well forward, although the progress made in different districts varies. A certain amount of winter wheat has been sown.

Pastures have mostly made good growth during September, and the rains have restored them to good condition. Live stock are consequently making more satisfactory progress.

Labour is reported to have been, on the whole sufficient but from all parts there are some complaints, particularly as regard the more skilled hands. The favourable weather has been an important factor in enabling most classes of work to be performed relatively quickly.

**New South Wales (Australia).** In a report issued by the Government Statistician it is stated the wheat area for 1913-14 has been largely extended, and the figures indicate that the area sown to wheat alone falls but little below the total area under all crops for the harvest season 1912-13 when 3,737,268 acres were cropped. For the next harvest there were planted 3,730,990 acres of wheat; of this amount 594,000 acres were sown for hay.

**Victoria (Australia).** In a report issued by the Government Statistician Melbourne the actual area under wheat in 1911-12 is placed at 2,471,586 acres of which 386,370 were used for hay; in 1913-14 the total estimated area had increased to 2,931,000 acres, of which 350,000 were for hay. Oats had a total area of 1,229,510 acres in 1912-13 as compared with an estimated area of 1,253,600 acres for the harvest year 1913-14.

**United States.** The Crop Reporting Board of the U. S. Department of Agriculture issued (October 9) a preliminary estimate of production as

follows: Spring wheat 242,714,000 bushels, compared with 330,348,000 bushels in 1912; winter wheat 510,519,000 bushels compared with 399,919,000 bushels; all wheat 753,333,000 bushels compared with 730,267,000 bushels. Oats are estimated to yield 1,122,139,000 bushels, compared with 1,418,337,000 bushels in 1912, barley 173,301,000 bushels, compared with 223,824,000 bushels, rye 34,789,000 bushels, compared with 35,664,000 bushels and tame hay 63,460,000 tons, compared with 72,691,000 tons. The yields per acre are in bushels as follows: 13.0 for spring wheat, 16.5 for winter wheat, 15.2 for all wheat, 29.3 for oats, 23.9 for barley, 16.3 for rye and 1.31 ton for tame hay. At the time of harvest the quality of spring wheat was 92.0 p.c., compared with a ten year average of 86.9, oats 89.1 p.c., compared with 87.1, barley 86.4 p.c. compared with 87.0.

The following table gives for the later field crops of the United States particulars of condition on October 1 and of production as interpreted from the condition.

| Crops            | Area<br>1913 | Condition      |                |                     | Yield per acre    |                 | Total yield       |                  |
|------------------|--------------|----------------|----------------|---------------------|-------------------|-----------------|-------------------|------------------|
|                  |              | Oct. 1<br>1913 | Oct. 1<br>1912 | ten year<br>average | 1913 <sup>1</sup> | 1912<br>(final) | 1913 <sup>1</sup> | 1912<br>(final)  |
|                  | 000<br>acres | p.c.           | p.c.           | p.c.                | bush.             | bush.           | million<br>bush.  | million<br>bush. |
| Corn .....       | 106,884      | 65.3           | 82.2           | 80.6                | 22.2              | 29.2            | 2,373             | 3,125            |
| Buckwheat, ..... | 841          | 65.9           | 89.2           | 84.2                | 16.5              | 22.9            | 14                | 19               |
| Potatoes .....   | 3,685        | 67.7           | 85.1           | 76.4                | 86.7              | 113.4           | 319               | 421              |
| Flaxseed .....   | 2,125        | 74.7           | 83.8           | 78.5                | 8.7               | 9.8             | 21                | 28               |
| Rice .....       | 824          | 80.3           | 89.2           | 87.5                | 30.9              | 34.7            | 25                | 25               |
|                  |              |                |                |                     | lb.               | lb.             | million<br>lb.    | million<br>lb.   |
| Tobacco .....    | 1,144        | 76.6           | 81.8           | 83.1                | 766.0             | 785.5           | 877               | 963              |

<sup>1</sup> Interpreted from condition reports.

**Holland.** H. M. Consul reports that the Netherland State Gazette (Sept. 25) makes the following report on the state of the crops in Holland: The early part of the summer which was cold and wet was succeeded by a dry but cool August, and the first half of September was fine and warm. This saved the crops in general from a too rapid ripening, which was feared on account of the cold ground, and permitted them to be harvested under favorable circumstances. As to potatoes the summer was on the whole too cold, and the crop was attacked by the potato disease at an early date, so that the crops will in most districts not be large. The sugar beet-root crop will not be large, although it will benefit by the fine weather of the last few weeks. The same applies to the second crops of hay and clover.

Wheat has been harvested everywhere and proves to be of good quality. The quantity is disappointing in the province of Groningen probably on account of disease. Oats in many districts had grown too rapidly and the heavy rains in July caused much sprouting. The favourable weather in August however saved more than was expected. The oat crop may be

considered good, and in some districts very good. Peas suffered very much on account of wet weather. The crop in Groningen, Friesland and North Holland was poor and only moderately fair, and in sandy districts only slightly better. The condition of the potato crop varies greatly according to the district. In Friesland where sprinkling is general both crop and quality are very good. Fields that were not sprinkled are much poorer. In other parts of the country the potatoes were attacked by disease very early; the plants dried up prematurely the quantity will be very small and the quality poor. Excellent results have been obtained everywhere by sprinkling; potatoes that were treated are not only larger but of better quality, and consequently obtain better prices. For beet-roots the summer of 1913 was lacking in heat. The soil remained too cold and as a result early in the season the leaves turned yellow. On the whole a medium crop is expected. The percentage in sugar seems to be good. The prospects are fairly good in the clay districts of Groningen, the Lower-Betuwe and the Tielerwaard and North Holland. The prospects for onions are everywhere fairly good but on the whole the size is small. They are also much affected by insects. Up to the present the trade in this commodity has been depressed.

**Prussia.** H. M. Consul at Hamburg reports that according to the *Hamburger Nachrichten* the state of the crops in Prussia at the beginning of September appears to be as follows:

Taking 2 as representing good, and 3 as average oats in September 2.5 (in August 1913, 2.6 and in September, 1912, 2.8). Potatoes, 2.6 (in August 1913, 2.6, in September 1912, 2.7). Beetroots, 2.4 (in August 1913 2.4, in September 1912, 2.3). Mangel-wurzel 2.5 (in August 1913, 2.5, in September 1912, 2.3). Clover, 2.5 (in August 1913, 2.6, in September 1912, 2.7). Lucerne, 2.6 (in August 1913, 2.6, in September 1912, 2.7).

At the beginning of September rye and barley had on the whole been well carried, and only a small amount showed signs of sprouting. The grain is generally well formed and gives excellent results, and straw is satisfactory.

Summer grains and winter wheat will as a rule ripen late and consequently be harvested late. There is a considerable amount of sprouting so that the results will not be as good as hoped for. Wheat is on the whole satisfactory, both grain and straw will give good results. The reaping of the oats was slow on account of the amount that was storm beaten, and the wet weather made the carrying very difficult.

A part of the grain was lost. So far as can be learnt from trial threshings and the results reported, the crop will be good, but the straw is for the most part black.

The estimates of the potato crop are very various.

Early potatoes appear not very prolific, but it is hoped that prospects will improve. Sugar and food roots have grown well and promise good results. The wet weather did not help the fodder crops as much as was

expected. The aftermath has begun here and there and in some parts is over, and the results are not satisfactory. Autumn cultivation is very much behind hand on account of the late harvest, and only isolated cases are reported of its having been begun.

**France.** The Journal Officiel of September 14 publishes an approximate statement by the French Department of Agriculture of this year's yield of wheat, maslin (or mixed grain) and rye. The following is a statement of the acreage and yields compared with 1912 :

| Crops       | 1913       | 1912       | 1913        | 1912        | 1913      | 1912            |
|-------------|------------|------------|-------------|-------------|-----------|-----------------|
|             | Acres      | Acres      | Bush        | Bush        | Per acre. | Bush. per acre. |
| Wheat.....  | 16,169,500 | 16,238,800 | 322,731,600 | 334,336,360 | 19·95     | 20·58           |
| Maslin..... | 312,300    | 318 100    | 6,209,300   | 5,909,200   | 19·27     | 18·57           |
| Rye .....   | 2,958,400  | 2,969,300  | 53,365,000  | 48,746,500  | 18·03     | 16·41           |

A later report (September 24) places the yield of oats at 352,338,300 bushels from 9,881,300 acres, compared with 334,205,000 bushels from 9,839,700 acres in 1912, and of barley at 50,247,900 bushels from 1,890,100 acres, compared with 50,587,800 bushels from 1,877,100 acres in 1912.

The appearance of the grain crop in May gave promise of a particularly good yield. Later on a number of unfavourable circumstances differing according to the region, such as excessive rain, growth of weeds, invasion of insects, etc., considerably modified the outlook. Notwithstanding these things the crops were saved in excellent condition. The weather was warm with sufficient sun to hasten the ripening of cereals and no storms came to delay the work. The crop is on the whole a little below the average, due in part to a slight reduction in the acreage under wheat, maslin and rye. The grain is heavy, very dry and of excellent quality in almost all regions. Straw has given even more satisfactory results than grain both in quality and quantity.

**Russia.** H. M. Consul, St. Petersburg, reports that the "Official Trade Gazette" of 27 September says that although as regards quantity and quality the harvest of 1913, as the result of not entirely favourable weather conditions, has failed to reach original anticipations, nevertheless in both of the above mentioned respects the yield is above the average of the last five years.

The yield of wheat as regards the winter crops is described as above the average, approaching to "good" in certain localities. Nowhere is the crop described as generally "unsatisfactory," but in certain districts of the Governments of Tambov, Grodno, Minsk and Volhynia it is described as "below



the average approaching unsatisfactory." In all the other Governments where not described as "good" or "above the average," the winter crops are declared to have given an average yield: The spring crop of wheat is also described as "above the average" in general, being "unsatisfactory" only in the Governments of Ter, Penza and Nijgorod, and in certain districts of the Government of Ekaterinoslav.

The yield of rye has proved an "average" one only. It has been "good" in 10 Governments, and "above the average" in 9 Governments only.

The oat crop has exceeded all other cereal crops for 1913 and is described as "above the average approaching good".

The barley crop has proved to be somewhat below that of the oats crop but it is nevertheless "above the average" in general.

In the Governments and provinces of Western Siberia the harvest, as regards most cereals, has proved to be "above the average."

In quality, speaking generally, the harvest is not especially high. In the South-West, West and in parts of Central Russia the crops suffered from the continued rains of the latter part of June and July. On the other hand in the East, the crops suffered from the drought. The winter crops were harvested before the dry weather set in, but the spring crops were especially affected. Finally, in many localities the crops suffered greatly from hail-storms.

## INTERNATIONAL INSTITUTE OF AGRICULTURE.

The September number of the "Bulletin of Agricultural Statistics" gives corrected figures of production of wheat in 20 countries; of rye in 15 countries; and of barley and oats in 18 countries. The following statement shows the areas and yields of the four chief cereals for all the countries that have reported.

I.—Area and Yield of Wheat, Rye, Barley and Oats in 1913 compared with 1912.

| Countries.               | Harvest area. |            |              | Total production. |           |              | Yield per acre. |       |
|--------------------------|---------------|------------|--------------|-------------------|-----------|--------------|-----------------|-------|
|                          | 1912          | 1913       | p.c. of 1912 | 1912              | 1913      | p.c. of 1912 | 1912            | 1913  |
|                          | 000 acres.    | 000 acres. | p.c.         | 000 bush.         | 000 bush. | p.c.         | bush.           | bush. |
| Wheat (20 countries)...  | 223,785       | 226,862    | 101.4        | 3,200,540         | 3,333,186 | 104.1        | 14.27           | 14.72 |
| Rye (15 countries)....   | 97,391        | 99,608     | 101.7        | 1,605,075         | 1,496,774 | 93.3         | 16.41           | 14.98 |
| Barley (18 countries)... | 57,643        | 60,870     | 105.6        | 1,209,682         | 1,224,785 | 101.2        | 21.00           | 20.67 |
| Oats (18 countries)....  | 111,362       | 114,692    | 103.0        | 3,425,752         | 3,225,332 | 94.1         | 30.70           | 28.08 |

## II. Area and Production of Corn and Flaxseed by Countries in 1913, as compared with 1912.

| Countries              | Area      |           |              | Production |           |              | Yield per Acre |       |
|------------------------|-----------|-----------|--------------|------------|-----------|--------------|----------------|-------|
|                        | 1912      | 1913      | p.c. of 1912 | 1912       | 1913      | p.c. of 1912 | 1912           | 1913  |
|                        | 000 acres | 000 acres | p. c.        | 000 bush.  | 000 bush. | p. c.        | bush.          | bush. |
| <b>Corn—</b>           |           |           |              |            |           |              |                |       |
| Bulgaria .....         | 1,606     | 1,606     | 100·0        | 55,115     | 45,273    | 82·1         | 34·25          | 28·26 |
| Spain .....            | 1,149     | 1,149     | 100·0        | 25,070     | 24,802    | 98·9         | 21·83          | 21·51 |
| Hungary (proper)...    | 6,023     | 6,422     | 106·6        | 176,695    | 184,756   | 104·6        | 29·31          | 28·84 |
| Italy .....            | 3,936     | 3,707     | 94·1         | 98,669     | 98,421    | 99·7         | 25·01          | 26·61 |
| Russia in Europe...    | 4,054     | 4,216     | 104·0        | 79,697     | 58,683    | 73·7         | 19·60          | 13·86 |
| Switzerland .....      | 3         | 3         | 97·7         | 106        | 123       | 115·6        | 32·34          | 38·24 |
| United States .....    | 107,084   | 106,885   | 99·8         | 3,124,720  | 2,350,980 | 75·2         | 29·16          | 21·99 |
| Japan .....            | 136       | 133       | 92·2         | 3,539      | 3,559     | 100·6        | 25·97          | 26·61 |
| Tunis .....            | 49        | 44        | 90·0         | 323        | 197       | 61·0         | 6·53           | 4·46  |
| Totals and averages... | 124,040   | 124,165   | 100·1        | 3,563,844  | 2,766,794 | 77·6         | 28·68          | 22·30 |
| <b>Flaxseed—</b>       |           |           |              |            |           |              |                |       |
| Belgium .....          | 54        | 57        | 106·8        | 514        | 410       | 79·7         | 9·56           | 7·16  |
| Spain .....            | 4         | 2         | 42·7         | 34         | 23        | 63·3         | 7·68           | 12·14 |
| United States .....    | 2,851     | 2,425     | 85·1         | 28,073     | 20,000    | 71·2         | 9·88           | 8·28  |
| India .....            | 5,052     | 4,053     | 80·2         | 25,680     | 21,428    | 83·4         | 5·10           | 5·26  |
| Japan .....            | 16        | 24        | 157·1        | 104        | 165       | 158·5        | 6·70           | 6·70  |
| Totals and averages... | 7,977     | 6,561     | 82·3         | 54,405     | 42,026    | 77·2         | 6·85           | 6·37  |

**Sugar Beets.** The estimated production of Sugar Beets for 1913 for countries reporting is as follows: Expressed in short tons the figures in parenthesis are the final estimates for last year. Hungary (proper) 5,220,000 tons (5,286,000) Bulgaria 94,000 tons (49,000), Denmark 1,090,000 tons (886,000), Spain 1,190,000 tons (1,189,000).

## TOBACCO DISEASE..

(By H. T. Gilson, Dominion Botanist, Central Experimental Farm, Ottawa.)

Mr. Charlan, Chief of the Tobacco Division, has recently called attention to a serious disease of tobacco already present in certain of the tobacco-growing districts, and liable to spread to other areas as well as to become continually worse from year to year where it exists, if precautions are not taken.

This disease is due to a fungus known scientifically as *Thielavia basicola*, and from the effects produced is known as Thielevia Root-rot or simply as Thielavia disease. The fungus probably occurs naturally in soils containing much vegetable matter, but its power to produce disease depends largely on certain other factors such as excess of moisture, excessive manuring or a lack of acidity in the soil. When once introduced into the land it may persist for on undetermined period of time.

The control of the disease in the seed-bed is of the utmost importance since the disease is in all probability chiefly distributed by the planting out of affected seedlings. The symptoms shown in the seed-bed depend on the severity of the attack. Seedlings may be attacked soon after appearing above ground when they fall over at the level of the soil as if suffering from "Damping-off". If the attack is milder or infection does not take place till later the injury is restricted to the roots with the result that the plants are stunted and growth may be almost entirely arrested. On taking up such plants it will be found that the roots are rotted to a greater or less extent. If the attack is slight the tips of the root-fibres will be discoloured and dead from some distance back, while in a bad case all the roots, including the tap-root, may be rotted off to the base of the stem. If the same soil is used for the seed-bed after the disease has once appeared it will increase in severity with each successive crop of seedlings, and even if the soil is changed there is often sufficient of the fungus left adhering to the frames, etc., to give rise to a new infection. Even in making fresh beds altogether it cannot be absolutely guaranteed that the fungus is absent from the soil used. Under such circumstances the only thoroughly safe procedure is to sterilise the beds before sowing seed. This may be done either by formalin or steam, according to facilities, and it is intended to give further details in a later article. A rather light soil should be used for the seed-bed, and too thick sowing, over watering, and too much fertilizer should be avoided.

In the field the chief symptom is a stunted, unhealthy appearance in the plants and not infrequently death. On examining the root-system the characteristics noted above will be found. The disease increases in severity from year to year when tobacco is grown repeatedly in the same land, is worst on clay soil and when drainage is not satisfactory, and is favoured by too much fertilising especially such as are not acid in character. Where infected seedlings are planted out in healthy land they may ultimately out-grow the disease, but as such a proceeding only serves to infect such land it is recommended to destroy affected seedlings instead of using them. On the other hand healthy seedlings planted in infected soil may suffer very badly, and the crop may be practically worthless. There is also much varietal difference in susceptibility. Soil sterilisation such as has been mentioned as desirable in seed beds, is too labourious and expensive under field conditions. All that can be done is to adopt such measures as will favour the resistance of the tobacco, and tend to diminish the amount of the fungus present in the soil. Such measures were outlined in Mr. Charlan's article.

In conclusion, the need for exact knowledge cannot be too greatly emphasised, and growers who are having trouble with their tobacco crop are strongly advised to dig up specimens of plants showing disease, carefully avoiding damage to the roots, and send them to the Dominion Botanist, Central Experimental Farm, Ottawa, who will examine them and report upon the nature of the disease. Parcels under five pounds in weight so addressed may be sent free through the mail.

## FODDER CORN AT THE PRINCE ALBERT FAIR.

(By W. A. Coddling.)

At the Prince Albert Fair we had exhibited the results of a very interesting competition in Fodder Corn. Fodder Corn is not supposed to grow so far north, but by way of experiment the Prince Albert Exhibition Board handed out this year for the purposes of our boys competition, about fifteen small samples of Longfellow Corn together with some cultural instructions, with the result that we had a most interesting display of sheaves of Fodder Corn, there was not a poor sample in the lot and some of it reached as high as eight feet. The Corn was not quite to the tassel stage but it was cut the middle of August which was a full month before we had frost enough to damage this variety of fodder. These results point strongly in support of the idea that before many years Corn will be grown here for Ensilage with general success. This is a most important proposition for a territory that is so well adapted in other respects for diversified farming.

## THE CANADIAN POLITICAL SCIENCE ASSOCIATION.

(By Prof. O. D. Skelton, Queen's University, Kingston, Ont.)

The founding of the Canadian Political Science Association at a meeting held in Ottawa during the first week of September, calls for chronicling as a most promising attempt to deal with a widely-recognized problem. Canada is faced with her full share of the modern world's difficulties as to the form and working of government, and the production and distribution of wealth. Many Canadians have come to feel the need of more concerted and systematic investigation and discussion of the political, economic and social problems which are crowding upon us. In the United Kingdom, on the Continent, and particularly in the United States, much good work has been done by national societies. Following their example, a group of Canadian members present at the last meeting of the American Economic and Political Science Associations in Boston took the preliminary steps toward organization, and the very representative gathering which met at Ottawa completed arrangements.

A varied list of papers was presented. The Prime Minister gave the opening address, setting forth the need of scientific study of the field mapped out by the Association. Dr. Adam Shortt discussed the possibilities and the limitations of the society's work, while Dr. Andrew Macphail, of Montreal, dealt broadly with "The Issue of Democracy". Municipal government was the theme of an interesting evening's discussion, Professor Munro of Harvard and Professor Potts of the University of Texas reviewing the working of the Commission Government. John A. Cooper of Toronto summarizing the need for Municipal Surveys, and Dr. Morley Wickett of Toronto, W. D. Lighthall, K. C., of Montreal, Dr. T. D. Walker of St. John, and Mayor Ellis of Ottawa dealing with the experiences of their respective cities. Mr. Stewart's description of the housing conditions of the immigrant workers in our larger cities complemented Mr. Hill-Tout's plea for more state aid and leadership for agriculture. Mr. J. A. Stevenson analysed the European systems of rural co-operative credit, and discussed their applicab-



ility to western Canada, while Mr. R. H. Coats in a paper on "The Role of the Middleman" outlined the distributive machinery existing in the food supply industries. Professor A. H. F. Lefroy summarised the main points at issue in Canada's federal constitution while Dr. James Bonar presented an analysis of Canada's balance of trade, and E. F. Newcombe, Jr., described the provisions of the new Lloyd-George sickness and unemployment insurance act.

Officers were elected as follows: President, Dr. Adam Shortt, Ottawa; Vice presidents, Professor James Mavor, Toronto, Hon. Sidney Fisher, Ottawa, H. B. Ames, M. P., Montreal; Secretary-Treasurer, Professor O. D. Skelton, Kingston; and Executive Committee, in addition to the above, Dr. James Bonar, Ottawa, C. Hill-Tout, Vancouver, Hector McInnes, K. C., Halifax, President Walter C. Murray, Saskatoon, Professor Montpetit, Montreal, G. Y. Chown, Kingston, Professeur S. B. Leacock, Montreal, Professor G. I. H. Lloyd, Toronto, A. H. F. Lefroy, K. C., Toronto, and John A. Cooper, Toronto. The General Committee is to be nominated by the Executive.

The movement has been well begun, and it is to be hoped that it will have widespread backing by progressive Canadians.

## THE WEATHER DURING SEPTEMBER.

The Dominion Meteorological Service reports that the values of the mean temperature for September were generally greater than average west of the Lake Region, and less than normal east of Lake Huron. In southern Saskatchewan and southern British Columbia, however, the normal was not quite reached, and in the lower St. Lawrence valley the mean values slightly exceeded the average. Positive departures from average were more than 5° in parts of Alberta and Saskatchewan. In some parts of Ontario there were negative differences of 4°, but in most localities the divergence was about 2°. Precipitation was deficient throughout the greater part of Canada, but near the western end of Lake Superior, and also in counties contiguous to the Georgian Bay, the lower Ottawa Valley, and the St. Lawrence valley from near Montreal to a little the east of Quebec, a greater quantity than usual was recorded, this being also the case in Cape Breton Island.

In British Columbia the weather during June closely approached the normal in all districts, the mean temperature being slightly above the normal in northern localities and slightly below in southern, and precipitation generally slightly below average. With a deficient precipitation, a mean temperature generally above the average, and no general or heavy frosts until late in the month, the weather in the western provinces was ideal for harvesting, and farming operations were much further advanced than usual at the close of the month. Reports from the several districts are most optimistic, and the yield and grade of grain is apparently most satisfactory. Heavy frosts were not generally recorded until after the 17th, but subsequently night frosts were of frequent occurrence. In Ontario much brighter weather was experienced, and precipitation was deficient in most localities. Fall seeding has been somewhat delayed by the

lack of rain, but otherwise farming operations are well advanced and wheat is in good condition. Precipitation for September in Quebec was in excess of the average except in the Gaspé peninsula where it was deficient. The mean temperature closely approached the normal except near the Ontario border where it was nearly 3° in defect. In New Brunswick September was mostly fine and bright with a moderate and scattered rainfall. A heavy thunderstorm occurred on the 3rd. Freezing temperatures were recorded locally between the 27th and 29th. Trees have retained their leaves, but the colour is gradually changing. At Halifax, Nova Scotia, a seasonable month throughout is reported. Rain occurred on eleven days, but the total fall was much less than average. There was one thunderstorm. In Prince Edward Island the weather during September was bright with a moderate temperature and most favourable for farming operations, excepting during the second week when continued rain interfered with harvesting of grain. In some sections harvesting is almost completed, and in others about half finished. Crops are a fair average, and both quantity and quality better than was anticipated.

**Prices of Colonial and Foreign Produce in British markets, 1913.**

WHEAT (per bushel of 60 lb.).

| Description               | Sept. 1 |         | Sept. 8 |         | Sept. 15 |         | Sept. 22 |         | Sept. 29 |         |
|---------------------------|---------|---------|---------|---------|----------|---------|----------|---------|----------|---------|
|                           | £ s. d. | £ s. d. | £ s. d. | £ s. d. | £ s. d.  | £ s. d. | £ s. d.  | £ s. d. | £ s. d.  | £ s. d. |
| Canadian No. 1.           | 1 11½   | - 1 12½ | 1 11½   | - 1 12½ | 1 14     | - 1 14½ | 1 13½    | - 1 14  | 1 11½    | - 1 12½ |
| " 2.                      | 1 0½    | - 1 09½ | 1 08½   | - 1 09½ | 1 11½    | - 1 11½ | 1 10½    | - 1 11½ | 1 08½    | - 1 09½ |
| " 3.                      | 1 06    | - 1 06½ | 1 06    | - 1 06½ | 1 05½    | - 1 05½ | 1 04½    | - 1 06  | 1 06     | - 1 06½ |
| " 4.                      | 1 00½   | - 1 00½ | 1 00½   | - 1 00½ | 1 03     | - 1 03½ | 1 02½    | - 1 03  | 1 07½    | - 1 08½ |
| American best spring.     | 1 08½   | - 1 10½ | 1 08½   | - 1 10½ | 1 08½    | - 1 10½ | 1 08½    | - 1 10½ | 1 08½    | - 1 10½ |
| American ordinary spring. | 1 06    | - 1 07½ | 1 06    | - 1 07½ | 1 06     | - 1 07½ | 1 06     | - 1 07½ | 1 06     | - 1 07½ |
| American red winter.      | 1 03    | - 1 04½ | 1 03    | - 1 04½ | 1 07½    | - 1 08½ | 1 06     | - 1 08½ | 1 06     | - 1 08½ |
| American hard winter.     | 1 01½   | - 1 03  | 1 01½   | - 1 03  | 1 04½    | - 1 06  | 1 03     | - 1 06  | 1 03     | - 1 06  |
| Australian.               | 1 14½   | - 1 16½ | 1 14½   | - 1 16½ | 1 14     | - 1 16½ | 1 11½    | - 1 14½ | 1 11½    | - 1 14½ |
| Russian fine.             | 1 04½   | - 1 06  | 1 04½   | - 1 06  | 1 04     | - 1 06  | 1 04½    | - 1 06  | 1 03     | - 1 08½ |
| " good.                   | 0 98½   | - 1 00½ | 0 98½   | - 1 00½ | 0 98½    | - 1 00½ | 0 98½    | - 1 00½ | 0 97½    | - 1 00½ |
| " common.                 | 0 95½   | - 0 97½ | 0 95½   | - 0 97½ | 0 95½    | - 0 97½ | 0 95½    | - 0 97½ | 0 94     | - 97½   |
| Californian.              | 1 12½   | - 1 15½ | 1 12½   | - 1 15½ | 1 12½    | - 1 15½ | 1 12½    | - 1 15½ | 1 12½    | - 1 15½ |
| Blue stem.                | 1 11    | - 1 14  | 1 11    | - 1 14  | 1 11     | - 1 14  | 1 11     | - 1 14  | 1 11     | - 1 14  |
| White Walla.              | 1 11    | - 1 12½ | 1 11    | - 1 12½ | 1 11     | - 1 12½ | 1 11     | - 1 12½ | 1 11     | - 1 12½ |
| Red Walla.                | 1 09    | - 1 11  | 1 09    | - 1 11  | 1 09     | - 1 11  | 1 09     | - 1 11  | 1 09     | - 1 11  |
| White Bombay.             | 1 11    | - 1 12½ | 1 11    | - 1 12½ | 1 11     | - 1 12½ | 1 11     | - 1 12½ | 1 11     | - 1 11½ |
| " Calcutta.               | 1 09    | - 1 10½ | 1 09    | - 1 10½ | 1 08½    | - 1 10½ | 1 08½    | - 1 10½ | 1 08½    | - 1 10½ |
| " Karachi.                | 1 09    | - 1 10½ | 1 09    | - 1 10½ | 1 09     | - 1 10½ | 1 08½    | - 1 10½ | 1 08½    | - 1 10½ |
| Red Karachi.              | 1 08    | - 1 09½ | 1 08    | - 1 09½ | 1 08     | - 1 09½ | 1 08     | - 1 09½ | 1 08     | - 1 09½ |
| Argentine.                | 1 10½   | - 1 11½ | 1 08½   | - 1 09½ | 1 08½    | - 1 09½ | 1 06     | - 1 08½ | 1 06     | - 1 08½ |

OATS (per bushel of 34 lb.).

|               |       |         |       |         |       |         |       |         |       |         |
|---------------|-------|---------|-------|---------|-------|---------|-------|---------|-------|---------|
| Canadian.     | 0 51½ | - 0 54½ | 0 51½ | - 0 54½ | 0 49½ | - 0 51½ | 0 49½ | - 0 51½ | 0 49½ | - 0 51½ |
| Prussian.     | 0 51  | - 0 56½ | 0 51  | - 0 56½ | 0 51  | - 0 56½ | 0 51  | - 0 56½ | 0 54  | - 0 56½ |
| Bahia Blanca. | 0 47  | - 0 48½ | 0 47  | - 0 48½ | 0 47  | - 0 48½ | 0 47  | - 0 48½ | 0 47  | - 0 48½ |
| Buenos Aires. | 0 45½ | - 0 47  | 0 45½ | - 0 47  | 0 45½ | - 0 47  | 0 45½ | - 0 47  | 0 45½ | - 0 47  |
| Chilian.      | 0 51½ | - 0 62  | 0 51½ | - 0 62  | 0 51½ | - 0 62  | 0 51½ | - 0 62  | 0 51½ | - 0 62  |
| Russian.      | 0 47½ | - 0 50½ | 0 47½ | - 0 50½ | 0 46½ | - 0 51½ | 0 46½ | - 0 51½ | 0 46½ | - 0 50½ |

## FLOUR (per 280 lb.)

| Description                  | Sept. 1 |        | Sept. 8 |        | Sept. 15 |        | Sept. 22 |        | Sept. 29 |        |
|------------------------------|---------|--------|---------|--------|----------|--------|----------|--------|----------|--------|
|                              | \$ c.   | 8 c.   | \$ c.   | 8 c.   | \$ c.    | 8 c.   | \$ c.    | 8 c.   | \$ c.    | 8 c.   |
| Pillsbury's Best. ....       | 6 75    | - 6 81 | 6 75    | - 6 81 | 6 75     | - 6 81 | 6 75     | - 6 81 | 6 75     | - 6 81 |
| Iron Duke. ....              | 5 90    | - 5 96 | 5 90    | - 5 96 | 6 08     | - 6 20 | 6 08     | - 6 20 | 6 08     | - 6 14 |
| Minnesota first              | 6 87    | - 7 00 | 6 87    | - 7 00 | 6 87     | - 7 00 | 6 87     | - 7 00 | 6 81     | - 6 93 |
| straights. ....              | 6 45    | - 6 57 | 6 45    | - 6 57 | 6 45     | - 6 57 | 6 45     | - 6 57 | 6 39     | - 6 51 |
| Minneapolis first. ....      | 6 69    | - 6 75 | 6 69    | - 6 75 | 6 69     | - 6 75 | 6 69     | - 6 75 | 6 63     | - 6 69 |
| Duluth first. ....           | 6 63    | - 6 81 | 6 63    | - 6 81 | 6 63     | - 6 81 | 6 63     | - 6 81 | 6 57     | - 6 75 |
| American first patents. .... | 6 93    | - 7 06 | 7 00    | - 7 12 | 7 00     | - 7 12 | 7 00     | - 7 12 | 6 93     | - 7 06 |
| second " ....                | 6 69    | - 6 81 | 6 75    | - 6 87 | 6 75     | - 6 87 | 6 75     | - 6 87 | 6 69     | - 6 71 |
| first baker's. ....          | 5 84    | - 5 96 | 5 90    | - 5 96 | 6 08     | - 6 14 | 6 08     | - 6 14 | 6 02     | - 6 08 |
| second " ....                | 5 59    | - 5 65 | 5 65    | - 5 72 | 5 59     | - 5 84 | 5 59     | - 5 84 | 5 59     | - 5 84 |
| Manitoba patents. ....       | 6 69    | - 6 81 | 6 75    | - 6 87 | 6 75     | - 6 87 | 6 75     | - 6 87 | 6 78     | - 6 87 |
| straights ....               | 6 45    | - 6 57 | 6 51    | - 6 63 | 6 51     | - 6 63 | 6 51     | - 6 63 | 6 51     | - 6 63 |
| first baker's. ....          | 5 84    | - 5 90 | 5 90    | - 5 96 | 6 08     | - 6 14 | 6 08     | - 6 14 | 5 96     | - 6 08 |
| second " ....                | 5 53    | - 5 65 | 5 59    | - 5 72 | 5 59     | - 5 84 | 5 59     | - 5 84 | 5 59     | - 5 84 |
| Kansas best. ....            | 6 33    | - 6 57 | 6 39    | - 6 63 | 6 57     | - 6 81 | 6 57     | - 6 81 | 6 57     | - 6 81 |
| seconds. ....                | 5 84    | - 6 08 | 5 90    | - 6 14 | 5 84     | - 6 08 | 5 84     | - 6 08 | 5 84     | - 6 08 |
| Californian. ....            | 7 42    | - 7 66 | 7 30    | - 7 79 | 7 30     | - 7 79 | 7 30     | - 7 79 | 3 39     | - 7 79 |
| Hungarian. ....              | 9 00    | - 9 25 | 9 00    | - 9 25 | 9 00     | - 9 25 | 9 00     | - 9 25 | 9 90     | - 9 25 |
| Australian. ....             | 6 75    | - 6 81 | 6 75    | - 6 81 | 6 75     | - 6 81 | 6 75     | - 6 81 | 6 75     | - 6 81 |
| French. ....                 | 7 54    | - 7 79 | 7 54    | - 7 79 | 7 54     | - 7 79 | 7 54     | - 7 79 | 7 54     | - 7 79 |
| Belgian. ....                | 7 91    | - 8 03 | 7 91    | - 8 03 | 7 91     | - 8 03 | 7 91     | - 8 03 | 7 91     | - 8 03 |
| Galatz. ....                 | 8 27    | - 8 76 | 8 27    | - 8 76 | 8 27     | - 8 76 | 8 27     | - 8 76 | 8 27     | - 8 76 |

## CHEESE (per cwt. 100 lb.)

| Description and market | Sept. 3 |         | Sept. 10 |         | Sept. 17 |         | Sept. 24 |         |
|------------------------|---------|---------|----------|---------|----------|---------|----------|---------|
|                        | \$ c.   | 8 c.    | \$ c.    | 8 c.    | \$ c.    | 8 c.    | \$ c.    | 8 c.    |
| Canadian—              |         |         |          |         |          |         |          |         |
| Bristol. ....          | 14 34   | - 13 90 | 14 45    | - 13 01 | 14 67    | - 14 12 | 14 67    | - 14 12 |
| Liverpool. ....        | 14 34   | - 13 90 | 14 56    | - 13 01 | 14 56    | - 14 01 | 14 56    | - 14 01 |
| London. ....           | 14 45   | - 14 12 | 14 56    | - 14 34 | 14 56    | - 14 34 | 14 77    | - 14 56 |
| Glasgow. ....          | 14 34   | - 13 90 | 14 56    | - 13 12 | 14 56    | - 14 12 | 14 56    | - 14 12 |
| New Zealand—           |         |         |          |         |          |         |          |         |
| Bristol. ....          | 14 77   | - 14 55 | 14 77    | - 14 56 | -        | -       | -        | -       |
| London. ....           | 14 77   | - 14 55 | 14 77    | - 14 56 | -        | -       | -        | -       |
| Glasgow. ....          | 14 56   | - 14 12 | 14 56    | - 14 12 | 14 99    | - 14 34 | 14 77    | - 14 34 |

NOTE—The prices of grain are from The Market Supplements to the Mark Lane Express. The prices of meat and dairy produce are from the British official returns. Rate of conversion from English currency: £1=84.86.

## FRESH MEATS (per cwt. of 100 lb.)

| Description and market |                 | Sept. 3 | Sept. 10 | Sept. 17 | Sept. 24 |
|------------------------|-----------------|---------|----------|----------|----------|
|                        |                 | \$ cts. | \$ cts.  | \$ cts.  | \$ cts.  |
| Argentine, frozen—     |                 |         |          |          |          |
| Birmingham.            | (hind qrs. .... | 8 11    | 8 37     | 8 62     | 8 87     |
|                        | (fore qrs. .... | 6 08    | 6 34     | 6 59     | 6 84     |
| Leeds.                 | (hind qrs. .... | 8 62    | 8 62     | 8 87     | 8 87     |
|                        | (fore qrs. .... | 6 34    | 6 34     | 6 59     | 6 84     |
| Liverpool.             | (hind qrs. .... | 8 11    | 8 11     | 8 62     | 9 12     |
|                        | (fore qrs. .... | 6 08    | 6 08     | 6 08     | 6 59     |
| London.                | (hind qrs. .... | 8 11    | 8 37     | 8 11     | 8 11     |
|                        | (fore qrs. .... | 5 83    | 5 83     | 5 83     | 5 83     |
| Manchester.            | (hind qrs. .... | 8 11    | 8 62     | 8 62     | 9 12     |
|                        | (fore qrs. .... | 6 08    | 6 08     | 6 08     | 6 59     |
| Dundee.                | (hind qrs. .... | 8 11    | 8 11     | 8 62     | 8 87     |
|                        | (fore qrs. .... | 6 59    | 6 59     | 6 85     | 7 10     |
| Edinburgh.             | (hind qrs. .... | 8 35    | 8 35     | 8 35     | 8 87     |
|                        | (fore qrs. .... | 6 33    | 6 33     | 6 33     | 6 85     |
| Glasgow.               | (hind qrs. .... | 8 11    | 8 11     | 8 62     | 8 62     |
|                        | (fore qrs. .... | 6 33    | 6 33     | 6 59     | 6 59     |
| Argentine, chilled—    |                 |         |          |          |          |
| Birmingham.            | (hind qrs. .... | 10 14   | 10 14    | 10 65    | 10 65    |
|                        | (fore qrs. .... | 6 35    | 6 34     | 7 04     | 6 84     |
| Leeds.                 | (hind qrs. .... | 10 14   | 10 14    | 10 14    | 10 14    |
|                        | (fore qrs. .... | 6 34    | 6 34     | 6 59     | 6 59     |
| Liverpool.             | (hind qrs. .... | 10 14   | 9 63     | 9 63     | 9 63     |
|                        | (fore qrs. .... | 6 08    | 6 08     | 6 08     | 6 59     |
| London.                | (hind qrs. .... | 10 14   | 10 65    | 11 15    | 10 65    |
|                        | (fore qrs. .... | 6 34    | 6 59     | 7 35     | 6 84     |
| Manchester.            | (hind qrs. .... | 10 14   | 9 63     | 10 14    | 9 63     |
|                        | (fore qrs. .... | 6 08    | 6 08     | 6 08     | 9 59     |
| Dundee.                | (hind qrs. .... | 10 41   | 10 41    | 10 89    | 10 65    |
|                        | (fore qrs. .... | 6 33    | 6 85     | 7 10     | 7 10     |
| Edinburgh.             | (hind qrs. .... | 10 65   | 10 41    | 10 65    | 10 65    |
|                        | (fore qrs. .... | 6 59    | 6 59     | 6 59     | 6 85     |
| Glasgow.               | (hind qrs. .... | 10 65   | 10 65    | 10 65    | 10 65    |
|                        | (fore qrs. .... | 6 33    | 6 59     | 7 60     | 7 60     |
| Australian, frozen—    |                 |         |          |          |          |
| Birmingham.            | (hind qrs. .... | 7 60    | 7 86     | 8 11     | 8 62     |
|                        | (fore qrs. .... | 6 34    | 6 59     | 6 59     | 7 04     |
| Leeds.                 | (hind qrs. .... | 8 37    | 7 60     | 8 11     | 8 11     |
|                        | (fore qrs. .... | 6 08    | 6 59     | 6 59     | 6 59     |
| Liverpool.             | (hind qrs. .... | 7 04    | 7 04     | 7 60     | 8 11     |
|                        | (fore qrs. .... | 6 08    | 6 08     | 6 08     | 6 59     |
| London.                | (hind qrs. .... | 8 11    | 8 11     | 8 11     | 8 11     |
|                        | (fore qrs. .... | 5 83    | 5 83     | 5 83     | 5 83     |
| Manchester.            | (hind qrs. .... | 7 04    | 7 60     | 7 60     | 8 11     |
|                        | (fore qrs. .... | 6 08    | 6 08     | 6 08     | 6 59     |
| Glasgow.               | (hind qrs. .... | 7 85    | 7 85     | 8 35     | 8 35     |
|                        | (fore qrs. .... | 6 59    | 6 59     | 6 85     | 6 85     |



## GREEN BACON (per cwt. of 100 lb.).

| Description and Market.  | Sept. 3 |       | Sept. 10 |       | Sept. 17 |       | Sept. 24 |       |
|--------------------------|---------|-------|----------|-------|----------|-------|----------|-------|
|                          | § c.    | § c.  | § c.     | § c.  | § c.     | § c.  | § c.     | § c.  |
| Canadian sides—          |         |       |          |       |          |       |          |       |
| Bristol.....             | 16 73   | 16 08 | 16 73    | 16 08 | 16 73    | 16 08 | 17 17    | 16 73 |
| Liverpool.....           | 16 51   | 15 86 | 16 51    | 15 86 | 16 51    | 15 86 | 17 38    | 16 95 |
| London.....              | 16 73   | 16 29 | 16 73    | 16 29 | 16 73    | 16 29 | 16 95    | 16 51 |
| Glasgow.....             | 17 60   | —     | 17 60    | —     | 16 95    | —     | —        | —     |
| Canadian Cumberland cut— |         |       |          |       |          |       |          |       |
| Liverpool.....           | 17 38   | 16 29 | 16 73    | 16 29 | 16 95    | 16 51 | 17 17    | 16 73 |
| Danish sides—            |         |       |          |       |          |       |          |       |
| Bristol.....             | 17 60   | 16 95 | 17 38    | 16 73 | 17 81    | 17 16 | 17 81    | 17 16 |
| Liverpool.....           | 16 51   | 16 73 | 17 38    | 16 73 | 17 60    | 16 95 | 18 25    | 17 81 |
| London.....              | 16 73   | 16 73 | 17 38    | 16 95 | 17 38    | 16 95 | 18 25    | 17 81 |
| Glasgow.....             | 17 60   | —     | 17 38    | —     | 26 95    | —     | 16 95    | —     |

## GREEN HAMS (per cwt. of 100 lb.).

|                     |       |       |       |       |       |       |       |       |
|---------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Canadian long cut—  |       |       |       |       |       |       |       |       |
| Bristol.....        | 20 66 | 19 56 | 20 00 | 19 35 | 19 56 | 19 13 | 19 56 | 19 13 |
| Liverpool.....      | 20 00 | 19 35 | 19 13 | 18 47 | 19 13 | 18 47 | 19 13 | 18 47 |
| London.....         | 20 22 | 19 56 | 19 56 | 19 35 | —     | —     | 18 47 | —     |
| American long cut—  |       |       |       |       |       |       |       |       |
| Bristol.....        | 17 81 | 16 95 | 17 38 | 16 08 | 16 51 | 15 86 | 16 51 | 15 86 |
| Liverpool.....      | 17 38 | 16 29 | 16 40 | 15 64 | 16 40 | 15 64 | 16 40 | 15 21 |
| London.....         | 19 13 | 17 81 | 18 25 | 17 81 | 18 25 | 17 81 | 17 38 | 16 73 |
| Glasgow.....        | 18 91 | —     | 18 25 | —     | 18 03 | —     | 18 03 | 17 38 |
| American short cut— |       |       |       |       |       |       |       |       |
| Bristol.....        | 16 95 | 16 08 | 16 73 | 15 86 | 16 51 | 15 64 | 16 51 | 15 64 |
| Liverpool.....      | 16 84 | 15 86 | 15 97 | 15 20 | 15 97 | 15 21 | 15 97 | 15 21 |
| London.....         | 17 17 | 16 08 | 16 08 | 15 64 | 15 64 | 15 43 | 15 64 | 15 21 |
| Glasgow.....        | 18 25 | —     | 17 38 | —     | 17 17 | —     | 17 17 | —     |

## PUBLICATIONS OF THE CENSUS AND STATISTICS OFFICE.

Copies of the undermentioned publications will so far as available be sent free on application to Archibald Blue, Chief Officer, Census and Statistics Office, Ottawa.

THE CANADA YEAR BOOK. Second Series, 1905-1912.

Each of these eight Volumes contains a complete summary of the principal events of the year and the acts of the Dominion Parliament, with statistics of population, agriculture, forestry, minerals, manufactures, trade and commerce, public accounts, banking, post office, insurance, railways, canals, marine, fisheries, etc.

LONGEVITY AND SANITATION. Bulletin VIII. The substance of addresses delivered by Archibald Blue before the McMaster Convocation and the American Public Health Association.

REPORT ON THE CENSUS OF POPULATION AND AGRICULTURE OF THE NORTHWEST PROVINCES. Manitoba, Saskatchewan and Alberta, 1906.

THE BEET SUGAR INDUSTRY. Bulletin IX. The result of an investigation of Sugar Beet production in Canada and the manufacture of the roots into refined sugar, with Appendix A consisting of the Hearings of the Customs Tariff Committee, 1905, and Appendix B, Beet Sugar Production in Posen, Germany. 75 pp., 3 illustrations.

OCCUPATIONS OF THE PEOPLE. Bulletin XI. The figures in this Bulletin are compiled from data of the Census of 1901.

BULLETINS OF THE FIFTH CENSUS OF CANADA, 1911. i. Manufactures for the year 1910. ii. Dairying Industries for the year 1910. iv. Agriculture of Nova Scotia. v. Agriculture of New Brunswick. vi. Agriculture of Quebec. vii. Agriculture of Ontario. viii. Agriculture of Manitoba. ix. Agriculture of Saskatchewan. x. Agriculture of Alberta. xi. Agriculture of British Columbia. xii. Religions of Canada. xiii. Origins of the People. xiv. Birthplace of the People. xv. Educational Status of the People. xvi. Mineral Production. xvii. Infirmities.

# CENSUS AND STATISTICS MONTHLY

Vol. 6

OTTAWA, NOVEMBER 1913.

No. 64

PUBLISHED BY AUTHORITY OF HONOURABLE GEORGE E. FOSTER, MINISTER OF TRADE AND COMMERCE. CORRESPONDENCE RELATING TO THE CENSUS AND STATISTICS MONTHLY SHOULD BE ADDRESSED TO ARCHIBALD BLUE, CHIEF OFFICER OF THE CENSUS AND STATISTICS OFFICE, DEPARTMENT OF TRADE AND COMMERCE, OTTAWA, CANADA.

## FIELD CROPS IN CANADA.

Report for the month ended October 31, 1913.

The total area under root and fodder crops (potatoes, turnips, mangolds, etc., hay and clover, alfalfa, fodder corn and sugar beets) is placed at 8,693,000 acres, and the total value of the products from this area at \$187,399,100. The estimated total yields and values of these crops are: potatoes 76,720,000 bushels, value \$37,379,000; turnips and other roots 73,090,000 bushels, value \$20,103,000; hay and clover 10,050,000 tons, value \$114,789,000; fodder corn 2,436,300 tons, value \$11,273,500; alfalfa 251,700 tons, value \$2,895,400 and sugar beets 161,000 tons, value \$959,000. These figures are provisional, as finally corrected returns, based on the census of 1911, will be available for publication at the end of the year. The average yields per acre for the Dominion are reported as 165.85 bushels for potatoes as compared with 172.19 bushels last year, 354.12 bushels for turnips and other roots as compared with 402.51, 1.32 ton for hay and clover as compared with 1.47 ton, 8.64 tons for fodder corn as compared with 10.26, and 2.44 tons for alfalfa as compared with 2.79. It will be recalled that last year's wet season was especially favourable for roots and fodder crops. In quality all these crops are marked as about 90 or above 90 per cent of the standard, excepting fodder corn, which is 85. The potato yield is highest in New Brunswick, 244 bushels, and lowest in Ontario, 119 bushels.

The area estimated to be sown to fall wheat for the crop of 1914 totals 1,006,700 acres, as compared with 1,086,800 acres, the area estimated to have been sown in 1912 for 1913. This represents a net diminution for the five provinces of Ontario, Manitoba, Saskatchewan, Alberta and British Columbia of 80,100 acres, or 7.37 p.c. Ontario, where nearly seven-tenths of the crop is grown, remains practically stationary, the estimated total reduction being only 2,000 acres from 696,000 acres. There is a diminution of 1,100 acres in the two provinces of Manitoba and British Columbia, offset by an increase of 6,000 acres, making 78,000 acres, in Saskatchewan. The bulk of the reduction is therefore in Alberta, where the acreage is estimated as 229,000 as against 312,000, or a decrease of 83,000 acres,—nearly 27 p.c. Correspondents attribute this decrease to the excessive amount of winter killing of fall wheat during the last three years, in consequence of which many farmers have given up this crop altogether. The condition of fall wheat for all Canada averages 93.74 p.c. of a standard Manitoba and Saskatchewan showing the best condition with 95 and 96 points respectively.

The percentage of fall ploughing completed compares well with last year, when however the conditions were exceptionally unfavourable. The percentage ranges from the lowest of 30 in Saskatchewan to the highest of 70 in Quebec. In Manitoba and Alberta the respective percentages are 58, compared with 27 last year and 44, compared with 24.

As compared with 1912 all the provinces devoted a smaller area to summer fallowing, excepting Prince Edward Island and the three Northwest provinces, where the increased percentages are from 2 to 5.

Census and Statistics Office,  
Ottawa, November 15, 1913.

ARCHIBALD BLUE,  
Chief Officer.

**I. Estimates of Area, Yield, Quality and Value of Potatoes, Roots and Fodder Crops, 1913.**

| Field crops              | Area      | Yield per acre | Total yield | Quality | Average price | Total value |
|--------------------------|-----------|----------------|-------------|---------|---------------|-------------|
|                          |           |                |             |         | \$            | \$          |
| Canada—                  | acres     | bush.          | bush.       | p. c.   | per bush.     |             |
| Potatoes .....           | 462,600   | 165·85         | 76,720,000  | 91·26   | 0·49          | 37,379,000  |
| Turnips and other roots. | 206,400   | 354·12         | 73,090,000  | 90·12   | 0·27          | 20,103,000  |
|                          |           | tons           | tons        |         | per ton       |             |
| Hay and clover .....     | 7,621,600 | 1·32           | 10,050,000  | 92·11   | 11·42         | 114,789,000 |
| Fodder corn .....        | 281,890   | 8·64           | 2,436,300   | 85·37   | 4·63          | 11,273,500  |
| Sugar Beets .....        | 17,500    | 9·20           | 161,000     | 89·95   | 5·96          | 959,000     |
| Alfalfa .....            | 103,230   | 2·44           | 251,700     | 92·51   | 11·50         | 2,895,400   |
| P. E. Island—            |           | bush.          | bush.       |         | per bush.     |             |
| Potatoes .....           | 31,400    | 194·33         | 6,102,000   | 88·39   | 0·28          | 1,709,000   |
| Turnips and other roots. | 7,400     | 503·04         | 3,722,000   | 90·35   | 0·24          | 893,000     |
|                          |           | tons           | tons        |         | per ton       |             |
| Hay and clover .....     | 184,100   | 1·79           | 330,000     | 95·18   | 10·76         | 3,546,000   |
| Fodder corn .....        | 260       | 11·20          | 2,900       | 57·00   | 2·54          | 7,600       |
| Nova Scotia—             |           | bush.          | bush.       |         | per bush.     |             |
| Potatoes .....           | 27,100    | 167·79         | 4,547,000   | 81·83   | 0·52          | 2,364,000   |
| Turnips and other roots. | 10,200    | 390·06         | 3,979,000   | 93·18   | 0·36          | 1,432,000   |
|                          |           | tons           | tons        |         | per ton       |             |
| Hay and clover .....     | 487,800   | 1·65           | 805,000     | 97·45   | 11·57         | 9,312,000   |
| Fodder corn .....        | 580       | 6·32           | 3,700       | 92·73   | 4·88          | 17,900      |
| Alfalfa .....            | 30        | 3·75           | 100         | 90·00   | 14·00         | 1,400       |
| New Brunswick—           |           | bush.          | bush.       |         | per bush.     |             |
| Potatoes .....           | 42,500    | 244·35         | 10,385,000  | 91·76   | 0·44          | 4,569,000   |
| Turnips and other roots. | 8,500     | 371·73         | 3,160,000   | 93·05   | 0·38          | 1,201,000   |
|                          |           | tons           | tons        |         | per ton       |             |
| Hay and clover .....     | 535,200   | 1·21           | 648,000     | 94·22   | 10·91         | 7,065,000   |
| Fodder corn .....        | 150       | 11·00          | 1,700       | 86·65   | 3·00          | 5,000       |
| Alfalfa .....            | 100       | 3·00           | 300         | 90·00   | -             | -           |
| Quebec—                  |           | bush.          | bush.       |         | per bush.     |             |
| Potatoes .....           | 128,200   | 176·76         | 22,661,000  | 93·31   | 0·46          | 10,424,000  |
| Turnips and other roots. | 12,300    | 298·56         | 3,672,000   | 88·64   | 0·36          | 1,322,000   |
|                          |           | tons           | tons        |         | per ton       |             |
| Hay and clover .....     | 2,666,400 | 1·35           | 3,600,000   | 89·13   | 12·08         | 43,484,000  |
| Fodder corn .....        | 35,600    | 7·50           | 267,000     | 80·57   | 5·20          | 1,388,000   |
| Alfalfa .....            | 9,600     | 2·11           | 20,000      | 90·36   | 8·30          | 168,000     |
| Ontario—                 |           | bush.          | bush.       |         | per bush.     |             |
| Potatoes .....           | 148,300   | 119·11         | 17,664,000  | 91·73   | 0·65          | 11,499,000  |
| Turnips and other roots. | 138,500   | 362·94         | 50,267,000  | 88·70   | 0·22          | 11,059,000  |
|                          |           | tons           | tons        |         | per ton       |             |
| Hay and clover .....     | 3,305,700 | 1·19           | 3,934,000   | 92·78   | 11·07         | 43,547,000  |
| Fodder corn .....        | 245,300   | 8·81           | 2,161,000   | 87·57   | 4·56          | 9,855,000   |
| Sugar Beets .....        | 15,300    | 9·23           | 141,000     | 88·68   | 6·20          | 876,000     |
| Alfalfa .....            | 77,100    | 2·32           | 179,000     | 93·45   | 12·03         | 2,152,000   |



**I. Estimates of Area, Yield, Quality and Value of Potatoes, Roots and Fodder Crops, 1913—concluded.**

| Field crops              | Area    | Yield per acre | Total yield | Quality | Average price | Total value |
|--------------------------|---------|----------------|-------------|---------|---------------|-------------|
|                          |         |                |             |         | \$            | \$          |
| <b>Manitoba—</b>         | acres   | bush.          | bush.       | p. c.   | per bush.     |             |
| Potatoes.....            | 24,000  | 196·93         | 4,726,000   | 91·70   | 0·36          | 1,701,000   |
| Turnips and other roots. | 4,700   | 252·80         | 1,188,000   | 90·13   | 0·41          | 487,000     |
|                          |         | tons           | tons        |         | per ton       |             |
| Hay and clover.....      | 151,200 | 1·48           | 224,000     | 93·53   | 8·64          | 1,933,000   |
| Alfalfa.....             | 3,300   | 2·82           | 9,300       | 95·45   | 10·67         | 99,000      |
| <b>Saskatchewan—</b>     |         |                |             |         |               |             |
| Potatoes.....            | 25,100  | 165·74         | 4,160,000   | 90·27   | 0·47          | 1,955,000   |
| Turnips and other roots. | 9,400   | 254·24         | 2,390,000   | 91·72   | 0·50          | 1,195,000   |
|                          |         | tons           | tons        |         | per ton       |             |
| Hay and clover.....      | 24,100  | 1·84           | 44,000      | 90·52   | 7·38          | 327,000     |
| Alfalfa.....             | 1,300   | 2·27           | 3,000       | 90·00   | 15·25         | 45,000      |
| <b>Alberta—</b>          |         | bush.          | bush.       |         | per bush.     |             |
| Potatoes.....            | 24,700  | 167·32         | 4,133,000   | 94·74   | 0·39          | 1,612,000   |
| Turnips and other roots. | 12,700  | 246·77         | 3,134,000   | 92·63   | 0·50          | 1,567,000   |
|                          |         | tons           | tons        |         | per ton       |             |
| Hay and clover.....      | 179,500 | 1·56           | 280,000     | 90·85   | 8·69          | 2,433,000   |
| Sugar beets.....         | 2,200   | 9·00           | 20,000      | 97·85   | 4·20          | 83,000      |
| Alfalfa.....             | 8,200   | 2·77           | 23,000      | 87·22   | 8·25          | 187,000     |
| <b>British Columbia—</b> |         | bush.          | bush.       |         | per bush.     |             |
| Potatoes.....            | 11,300  | 207·30         | 2,342,000   | 86·25   | 0·66          | 1,546,000   |
| Turnips and other roots. | 2,700   | 584·35         | 1,578,000   | 89·71   | 0·60          | 947,000     |
|                          |         | tons           | tons        |         | per ton       |             |
| Hay and clover.....      | 87,600  | 2·11           | 185,000     | 92·78   | 17·00         | 3,142,000   |
| Alfalfa.....             | 3,600   | 4·60           | 17,000      | 91·00   | 14·66         | 243,000     |

**II. Estimated Areas sown to Fall Wheat in 1913, compared with 1912 and Condition on October 31, 1913-12-11.**

| Provinces             | 1913      | 1912      | Total increase (+) or decrease (-) | Per cent increase (+) or decrease (-) | Per cent condition of crop, October 31 |       |       |
|-----------------------|-----------|-----------|------------------------------------|---------------------------------------|--|-------|-------|
|                       |           |           |                                    |                                       | 1913                                   | 1912  | 1911  |
|                       | acres     | acres     | acres                              | p. c.                                 | p. c.                                  | p. c. | p. c. |
| Canada.....           | 1,006,700 | 1,086,800 | - 80,100                           | - 7·37                                | 93·74                                  | 92·67 | -     |
| Ontario.....          | 694,000   | 696,000   | - 2,000                            | - 0·29                                | 93·98                                  | 93·04 | 95·17 |
| Manitoba.....         | 3,000     | 3,900     | - 900                              | - 23·08                               | 95·42                                  | 88·53 | -     |
| Saskatchewan.....     | 78,000    | 72,000    | + 6,000                            | + 8·33                                | 96·25                                  | 91·47 | -     |
| Alberta.....          | 229,000   | 312,000   | - 83,000                           | - 26·60                               | 91·15                                  | 93·97 | 95·47 |
| British Columbia..... | 2,700     | 2,900     | - 200                              | - 6·90                                | 92·50                                  | 92·78 | -     |

NOTE. The condition of fall wheat on October 31, viz., 93·74 p. c. of a standard, represents 98 p. c. of the average yield of the four years 1909-12 taken as 100. That is, the condition on October 31 promises a yield 2 p. c. below that of the four-year average, assuming that the conditions between now and harvest time are not affected by extraordinary phenomena.

## III. Fall Ploughing and Summer Fallowing 1913, 1912 and 1911.

| Provinces                  | Per cent of fall ploughing completed on land intended for the next year's crop |       |       | Percent of acreage summer fallowed compared with previous year as represented by 100 |        |        |
|----------------------------|--|-------|-------|--|--------|--------|
|                            | 1913   | 1912  | 1911  | 1913   | 1912   | 1911   |
|                            | p.c.   | p.c.  | p.c.  | p.c.   | p.c.   | p.c.   |
| Canada .....               | 54.34  | 43.56 | -     | 98.24  | 96.77  | -      |
| Prince Edward Island ..... | 69.26  | 77.44 | 90.40 | 92.29  | 104.84 | 98.38  |
| Nova Scotia .....          | 48.24  | 60.24 | 73.36 | 86.52  | 95.21  | 94.39  |
| New Brunswick .....        | 55.96  | 55.63 | 84.85 | 95.00  | 84.60  | 92.73  |
| Quebec .....               | 69.96  | 60.49 | 71.28 | 92.53  | 88.77  | 92.02  |
| Ontario .....              | 58.61  | 44.97 | 73.57 | 93.35  | 88.21  | 93.26  |
| Manitoba .....             | 57.90  | 26.72 | 34.12 | 98.78  | 103.46 | 95.71  |
| Saskatchewan .....         | 29.99  | 24.50 | 19.20 | 105.50   | 105.06 | 102.66 |
| Alberta .....              | 43.54  | 24.16 | 18.73 | 109.32   | 102.46 | 92.85  |
| British Columbia .....     | 49.38  | 38.00 | 50.31 | 100.00   | 80.00  | 70.00  |

## NOTES OF REPORTS FROM THE PROVINCES.

**Prince Edward Island.** Continuous wet weather during October has done much damage, and in many cases both grain and root crops were still out at the end of the month. In some cases the damage done is estimated to amount to as much as 40 p. c. The potato crop was however a good one, and a yield is reported in one instance of 625 bushels per acre of Late Puritan. Club Root has spoiled the crop of turnips in some cases, and it is suggested that the Government should make a thorough investigation of this disease with a view to stamping it out.<sup>1</sup>

**Nova Scotia.** Potatoes promised to be a good crop, but frost and wet weather before digging was completed lowered the yield somewhat. On account of the continued wet weather fall work is far behind. The crops are not harvested, and some of the grain that has been cut is rotting. Beans and carrots have rotted in the fields. Turnips are good in spite of several complaints of Club Root.<sup>1</sup>

**New Brunswick.** Up to October 1st the prospects were favourable for an abundant crop of grain of all kinds, but since the month came in there has been a continuous downpour of rain, and in some parts as much as 50 p. c. of the grain crop has been destroyed. Hay is excellent, and was harvested in good order. As in Nova Scotia the wet weather has delayed fall ploughing. Potatoes are a good crop, but a good many have been destroyed by rot. All root crops are good.

**Quebec.** The root crops in Quebec province are generally reported as favourable, though there are complaints as to drouth. More than one reference is made to the scarcity of farm labour; one correspondent in the

<sup>1</sup>A note on Club Root or "Finger-and-toe" in turnips by H. T. Güssow, the Dominion Botanist, was published in the Census and Statistics Monthly of January 1911, (Vol. 4, No. 32, p. 21). The principal remedy recommended is a thorough liming of the infected soil.

Eastern counties writes: "The scarcity of farm help through employment on railway and road works prevents the farmers from sowing as much as they would do were the labourers free."

**Ontario.** Owing to the dry weather in Ontario the average yield of potatoes for the province is the lowest in Canada. The quality however is generally reported as excellent, and there is an almost entire absence of blight or rot. The remark most frequently made by our correspondents with reference to this crop is: "Yield small, but quality good." There are of course individual instances of high yields, and a correspondent at Frontenac, eastern Ontario, reports 670 bushels to the acre dug by a farmer in a neighbouring township. A correspondent in southern Ontario writes that potatoes do not get the care they deserve from the average farmer. Inferior seed, careless cultivation and constant growth on the same plot near the house give poor results. The real potato farmer works sensibly and obtains a financial success. A correspondent in Elgin county asks for information as to a spray for blight, especially for the protection of late potatoes. Such a spray can be made of the usual Bordeaux mixture, which consists of from 4 to 6 lb. of bluestone, or sulphate of copper, and 4 lb. of slaked lime dissolved in 40 gallons of water. Other root crops in the province are fair, but the hay crop was light.

**Manitoba.** For the first two weeks of the month the weather was favourable for harvesting and threshing, but rains, wind, snow and frost since have hindered them somewhat. Very little fall ploughing is done, as the ground has been frozen since October 15th. Few root crops are grown, except for home use. Fodder corn seems to be slowly coming to the front. Alfalfa, where proper care is given, has done well. Potatoes are plentiful, but many bushels will be frozen in the ground. A correspondent in southern Manitoba reports that Marquis wheat (the produce of a sample from Ottawa) sown on the same field and at the same time as Red Fife produced 33 bushels per acre as against 21 bushels of Red Fife and was cut eight days earlier. Many farmers are beginning to practise mixed farming.

**Saskatchewan.** In this province potatoes, carrots and beets are grown almost entirely as garden crops for home use only, as there is practically no market for them. The yield of potatoes is rather light, but the quality is for the most part good. A correspondent reports that he raised 300 bushels of potatoes on  $\frac{1}{4}$  acre of land from 77 lb. of "Empire State" seed potatoes obtained from the Experimental Farm. One case of "Finger-and-toe" is reported in turnips.<sup>1</sup> Rain and snow delayed the threshing of grain, and by the time many farmers were able to start fall ploughing the ground had frozen. Larger areas of alfalfa have been sown this year, and a much heavier crop is looked for in 1914.

**Alberta.** Potatoes are very plentiful, the market price in one district being as low as 12 $\frac{1}{2}$  cents per bushel. A correspondent states that there are in his district several acres of potatoes still in the ground, as the price will not pay for the cost of lifting. Oats for green feed are being grown

<sup>1</sup> See note at foot of page 256.

very widely, as many farmers are going in for cattle raising on a larger scale. Many reports state that fall wheat is not being sown on account of the large areas winter killed last year. Fall rye is in many cases taking its place, as it is a surer crop. The season has been a good one for curing hay, and the quality is generally good.

**British Columbia.** Potatoes are a rather lighter crop than usual, but the quality is excellent. Hay and clover are above the average, but the second crop of alfalfa was very short. All roots have been stored in good condition.

## NOTICE TO CROP-REPORTING CORRESPONDENTS.

- There will be no crop report for the end of November. The next schedules issued to correspondents will relate to the final returns of the crop yields of the past season, and will be mailed early in December. The results will be published soon after the close of the calendar year.

## DEPARTMENT OF AGRICULTURE.

**Experimental Farms and Stations.** At the Central Farm, Ottawa, the highest temperature recorded during October was 78·2, the lowest being 22 and the mean for the month 50·41, compared with extremes of 75 and 26·2 and a mean of 48·92 in the corresponding period of last year. The weather during the first half of the month was fine and mild; but since the 16th it has been cooler, with more or less rainfall and as a rule very little sunshine. The precipitation of the whole period amounts to 4·08 inches, while the total in October, 1912, was only 2·47 inches. There were a few light flurries of snow during the morning of the 21-st. The bright sunshine recorded averages 4·33 hours a day, as against 5·58 hours daily for the corresponding month of last year.

The pulling of roots has been completed, the crop being a good average one. Potatoes were dug in the early part of the month, the yield averaging 225 bushels per acre. Ploughing and other fall work have been well advanced towards completion.

On the 11th fire completely destroyed the large barn at the Experimental Farm, consisting of the main barn (used for dairy cattle below, and for storage purposes above) and two wings, one occupied by the bulls and the calves and the other by steers which were being fed for beef. Large quantities of feed were consumed by the flames; but fortunately all the animals were saved. Steps were at once taken to rebuild, and it is gratifying to report that much progress has already been made in the reconstruction of one of the wings, which is needed without delay, and it is expected to be ready for the housing of cattle by about the 15th of November.

J. A. Clark, Superintendent of the Station at Charlottetown, P.E.I., reports: "October has been remarkable in that no frost has been recorded at this Station, the mean temperature being almost as high as that of September and a record one for Prince Edward Island. It has been raining



almost continuously, the precipitation amounting to nearly eight inches and there being only 66.3 hours of sunshine. Owing to the unfavourable weather harvest operations have remained almost at a standstill throughout the month. Much of the grain has been badly damaged in large sections of Prince and King's counties. Although Queen's county fared much better in this respect, considerable damage has also been caused there, particularly where farmers became discouraged and hauled in their grain before it was fit. At the close of the month a great deal of grain is still in the fields, while about one-half of the potato crop remains to be harvested. Roots have made wonderful growth and are giving very heavy returns. Six of the varieties of grape ripened up well before being picked, the best being 'Winchell,' while a number of others were so far advanced that they will yet ripen in the baskets. Rather slow progress has been made with the tile drainage at the Station, owing to weather conditions."

W. W. Baird, Superintendent of the Farm at Nappan, N.S., reports: "October for the greater part has been a very unseasonable month, being very cold and wet with comparatively little sunshine. Rain has fallen on thirteen different days, giving a total precipitation of 7.83 inches, which is exceedingly heavy for one month. The wet weather has caused inestimable damage throughout this district, due to the fact that the season was late and the grain had not been harvested, and consequently there has been almost a total loss of the same. Potatoes that have been dug as well as those left in the ground are suffering severely from rot. Further, the ground is so wet that considerable damage will result in the getting of the crops off the fields. In fact, in many cases the land is so saturated with moisture that it is feared that it will be impossible to get it ploughed this fall. At the Experimental Farm fortunately all the harvest had been stored before the wet weather set in. Likewise, being favoured with a few fine days, it has been possible to get the returns from the experimental root plots stored, but some ten acres of turnips remain to be harvested. All classes of live stock at this Farm are doing nicely. The work engaging attention during the month, other than harvesting, has included ploughing, hauling sand for flower beds, clearing land and burning off stumps, repairing drains around stables, hauling manure, picking and packing fruit, and building colony houses."

G. A. Langelier, Superintendent of the the Station at Cap Rouge, Que., reports: "October has been dull and wet, there being an average of but 2.46 hours of sunshine per day, with a total precipitation of 4.11 inches. It has rained on eleven days during the last two weeks. This delayed ploughing in low places and also kept back the pulling of roots. More turnips remain in the ground at the end of the month than is usual in this district. At the Experimental Station the work is being finished in connection with an extensive draining system on a piece of very good land, which has never grown anything on account of being too wet. The draining machine does splendid work when run carefully. A thirty-acre patch, which should grow heavy crops, is also being cleared, so that by 1915, at the latest, sixty-five acres will be added to the area already under cultivation."

W. C. McKillican, Superintendent of the farm at Brandon, Man., reports : "There has been a wide range of temperature during October, the highest being 81.3 and the lowest -3. This is the lowest reading of the thermometer for October since 1905, when the same degree was reached. The weather on the whole has been fine, affording a good opportunity for threshing and other outdoor work. Threshing was finished on most farms in Manitoba early in the month, and a good share of the fall ploughing has been done. On the Experimental Farm the spreading of manure and the work of fall ploughing have been the principal farm operations. The land froze up and stopped ploughing on the 27th."

T. J. Harrison, Superintendent of the Farm at Indian Head, Sask., reports : "During October the weather has been most unfavourable for threshing and all other outdoor work. On the Experimental Farm threshing operations were completed on the 1st. On the 7th 4.75 inches of rain fell, and on the 10th there was a fall of fourteen inches of soft snow, which thoroughly wetted stooks, and up to the last few days of the month very little threshing had been done throughout the district. Heavy night frosts set in about the 14th, and the land being thoroughly saturated all work on it had to be discontinued. The weather during the closing days of the month has moderated to a great extent, and at present a fine spell is being experienced."

Wm. A. Munro, Superintendent of the Station at Rosthern, Sask., reports : "There have been a few stormy days, but altogether the weather during October has been fine, favouring threshing operations, which have been completed in so far as this Station is concerned and also in most cases in the district generally. At the Experimental Station the yields from the uniform test plots of wheat and barley are approximately the same as last year; oats are considerably better than in 1912, but peas are not so good. Hard frosts held off until comparatively late this season, which favoured the later harvesting of roots and potatoes. The plots of potatoes average somewhat over 400 bushels per acre, as against over 600 bushels per acre a year ago. One of the old buildings has been remodelled as a workshop, which will afford facilities for carrying on during the winter a great deal of work that has heretofore been delayed until spring. This applies particularly to the hand-picking of seed grain."

R. E. Everest, Superintendent of the Station at Scott, Sask., reports : "October was very favourable for fall work up to the 27th, on which day ploughing was stopped. In comparison with October, 1912, the month has been rather more severe, the mean temperature being 6 degrees lower and the closing up of operations on the land four days earlier. Throughout the district threshing has been completed, and some fall ploughing has been done. The general crop returns are very good, many fine yields of wheat being reported, several carloads from this locality having been classed in the highest grade with favourable comment. On the Experimental Station crop returns on the whole are good : wheat and oats above the average, peas fair, and barley somewhat light. On the 16th seventeen head of two-

year-old steers, purchased for the purpose of outside winter feeding for beef, were delivered at this Station. These animals will remain on prairie pasture until the beginning of December, when they are to be weighed into corral and started on a meal and hay ration. Fall work at this Station is well advanced. Special attention is being given to the construction of 700 feet of lawn fence in front of the grounds and to the extension of the water pipe line from barn to corral."

G. H. Hutton, Superintendent of the Station at Lacombe, Alta., reports: "The weather during the month of October has been favourable for conducting fall work. In the district threshing generally has been completed, and a larger acreage than usual has been fall ploughed. Stock are going into winter in good condition. The buildings in connection with the new poultry plant at the Experimental Station have been finished and are now ready for occupation."

W. H. Fairfield, Superintendent of the Station at Lethbridge, Alta., reports: "By the end of October probably more than 95 p. c. of the threshing in the southern part of Alberta has been completed. The weather during the month has not been as favourable for threshing as it was during September. Although the rainfall only amounts to one-half an inch, stormy days and high winds have been more frequent. The mean temperature is more than three degrees lower than for the corresponding month of 1912. The alfalfa crop on irrigated land has been up to the average and most of it has been put up in good condition; but the price is lower than it has been for a number of years. The number of cattle and sheep purchased for feeding purposes is greater than was the case a year ago. At this Station considerable fall ploughing has been done and the field work is well in hand."

P. M. Moore, Superintendent of the Farm at Agassiz, B. C., reports: "The weather during October on the whole has been most unpleasant, the opening week being the only fine one, since which it has been mostly wet and dull, making work on the land intermittent and harvesting operations disagreeable. The leading lines of work at the Farm during the month have included threshing, corn harvesting, and the pulling of man-golds. Although this has not been what could be termed a favourable year for corn, there has been about an average return from this crop at the Experimental Farm. An area of a little over sixteen acres of land, which was not in very good shape for the purpose, yielded 251 tons at a total cost in the silo of \$686.07, or \$2.73 per ton. Even at this figure one could feed corn ensilage at the rate of 50 lb. per day for 240 days and have the bulk of the cow's ration for \$16.38. All classes of live stock at the Experimental Farm are in good condition and will go into the winter in first class shape."

The records of temperature, precipitation and sunshine at the several Experimental Farms and Stations for the month of October are given in the following table:

## Meteorological Record for October, 1913.

| Experimental Farm<br>or Station at— | Degrees of temperature, F. |        |       | Precipitation<br>in<br>inches | Hours of sunshine |        |
|-------------------------------------|----------------------------|--------|-------|-------------------------------|-------------------|--------|
|                                     | Highest                    | Lowest | Mean  |                               | Possible          | Actual |
| Ottawa, Ont. ....                   | 78.2                       | 22.0   | 50.41 | 4.08                          | 339               | 134.3  |
| Charlottetown, P.E.I. .             | 70.0                       | 33.0   | 55.06 | 7.71                          | 339               | 66.3   |
| Nappan, N.S. ....                   | 72.0                       | 28.0   | 55.28 | 7.33                          | 339               | 71.3   |
| Cap Rouge, Que. ....                | 73.0                       | 24.2   | 48.96 | 4.11                          | 339               | 76.3   |
| Brandon, Man. ....                  | 81.3                       | 3.0    | 34.40 | .73                           | 333               | 137.5  |
| Indian Head, Sask. ....             | 73.0                       | 5.0    | 33.22 | 6.47                          | 331               | 107.2  |
| Rosthern, Sask. ....                | 69.0                       | .7     | 32.10 | .29                           | 334               | 126.4  |
| Scott, Sask. ....                   | 72.0                       | -5.4   | 32.99 | .46                           | 335               | 137.0  |
| Lacombe, Alta. ....                 | 81.5                       | 9.7    | 35.55 | .68                           | 328               | 141.7  |
| Lethbridge, Alta. ....              | 78.2                       | 12.3   | 39.20 | .50                           | 331               | 152.7  |
| Agassiz, B.C. ....                  | 66.0                       | 33.0   | 47.77 | 8.84                          | 334               | 73.4   |

J. H. GRIDALE,

Director Experimental Farms.

Ottawa, November 12.

**Seed Branch.** Since September 1 over 1,400 samples have been received at the Ottawa Laboratory, a large percentage of which were timothy and clovers. Taking these as an indication it would seem that timothy is somewhat below the average in quality while red clover is above. Alsike also seems to be better than last year.

Summaries from the reports of inspection for eastern Canada are given below :

**PRINCE EDWARD ISLAND.** Mr. Le Lacheur reports wheat and oats as exceeding the average both in quantity and quality. While the smaller acreage under timothy has reduced the total output, the quality is good.

**NOVA SCOTIA.** Mr. Moore reports the general seed supply as being above the average with a 75 p.c. increase in timothy, 50 p.c. more oats, and 10 p.c. additional potatoes, while wheat, barley and buckwheat are average yields.

**NEW BRUNSWICK.** Mr. Moore indicates a falling off in the timothy supply of about 50 p.c., with an increase of from 10 to 25 p.c. in oats, wheat and potatoes, while barley and buckwheat hold their own.

**QUEBEC.** Mr. Simard reports an increased amount of oats, wheat, rye, barley and peas available for seed purposes, and about an average quantity of timothy, while there is a reduction in buckwheat and clovers due to frost. But with the exception of buckwheat all seeds are above the average in quality.

**EASTERN AND NEW ONTARIO.** Mr. Raynor reports the seed crop as an average one with quality considerably better than usual. Grasses and clovers are good, excepting in the Ottawa and St. Lawrence Valleys, where both clover and timothy were badly winter killed. On account of this injury Eastern Ontario will be short of seed. There will be an abundance of seed oats available.



**WESTERN ONTARIO.** Mr. Lennox reports peas, spring wheat and oats to be above the average. While there is not much variation in corn and timothy from the normal, the average of the latter was less than usual, consequently there will be little offered for sale. Clovers are below average in yield but above in quality.

**WESTERN CANADA.** Conditions were particularly favourable for the production of first class seed over this area which had suffered the previous year from frost. Seed will be available in large quantities everywhere, and doubtless farmers who had difficulty in procuring it in 1912 will retain a sufficient amount to carry them over a possible repetition of similar conditions. This refers particularly to cereals. Grasses suffered somewhat from lack of moisture, especially in Manitoba, where the crops of Western rye grass and Brome were light; in most cases, however, there is sufficient to meet local demand.

GEO. H. CLARK, Seed Commissioner.

Ottawa, November 26.

**Tobacco Division.** In general, both in Quebec and in Ontario, the tobacco harvest of 1913 was gathered in spite of adverse climatic conditions. Persistent drouth and cold weather have considerably reduced the yields from the tobacco plantations in the counties north of Montreal. In the southern centres rains were sufficient and fairly well distributed; but the summer was not warm enough to produce a really normal crop. The tobacco ripened late, and frosts did some damage about the 15th September. On the other hand the fall has been exceptionally mild—not too rainy; and the curing was carried out under ideal conditions. The Ontario harvest was also delayed by unfavourable climatic conditions, which interfered especially with the yield of the yellow tobaccos of the Virginian type, the growth of which is being rapidly extended. Local storms, sometimes with hail, did considerable damage and caused losses both in buildings and in broken leaves.

The Thielavia, or root rot, has prevailed badly amongst the seedlings and some of the plantations. This disease appears to be gaining ground, and the Ontario tobacco growers should without delay take the energetic measures recommended to them for the eradication of this pest.<sup>1</sup>

In spite of the late date at which the Burleys were harvested their curing was accomplished successfully during the exceptionally fine fall, and damage in the shed was probably of rare occurrence.

F. CHARLAN, Chief of Tobacco Division.

Ottawa, November 18.

<sup>1</sup>See Census and Statistics Monthly, October 1913, p. 244.

## CROP REPORTS FROM OTHER COUNTRIES.

**England and Wales.** The Board of Agriculture reports that October was very generally a favourable month for all kinds of farm work; nearly everywhere harvesting had been completed, and good progress made with autumn cultivation, while roots and grasses had also benefited. With a few exceptions in late districts, where the rain towards the end of September had interfered with the ingathering, the quality and condition of wheat are generally good, and the same may be said of barley in most parts of the country; but there are many complaints regarding oats. Of the latter especially it is frequently reported that they were stacked in damp condition with consequent overheating of ricks. The bulk of the potatoes have now been lifted under favourable conditions. The quality is generally good; and, although reports of disease are not lacking from almost every district, there would seem to be much less than usual. The mild open weather has favoured continuous growth of the roots; and, while in a few counties man-golds have all been lifted, in many others farmers have been tempted to leave them in the ground as long as possible. Turnips and swedes have distinctly improved. The weather has been very suitable for autumn cultivation, which is upon the whole more forward than usual (except in Wales). Wheat sowing is well advanced and in some localities completed; where showing, the plant is quite healthy and satisfactory.

**Ireland.** The Irish Department of Agriculture reports that this has been one of the worst fruit years for a considerable time. Apples are reported as scarce. Nearly everywhere the crop is below average. In Leinster they are scarcer than they have been for many years; in Munster they are below average in size; in Ulster apples are not quite half a crop, and in Connaught they are small and a very poor crop.

**France.** The French Department of Agriculture reports that the average condition of corn, root, hay, fodder and other crops on October 1, compared with September 1, was as follows:

| Crops                      | Oct. 1 | Sept. 1 | Crops                      | Oct. 1 | Sept. 1 |
|----------------------------|--------|---------|----------------------------|--------|---------|
| Corn.....                  | 63     | 65      | Natural meadows.....       | 75     | 68      |
| Potatoes.....              | 60     | 56      | Vines.....                 | 48     | 45      |
| Artichokes.....            | 73     | 72      | Cider apples and pears.... | 58     | 54      |
| Sugar beets.....           | 74     | 73      | Hops.....                  | 60     | 60      |
| Beet for distillation..... | 75     | 72      | Osiers.....                | 72     | 78      |
| Mangolds.....              | 71     | 68      | Tobacco.....               | 70     | 67      |
| Artificial meadows.....    | 72     | 71      | Flax.....                  |        | 72      |
| Temporary pastures.....    | 73     | 69      | Hemp.....                  | 55     | 65      |
| Annual green crops.....    | 74     | 69      |                            |        |         |

Scale of points: 100 very good, 80 good, 60 fairly good, 50 fair, 30 poor, 20 bad.

The averages in the above table are for the whole of France and are given in accordance with the desire expressed by the International Agricultural Institute. They represent for each crop the arithmetic mean of the

points allotted to the different departments without regard to the respective areas, which it is not possible to determine for the purposes of this report.

**Germany.** The Imperial Statistical Bureau published on August 26 the following preliminary estimate of the areas under the principal field crops in Germany in 1913. The figures of the three previous years are added for comparison.

| Crops                        | 1913         | 1912         | 1911         | 1910         | Difference<br>between<br>1913 and<br>1912 |
|------------------------------|--------------|--------------|--------------|--------------|---|
|                              | 000<br>acres | 000<br>acres | 000<br>acres | 000<br>acres | 000<br>acres                              |
| Winter wheat.....            | 4,317        | 4,275        | 4,327        | 4,330        | + 42                                      |
| Spring wheat.....            | 561          | 483          | 551          | 514          | + 78                                      |
| All wheat.....               | 4,878        | 4,758        | 4,878        | 4,844        | + 120                                     |
| Winter spelt.....            | 674          | 699          | 696          | 728          | - 25                                      |
| Winter rye.....              | 15,553       | 15,224       | 14,865       | 14,966       | + 329                                     |
| Spring rye.....              | 297          | 265          | 296          | 290          | + 32                                      |
| All rye.....                 | 15,850       | 15,489       | 15,161       | 15,286       | + 361                                     |
| Spring barley.....           | 4,087        | 3,928        | 3,917        | 3,881        | + 159                                     |
| Oats.....                    | 10,967       | 10,839       | 10,694       | 10,599       | + 128                                     |
| Potatoes.....                | 8,431        | 8,257        | 8,208        | 8,145        | + 174                                     |
| Clover and grasses.....      | 4,910        | 4,271        | 4,969        | 5,145        | + 630                                     |
| Alfalfa.....                 | 620          | 608          | 599          | 600          | + 12                                      |
| Water meadows.....           | 1,229        | 1,135        | 1,206        | 1,269        | + 94                                      |
| Other meadows.....           | 13,408       | 13,495       | 13,450       | 13,462       | - 87                                      |
| Winter rape and turnips..... | 79           | 83           | 118          | 127          | - 4                                       |
| Hops.....                    | 67           | 67           | 66           | 68           | -   |
| Grape vines in bearing.....  | 262          | 269          | 272          | 278          | - 7                                       |

The crop report for the beginning of October on the condition of potatoes, clover, alfalfa and meadows gives the following average points, the figures within parentheses being those of the previous month: Potatoes 2.4 (2.6), clover 2.4 (2.4), alfalfa 2.5 (2.4), water-meadows 2.1 (2.4). At the beginning of October the digging of potatoes was in full progress and in some places had been completed. The yield was reported as generally satisfactory both as regards quality and quantity. The report on the condition of autumn sown crops at the beginning of November gives 2.5 as the average note for winter wheat, 2.3 for spelt and 2.5 for rye. No very definite statement could be made however as regards wheat and spelt, as the sowings had not everywhere germinated and in some places seeding was not completed. The early sowings of rye had developed well. (Scale of points 1 = very good, 2 = good, 3 = average).

**Hungary.** The Hungarian Department of Agriculture reports (October 6) that the yield of corn was expected to be 194,301,000 bushels from 6,422,000 acres, as compared with 176,695,000 bushels from 6,023,000 acres in 1912. Potato digging had been completed in most parts. The potatoes gave generally a good yield as regards quantity, but the quality of the tubers is not satisfactory on account of the rotting observed in many places and the exceedingly large water content. Farmers fear that these will soon rot

during storage. The anticipated yield is 179,766,000 bushels from 1,563,000 acres, as compared with 197,784,000 bushels from 1,530,000 acres in 1912.

**Russia.** H. M. Commercial Attaché at the British Embassy sends (October 13) an abridged translation of reports appearing in the official Commercial Gazette of St. Petersburg of September 24/ October 7. These state that this year's grain crop in Russia, good as it is, and above the average of the previous five years, has not come up to the still higher expectations of July. The winter wheat yield is in general above the average, and in places it is good. The spring wheat crop is good, excellent, average or above average in most of the governments. It is unsatisfactory chiefly in the Ter Territory, Penza, and in parts of the governments of Nijni Novgorod, Ekaterinoslav, and Saratoff. The rye crop in general is only average. The oat crop is the best of all the cereals, giving as it does a more than average yield and even approaching "good". The yield of barley is somewhat below that of oats, but is likewise in general above the average. In western Siberia the yield of the majority of cereals is above the average. The quality of the harvest is in general not particularly high. In the southwest, west, and parts of the central governments the crops suffered from uninterrupted rain. In the east, on the other hand, drouth unfavourably influenced the yield, where however the winter grains were gathered in before the dry weather set in; but the spring grains were substantially reduced in quality. Finally hail storms did much damage in numerous localities, considerably lowering both quality and quantity. The best quality is in the southeast, the northeast and in the eastern half of the agricultural midlands. The same official organ in its issue of September 25/ October 8, quoting from reports of the Finnish Department of Agriculture, states that the rye crop in Finland is in general satisfactory both with respect to quality and quantity. The yield of spring grains is in general satisfactory. The barley crop is fairly good in one government, above average in three and average in the other four governments. The oat crop is a more successful one.

H. M. Acting Consul General at Odessa reports (October 7) that the Russian sugar beet root crop is expected to amount to over 12,000,000 tons or 1,265,000 tons more than last year. No such difficulties in gathering it, such as were experienced last year owing to the excessive rain, are to be apprehended. The percentage of sugar obtained is less than last year. Digging commenced about two weeks ago, and owing to favourable weather it is expected that all the beet will be dug out and delivered to the works, which was not the case last year, when 25 p.c. was left on the fields to rot. Six new sugar works have been started this year.

**Argentina.** H. M. Minister at Buenos Aires reports (October 7) that the crops are unusually advanced this season and that, unless unforeseen circumstances intervene to prevent, it should be both early and abundant. As yet it was too soon to make any statement as to the maize crop. Sowing of this cereal has only just begun in some portions of the Republic. It is safe, however, to prognosticate that there will be a larger area sown this year than last year, owing to the reported failure of the maize harvest in



the United States. The locust invaded the northern provinces early this season, and notices to hand report swarms of the insects both in Santa Fé and Cordoba. The Agricultural Defence Department is engaged in taking steps to destroy them. So far these swarms have not done much serious damage. The areas reported as sown are for wheat 16,371,000 acres, oats 3,091,000 acres and flaxseed 4,391,000 acres. The area sown to wheat shows a small decrease as compared with that of last year. The floods in the southern portion of the province of Buenos Aires, the waters of which are only now subsiding, are responsible to a certain extent for this falling off. Another reason is that land which last year was given over to agriculture has, due to the rise in the price of cattle, been put down under alfalfa for grazing purposes. There also appears to be a tendency to mix cattle breeding with agriculture. There is however a small increase in both the areas sown with oats and linseed, which is most noticeable in the provinces of Entre Rios and Cordoba. Up to last year barley and rye were sown in insignificant quantities, but signs are not wanting to show that these two cereals are taking their place among the staple crops of the Republic.

**United States.** The Crop Reporting Board of the United States Department of Agriculture issued (November 10) the following estimates of the production and value of this year's crops compared with 1912:

| Crops           | Yield per acre |       |                | Total yield |           | Price Nov. 1 |       |
|-----------------|----------------|-------|----------------|-------------|-----------|--------------|-------|
|                 | 1913           | 1912  | 10 yrs average | 1913        | 1912      | 1913         | 1912  |
|                 | bush.          | bush. | bush.          | 000 bush.   | 000 bush. | cents        | cents |
| Corn .....      | 23·0           | 29·2  | 27·0           | 2,463,017   | 3,124,746 | 70·7         | 58·4  |
| Wheat .....     | 15·2           | 15·9  | 14·2           | 753,233     | 730,267   | 77·0         | 83·8  |
| Oats .....      | 29·3           | 37·4  | 29·8           | 1,122,139   | 1,418,337 | 37·9         | 33·6  |
| Barley .....    | 23·9           | 29·7  | 25·5           | 173,301     | 223,824   | 54·7         | 63·8  |
| Rye .....       | 16·3           | 16·8  | 16·1           | 34,789      | 35,664    | 63·2         | 68·8  |
| Flaxseed .....  | 7·9            | 9·8   | 9·0            | 19,234      | 28,073    | 118·7        | 133·4 |
| Buckwheat ..... | 17·2           | 22·9  | 19·8           | 14,455      | 19,249    | 75·5         | 65·5  |
| Potatoes .....  | 89·2           | 113·4 | 96·0           | 328,550     | 420,647   | 69·6         | 45·5  |
|                 | ton            | ton   | ton            | 000 tons    | 000 tons  | \$ c.        | \$ c. |
| Hay .....       | 1·31           | 1·47  | 1·43           | 63,460      | 72,691    | 12·26        | 11·80 |
|                 | lb.            | lb.   | lb.            | 000 lb.     | 000 lb.   |              |       |
| Tobacco .....   | 789·8          | 785·5 | 824·0          | 903,875     | 965,855   | —            | —     |

The average weights per measured bushel for wheat, oats and barley are as follows: Wheat 58·6 lb. against 58·3 lb. last year and 57·8 lb. the ten-year average; oats 32·1 lb. against 33 lb. last year and 31·5 lb. the ten-year average; barley 46·5 lb. against 46·8 lb. last year and 46 lb. in 1911. The percentage quality this year compared with the ten-year average is for corn 95·8, buckwheat 95·5, potatoes 99·3, sweet potatoes 99·4, flaxseed 101·8, tobacco 97·4.

The percentage of the 1912 crop of corn on farms November 1, 1913, is estimated at 4·4 per cent (137,972,000 bushels), against 2·6 per cent (64,764,000 bushels) of the 1911 crop on farms November 1, 1912, and 3·8 per cent, the average of similar estimates of the past ten years.

## INTERNATIONAL INSTITUTE OF AGRICULTURE.

In the Bulletin of Agricultural Statistics for October a further revision appears of the areas and yields of cereals in the northern hemisphere for the season of 1913. For some reason not explained the data from Bulgaria previously given are omitted, Holland is added, and changes are made in respect of several other countries. The net result is that the wheat yield in 20 countries now totals 3,277,208,000 bushels from 224,480,000 acres, or 4.2 p.c. in quantity and 1.5 p.c. in area more than last year; rye in 15 countries yield 1,605,714,000 bushels from 99,612,000 acres, the production being equal to last year upon an area 1.7 p.c. larger; barley in 19 countries yields 1,267,217,000 bushels from 62,370,000 acres, which is more than last year by 1.2 p.c. in quantity and 5.5 p.c. in area; for oats in 19 countries the total yield is 3,700,205,000 bushels from 125,603,000 acres, 3.4 p.c. less in quantity and 2.7 p.c. more in area than last year; maize in nine countries shows a production of 2,775,025,000 bushels from 122,850,000 acres, this yield being 22.3 p.c. less than last year from an area practically the same. Of the maize about 88 p.c. is grown in the United States.

A cablegram received from Rome on the 22nd November reports that the preliminary estimate of the production of wheat in European Russia is 837,751,000 bushels, as compared with 674,706,000 bushels reported two months ago and 623,761,000 bushels the final estimate for last year; the yield of barley is placed at 549,971,000 bushels, compared with 462,694,000 bushels two months ago and 455,957,000 bushels last year; and that of oats at 1,036,656,000 bushels against 884,762,000 bushels two months ago and 916,014,000 bushels last year. These figures change of course the percentages above given, and the total production of the countries that have so far reported to the Institute is therefore now for wheat 9.2, for barley 7.5 and for oats 0.8 p.c. more than last year.

**Sugar Beet.** Nine countries have reported provisional figures for the yield of sugar beet in 1913, compared with the definite figures of the previous year. Germany reports a yield of 14,674,000 tons (2.7 p.c. more), Hungary proper 5,265,000 tons (0.4 p.c. less), Belgium 1,571,000 tons (17.6 p.c. less), Denmark 886,000 tons (23.1 p.c. more), Spain 1,190,000 tons (0.1 p.c. more), Italy 2,091,000 tons (15.2 p.c. more), Netherlands 1,533,000 tons (36.1 p.c. less), Switzerland 35,000 tons. These are short tons of 2,000 lb.

**Tobacco.** The tobacco yield from five countries is reported provisionally as 1,021,708,000 lb., as compared with 1,119,551,000 lb. in 1912, this being less by 8.7 p.c. The bulk of the production is in the United States, 876,975,000 lb., compared with 962,849,000 in 1912, or 8.9 p.c. less. The other four countries reporting are Japan, Italy, Belgium and Switzerland.

**Southern Hemisphere.** The first estimate of the areas sown to wheat, oats and flaxseed in Argentina for the season of 1913-14 is as follows: Wheat, 16,371,000 acres (17,096,000 acres), oats 3,091,000 acres (2,946,000 acres), flaxseed 4,391,000 acres (4,283,000 acres). The figures within parentheses

are those of 1912-13. Spring sowing in Chili took place under good conditions, the germination being regular and the weather conditions favourable. In Australia the area sown to wheat for 1913-14 is 8,933,000 acres, 21·7 p.c. more than the area cropped in 1912-13, which was 7,339,000 acres. In New Zealand the sowing of wheat, barley and oats was accomplished under bad conditions, and germination is irregular. The condition of crops on October 1 was nevertheless average, i.e., equal to 100 in the Institute's system. Weather is unfavourable.

**Live Stock in Australia.** The numbers of live stock on December 31, 1912, are reported as follows: Horses 2,399,123 (2,279,027), cattle 11,658,328 (11,828,954), sheep 83,593,846 (93,003,521), pigs 844,313 (1,110,721). The figures within parentheses are those of the corresponding date of 1911.

## ENGLISH CROP AND LIVE STOCK RETURNS, 1913.

The Board of Agriculture and Fisheries has issued under date of October 20 a preliminary statement giving the acreage under crops and the returns of live stock in England and Wales on June 4, 1913. The following table compares these returns with those of the previous year :

| Field crops     | 1913      | 1912      | Difference between 1912-13 | Field crops   | 1913       | 1912       | Difference between 1912-13 |
|-----------------|-----------|-----------|----------------------------|---------------|------------|------------|----------------------------|
|                 | acres     | acres     | acres                      |               | acres      | acres      | acres                      |
| Wheat . . . .   | 1,701,588 | 1,863,364 | - 161,776                  | Clover and    |            |            |                            |
| Barley . . . .  | 1,558,856 | 1,456,528 | + 102,328                  | grasses . .   | 2,495,832  | 2,523,013  | - 27,181                   |
| Oats . . . . .  | 1,974,700 | 2,072,479 | - 97,779                   | Permanent     |            |            |                            |
| Rye . . . . .   | 51,506    | 54,133    | - 2,627                    | grass . . .   | 16,071,149 | 15,839,414 | + 231,735                  |
| Beans . . . . . | 268,279   | 277,001   | - 8,722                    | Hops . . . .  | 35,676     | 34,829     | + 847                      |
| Peas . . . . .  | 164,044   | 201,135   | - 37,091                   | Orchards . .  | 243,623    | 244,825    | - 1,202                    |
| Buckwheat . .   | 3,686     | 4,990     | - 1,304                    | Small fruit . | 76,861     | 77,997     | - 1,136                    |
| Potatoes . . .  | 442,035   | 462,903   | - 20,868                   | Other field   |            |            |                            |
| Turnips and     |           |           |                            | crops and     |            |            |                            |
| sweetweds . .   | 1,033,312 | 1,072,943 | - 39,631                   | bare fallow   | 812,275    | 748,297    | + 63,978                   |
| Mangold . . .   | 419,583   | 485,664   | - 66,081                   |               |            |            |                            |

The returns show a decline in the arable area amounting to 277,000 acres, most of which was transferred to permanent pasture, and the latter area now for the first time surpasses 16,000,000 acres. Wheat shows a decline of 162,000 acres, the total thus reverting to rather less than in 1910. Oats also decreased by 98,000 acres; but the area under barley has increased by 102,000 acres. Most of the other crops show a decline, probably owing to the difficulties of the sowing season. Bare fallow increased by 114,000 acres, thus emphasising the conditions of the early part of the year. Potatoes declined by 21,000 and mangolds by 66,000 acres. Clover and grasses under rotation fell off by 27,000 acres; but the area reserved for hay,

whether seeds or meadow, shows an increase of 273,730 acres. The total area of England and Wales (excluding water) is 37,138,765 acres.

The numbers of live stock are returned as follows, the figures of 1912 being placed within parentheses: Horses, 1,402,146 (1,406,010), cattle 5,716,944 (5,841,720), sheep 17,130,286 (18,053,365), pigs 2,101,902 (2,496,670). These decreases are at the rate of 0·3 p.c. horses, 2·1 p.c. cattle, 5·1 p.c. sheep and 15·8 p.c. pigs.

A further preliminary statement issued on November 13 gives the estimated total production and yield per acre of grain, pulse and hay crops for 1913 with comparative figures as follows:

| Crops                                  | 1913       | 1912       | 1913              | 1912              | Average<br>10 year<br>1903-12 |
|--|------------|------------|-------------------|-------------------|-------------------------------|
|  | bush.      | bush.      | bush.<br>per acre | bush.<br>per acre | bush.<br>per acre             |
| Wheat . . . . .                        | 53,131,896 | 53,442,776 | 31·22             | 28·68             | 31·31                         |
| Barley . . . . .                       | 50,571,776 | 44,339,240 | 32·44             | 30·44             | 32·87                         |
| Oats . . . . .                         | 75,904,184 | 73,165,520 | 37·98             | 35·30             | 40·61                         |
| Beans . . . . .                        | 7,318,672  | 7,428,328  | 28·30             | 27·40             | 29·73                         |
| Peas . . . . .                         | 3,373,888  | 3,899,040  | 36·40             | 22·53             | 26·68                         |
|  | long ton.  | long ton.  | long ton.         | long ton.         | long ton.                     |
| Hay from clover, sainfoin, etc . . . . | 2,709,068  | 2,031,052  | 1·59              | 1·31              | 1·45                          |
| Hay from permanent grass . . . . .     | 6,343,254  | 6,094,432  | 1·25              | 1·23              | 1·18                          |

The yield per acre this year of all the seven crops included in these returns is above that of 1912, and in the case of both kinds of hay it is also above the average of the past ten years. The total production of wheat, upon a reduced acreage, amounts to 53,131,896 bushels, which is very slightly below last year; and the average yield—31·22 bushels per acre—while  $2\frac{1}{2}$  bushels better than in 1912, is only just below the ten years' average. Barley has yielded almost  $32\frac{1}{2}$  bushels per acre, exactly 2 bushels more than last year, but about  $\frac{2}{5}$  bushel below the mean; and the total production is quite three-fourths of a million bushels above 1912. Oats are relatively the poorest crop of the season, the 37·98 bushels per acre being  $2\frac{2}{3}$  bushels below the average, but still  $2\frac{2}{3}$  bushels more than in 1912; the total production is also more than last year. Beans are about  $1\frac{1}{2}$  bushel and peas about  $\frac{1}{4}$  bushel below the mean, but well above 1912; but their total production, owing to the decreased area sown with these crops, is less than in the previous year. The hay crop is satisfactory, that from clover and rotation grasses being almost  $5\frac{3}{4}$  cwt. above 1912 and nearly 3 cwt. over the average, and meadow hay being  $1\frac{1}{2}$  cwt. above average, these figures representing the heaviest yield since 1907. The total production of hay of both kinds amounts to 9,052,322 long tons, or 927,000 tons more than last year.



## INTERNATIONAL STATISTICAL INSTITUTE.

## FOURTEENTH SESSION AT VIENNA.

The fourteenth session of the International Statistical Institute was held at Vienna, Austria, from the 9th to the 13th of September last under the presidency of Senator Luigi Bodio of Rome, Italy. The Institute was founded in London in 1885 at the time of the jubilee of the Royal Statistical Society, but international conferences of statisticians were held periodically before that date, going back indeed to the time of Quételet, the famous Belgian statistician and mathematician (1796-1874). Under the rules membership of the Institute is limited to 200, the members being elected from "amongst the men of the various nations who have distinguished themselves in administrative or scientific statistics, such as chiefs of official statistics, members of central statistical bureaux or of the statistical bureaux of states and large towns, members of statistical societies and other scientists." The meetings are held biennially at different capitals. At Vienna about 175 members and invited representatives were present of whom 51 were official delegates from the governments of different countries.

For the first time the Dominion of Canada was specially represented by an official delegate of the Canadian Government, viz., Mr. Ernest H. Godfrey of the Census and Statistics Office, who was elected a member of the Institute in 1910. The other British representatives were Mr. R. H. Rew, C.B., Assistant Secretary of the Board of Agriculture and Fisheries (delegate and member), Mr. A. W. Flux, Director of the Census of Production, Board of Trade (delegate and visitor), Mr. G. Udny Yule, Lecturer on Statistics, University of Cambridge (member), Dr. Reginald Dudfield, Medical Officer of Health for Paddington (member) and Captain R. Muirhead Collins, R.N., C.M.G., Secretary, Office of the High Commissioner for Australia (delegate and visitor). Special difficulties prevented an official delegation from the Government of the United States, but Prof. R. T. Ely of the Wisconsin University was present as a member and Mr. John Koren, president of the American Statistical Association, as a visitor.

His Imperial and Royal Highness the Archduke Leopold Salvator, under whose high patronage the session was held, welcomed the delegates and members at the opening sitting on September 9, delivering an address in which he referred to statistics as the science of measurement and comparison, having for object the progress of the entire civilised world, transmitting a profound knowledge of social phenomena and their causes and furnishing the indispensable basis of every legislative or administrative act.

The work of the session proceeded in three sections, viz., (1) Demography and Method; (2) Economics; and (3) Social Statistics. Amongst the principal subjects discussed in one or other of these sections were the fecundity of marriages, the registration of births and deaths, the density of urban populations, municipal statistics, agricultural statistics and methods of crop reporting, household budgets and the teaching of statistics.

In connection with agricultural statistics and methods of crop-reporting, Professor Umberto Ricci, chief of the General Statistical Bureau of the In-

ternational Agricultural Institute at Rome, presented an exhaustive memoir, and M. Lucien March, chief of the General Statistical Service of France, presented a report from a Committee of the International Statistical Institute upon certain technical questions as to the best methods of crop-reporting, which had been submitted by the International Agricultural Institute. In the discussion upon this last named report, Mr. Godfrey (Canada) and Mr. Rew (Great Britain) expressed regret that the Committee had not seen their way to pronounce more definitely upon the question submitted by Rome, viz., the best method of reporting upon the condition of agricultural crops during growth. The Committee, maintaining that this was not really a question of statistics, presented a series of four propositions which were adopted. Subsequently, however, a new Committee, including respectively the delegates of Great Britain and Canada (Messrs. Rew and Godfrey) were appointed to examine further into the general question of agricultural statistics, including the methods of reporting on the condition of crops during growth.

In Section I Mr. Godfrey presented a report on Statistical Organisation in Canada, which was afterwards brought to the notice of the General Assembly. This report, after referring to the extraordinary progress of Canada and the consequent demand for statistical information relating to the Dominion, described the present arrangements for the collection of official statistics in Canada, dividing them into the three categories of (1) statistics collected by the Dominion Government; (2) statistics collected by both the Dominion and Provincial Governments; and (3) statistics collected by the Provincial Governments only, gave details as to the organisation of the Canadian Census and Statistics Office and summarised the recommendations of the recent Departmental Commission on the Official Statistics of Canada. The following were the concluding paragraphs of this report :

There are necessarily considerable difficulties to be overcome before the recommendations of the Commission can be carried into full effect ; but there are gratifying indications of a general willingness on the part of the provincial authorities to co-operate with the Dominion Government for the national ends in view, and there is reason to hope that such co-operation may result in the gradual development on sound lines of an improved statistical system suited to the national requirements of the Dominion.

In the course of their inquiries the Commission obtained valuable support and guidance from the labours and resolutions of the International Statistical Institute, so many of whose members have encountered and successfully overcome difficulties equal to or greater than those which now confront the statistical authorities of Canada. The people of this young but rapidly developing Dominion begin to feel the absolute necessity for the more general adoption of truly scientific statistical methods, which shall enable them to measure more accurately the results of industry as applied to the magnificent natural resources of their country, obtain a clearer understanding of the social and economic conditions surrounding them, and last but, from the point of view of the present paper, not least, furnish more adequate and trustworthy data for purposes of international comparison.

An important part of the proceedings related to the question of a permanent International Statistical Bureau in connection with the Institute, the successful establishment of which would depend upon the financial support forthcoming from the governments of the countries represented.

The meeting of the Institute at Vienna synchronised with the jubilee of the Austrian Central Statistical Commission, of which His Excellency Dr. Robert Meyer is president. Dr. Meyer read an interesting communication

relating to the history of the Commission and of statistical effort in Austria, and a collection of ancient Austrian statistical schedules and publications was placed on view for the inspection of the delegates and members.

To fill existing vacancies a number of new members of the Institute were elected, including Professor A. J. de Bray, director of the *Ecole des Hautes Etudes Commerciales* at Montreal. Prof. de Bray was also nominated member of a committee to inquire into the question of the teaching of statistics at universities.

Mr. R. H. Rew, C. B. (Great Britain) was elected Hon. Treasurer of the Institute in the room of Major Craigie, C. B., retired, and an invitation from the Belgian Government to hold the fifteenth session of the Institute at Brussels in 1915 was accepted.

A number of fêtes, excursions and banquets, arranged by the Austrian Committee of Organisation under the presidency of H. E. Dr. Meyer and a Ladies Committee under the presidency and vice-presidency of T. E. Mesdames Frieda Hussarek von Heinlein and Emilie Meyer, enabled the delegates, members and visitors, with their ladies, to make or renew personal friendships under the most agreeable conditions. They included on Tuesday, September 9, a banquet given by the mayor and municipality of Vienna in the *Rathaus* or Town Hall, on Thursday, September 11, a day's excursion to Semmering and an evening reception by T. E. Max Ritter and Madame Hussarek von Heinlein at the Palace of Public Instruction, and on Friday, September 12, a reception at the Hofburg, the historic Imperial palace in Vienna by the Archduke Leopold Salvator on behalf of His Imperial and Royal Majesty the Emperor Francis Joseph. On this occasion a large number of the delegates and members had the honour of being personally presented to His Imperial and Royal Highness, who graciously entered into conversation with each of them. After this reception the guests adjourned to the Department of Finance, the ancient residence of Prince Eugene of Savoy, where at a musical soirée held by the Ladies Committee, selections from the works of Schubert, who was born at Vienna in 1797 and who died there in 1828, were admirably rendered.

On the return journey through Europe many of the delegates and members accepted a cordial invitation, tendered by the municipality of Prague, to visit that city. A tour of the historic buildings and memorials of the ancient Czech capital of Bohemia, with a study of its modern statistical organisation, proved both interesting and profitable, and those who took part in this excursion will retain agreeable recollections of the kindness and worth of its citizens.

## THE ROTHAMSTED AGRICULTURAL EXPERIMENTS.

During a recent visit to England the writer took an opportunity of renewing personal acquaintance with the world famous Rothamsted Agricultural Experiments by a visit to the laboratories at Harpenden and an interview with the Director, Dr E. J. Russell.

Since the date of the previous article on this subject (*Census Monthly*, 1911, Vol. 4, No. 32, p. 23) progress has been made by enlargement of the laboratories, additions to the staff and expansion of the work. Further de-



velopment is contemplated in the near future. At present the laboratories consist of the original building presented by public subscription in 1853, the James Mason bacteriological laboratory erected in 1906 and a new wing opened last June.

There is a broad difference between the agricultural experimental system of Canada and that of the old country. In general the work of the Canadian experimental stations is comprehensive of all departments, whilst in Great Britain the principal branches of agricultural research are distributed amongst various institutions in different localities, although all, being now more or less in receipt of government assistance, come under the coordinating supervision of the Board of Agriculture.

In the personal interview above referred to Dr. Russell said that the leading lines of investigation now carried on deal with soil fertility, the Rothamsted Laboratory being the only one studying exclusively that particular problem. It is tackled from two points of view. There are a botanical staff and laboratories to investigate the requirements of the plant and a soil staff and laboratories to investigate the soil and ascertain to what extent it can be modified to meet the requirements of the plant. The scientific staff meets periodically to discuss the work, and distinguished men of science are invited to be present and offer criticisms and suggestions, the object of these meetings being to secure coordination and ensure that every worker may have the advantage of the help and criticism of every other worker.

Another point which has always distinguished the Rothamsted Experiments is the extreme care and accuracy with which they are carried out. The results are only published after repeated tests and absolute verification. The experiments are neither hurried nor stinted in the matter of equipment. The laboratory work lies at the foundation of all investigations. It is not communicated in the first instance to the farmer. Any laboratory deductions are first tested in pot experiments in the pot culture houses, and these tests run on for two or three years. The advantage of work in the pot culture houses is that the conditions can be controlled, and it is possible to learn exactly why the experiment goes in the way that it does. From the pot culture house the experiment is moved out into the field: first in small plots, then in larger ones. At this stage the farmer comes up to see the experiment. If he thinks it sufficiently worth while he tries the experiment himself.

In the case of a new principle the object generally is first to enlist the sympathy and support of horticulturists, who can afford to spend more on soil treatment than the farmer can and who can adopt a new practice whilst it is still a little too expensive or speculative for the farmer to adopt. The successful horticulturist is generally a born experimenter, and he can devise much cheaper methods than an experimental station can, because he is more closely in touch with the markets and with economical methods of working on a large scale; so that new principles discovered at Rothamsted are usually tested first by horticulturists. This plan is being followed with great success in the case of the partial sterilisation work. By "partial sterilisation" is meant the destruction by heat or other specific agents of larger organisms in the soil, provisionally classed as protozoa, which, it has been discovered, prey upon ammonia-producing bacteria and so reduce their



activity in increasing the fertility of the soil. This important discovery, the result of experiments at Rothamsted by Dr. Russell and Dr. H. B. Hutchinson, has opened up a new field of investigation which promises to yield fruitful results in future. In the pot culture houses, at the time of the writer's visit on October 3, the effects of partial sterilisation were illustrated by *chrysanthemums*, those treated having taller plants with deeper green and more robust vegetation than those in the untreated pots.

In England the limiting factor is usually the nitrogen in the soil. Consequently a special study has to be made of the production of nitrogenous plant food and of the sources of loss to which it is liable. The process is very largely biological, being brought about by micro-organisms in the soil, and in consequence the work requires the co-operation of bacteriologists, protozoologists and chemists. Further, the good farmer in England generally obtains high yields, and it is doubtful whether he can get economically much higher yields owing to the climatic conditions. But the process of getting high yields always involves waste, and the returns from nitrogenous manures are successively less as larger amounts are applied. The wastes and losses of nitrogen from the soil are however being very carefully studied, and as a matter of fact experiments, based on several years of laboratory work, are now being devised to see if it is possible to reduce these losses in ordinary farm practice. Another line of work is the testing of the composition of the crop with a view finally to ascertaining what are the factors that determine quality. The best hope of the English farmer is to produce crops of high quality. At present very little is known as to what really constitutes quality or how it may be secured. Chemical investigations of the plant are therefore being carried out by the organic chemist (Mr. W.A. Davis), which it is hoped may ultimately throw light upon the very intricate and elusive problem of the quality of crops.

Such are in general the leading lines of the Rothamsted Experiments now proceeding in the laboratory and pot culture houses. Our present space prevents description of the field experiments, which, continuously carried on for 70 years, have earned for Rothamsted its unique reputation. The late Sir John Lawes, who founded the Experiments in 1843, was born in 1814, and the centenary of his birth will therefore be celebrated next year. In commemoration of this anniversary the Rothamsted Experimental Station is appealing for a sum of £6,000, which with a further sum of £6,000 to be granted from the Development Fund, will be used to rebuild the old subscription laboratory, now showing structural defects, and so provide much needed additional accommodation.

The lessons taught by the Rothamsted Experiments have been of universal application, and the appeal for their maintenance and extension deserves universal response.

## POTATO GROWING CONTESTS FOR BOYS.

Under this heading in the Census Monthly of December 1912 appeared a description of a boys' potato growing contest in the county of Carleton, Ontario, which was set on foot by Mr. R. B. Whyte, of Ottawa, who generously provided the prizes. Similar contests took place during the

season of 1913, but prizes were offered for competition in Russell county as well as in Carleton county. The committee in charge of the two sets of contests consisted of Mr. R. B. Whyte (Chairman), Mr. W. J. Jackson, agricultural representative for Carleton county, Mr. W. T. Macoun, Dominion Horticulturist, and Mr. L. H. Newman, Secretary of the Canadian Seed Growers' Association. Mr. T. G. Raynor, of the Seed Branch of the Dominion Department of Agriculture, acted as judge and used the following scale of points :

|                           |    |                            |     |
|---------------------------|----|----------------------------|-----|
| 1. Purity of variety..... | 10 | 7. Colour.....             | 10  |
| 2. Uniformity.....        | 10 | 8. Freedom from disease... | 15  |
| 3. Size.....              | 10 | 9. Quality.....            | 25  |
| 4. Smoothness.....        | 10 |                            |     |
| 5. Shape.....             | 5  | Total.....                 | 100 |
| 6. Nature of skin.....    | 5  |                            |     |

The competitions were open to boys in the Russell and Carleton counties of between 12 and 18 years of age, who live on farms of not less than 50 acres in extent. There were 28 competitors in Carleton county and 19 in Russell. Each competitor operated a plot of one-tenth of an acre. The winner of the first prize in Carleton county was Harvey S. Gourlay, of Kinburn. He planted the Green Mountain variety, prepared the ground with special care and used carefully selected potato sets which he had sprinkled with lime. He used a ton of manure but no artificial fertiliser. The ground was cultivated frequently during the growing season, especially after each rain. Only one spraying with Paris green was necessary to keep the bugs in check, and at no time were the leaves allowed to become badly eaten. The total value of the crop on the one-tenth acre plot was \$27.04; the cost of growing was \$6.50, leaving a profit of \$20.54, or \$205.40 per acre. This was the highest profit obtained by any of the competitors in either county. The yield obtained was at the rate of 451.1 bushels per acre, this also being the highest obtained by any competitor this year. A bushel of the potatoes gained fifth place at the Richmond County Fair. The high yield obtained is explained by the fact that the plot was watered during the season, which was unusually dry this year. The operation was performed by means of a barrel with wheels attached, and with a spout on either side, so that two rows could be watered at once. The first prize in Russell county was gained by Stanley Morrow, of Pana, who obtained a net profit of \$10.16, or at the rate of \$101.60 per acre.

The prizes, consisting of medals and monetary rewards, were presented at a meeting held in Ottawa on November 15, when the Hon. Martin Burrell, M.P., Minister of Agriculture, addressed a few words of encouragement to the young competitors and those associated in the enterprise. Addresses on different aspects of potato growing were given by Mr. T. G. Raynor, Mr. H. T. Gussow, Mr. W. D. Jackson, Professor C. A. Zavitz, Mr. J. W. Gibson and Mr. C. W. Casson. The remarks of Professor Zavitz included some helpful practical hints on potato growing as derived from experiments at Guelph. He said that medium size potatoes were the best for seed; cut sets should weigh not more than from 1 oz. to 2 oz. each, with from 2 to 4 eyes; they should be planted the same day as cut and should be sprinkled with land plaster or lime; one piece only should be planted.

in a hill; ridging should be practised in wet seasons, but not in dry seasons when level cultivation seemed preferable. Successful potato growing depended upon doing the best thing in a large number of little details.

The general standard of work done was so excellent that ten boys received prizes in addition to the twelve (six in each county) who received the prizes originally offered.

## POINTERS ON PRACTICAL AGRICULTURE.

**Injurious Insects.** In some parts a green worm or grub attacks cabbage, eating the leaves and injuring the crop. To preserve the plants and destroy the insects I use "Bug Death"; it destroys all moths or worms, is perfectly safe, is not injurious to fowls or animals, and the cabbage can be used for food without any fear of injurious effects. It is manufactured in New Brunswick and is largely used on potatoes to destroy the potato beetles. S. J. SHANKLIN, St. Martins, N. B.

**Thorough Cultivation, Weeds, and Smut.** Farmers that are thorough in their methods of cultivation have much better yields of grain than those that are careless and endeavour to put in more acres of crop than they can properly cultivate. Weeds are becoming a very serious drawback to grain raising, and farmers generally should take more pains to keep weeds in subjection. In some places the perennial sow thistle is gaining headway and should be very closely watched for by all farmers. While the patches are small it is quite possible to dig the ground over and pick out the roots, which is the only sure method. Smut should be guarded against by treating all seed with formaldehyde. There is no necessity to have smut in grain, and for wheat grain sacks should be boiled and nothing but treated seed put into them, as it is a mistake to kill the smut germs on the seed and then put in sacks lined with smut spores. JOHN L. ROOKE, Togo, Sask.

**Marquis Wheat.** Last spring I seeded 6 acres to Marquis wheat and 16 acres to Red Fife wheat on summer fallow. I found I seeded too deep. The Marquis kept growing right along when it came up, but the Red Fife stood two weeks and did nothing after coming up till it had formed new roots. These wheats were seeded under the same conditions. Marquis yielded 46 bushels per acre and Red Fife 29½ bushels per acre, the latter took ½ pound more twine per acre to bind the grain than did the Marquis. J. J. CORBETT, Gull Lake, Sask.

**Preparing Ground for Roots on Poor Land.** Plough in the fall one acre and harrow well. In the spring harrow well, then apply sufficient manure to secure a good stand of buckwheat or peas. When sufficient growth has been secured, go over it with a heavy land roller, then take twenty tons of well rotted manure to each acre and plough under with the soiling crop and keep all well harrowed throughout the summer. In the following spring prepare the ground for a root crop and apply four hundred pounds of prepared fertiliser per acre,—not the ordinary bulk offered by dealers; have it prepared by a reliable chemist. Cultivate and keep the weeds down and spray all turnips and beets with one pound sulphur and four pounds of lime to two gallons of water to destroy the beetles. HUGH CAMERON, Port Hood, N. S.

## THE WEATHER DURING OCTOBER.

The Dominion Meteorological Office reports that the mean temperature of the month was below average in all districts from Lake Superior westward to the Pacific coast. The difference varied from about 3° on the coast of British Columbia to 7° in southern Saskatchewan. In marked contrast to this the eastern half of the country was from 2° to 9° above the average mean temperature. During the first decade of the month the weather from the Great Lakes eastward was unusually warm. The cold wave which spread into the western provinces toward the close of the month, with temperatures of zero and slightly below over the greater part of Saskatchewan, was the most severe since 1895. There are only a few instances on record showing lower temperatures in that province in October. Precipitation was deficient over the prairie provinces, but in all other parts of the Dominion, with the exception of a few small areas in Ontario and in Cape Breton Island, the rainfall was considerably more than the average. Over the greater part of Nova Scotia and New Brunswick, the total fall was much in excess of the normal. In some places, notably Halifax and Chatham, the excess was about one hundred per cent.

In British Columbia October was a very favourable month. All grain crops were harvested in good condition and the yield was above the average. Fruit matured wonderfully well in the early part of the month. Considerable precipitation in Okanagan and the interior valleys gave great help in the size and colour of the fruit. Potatoes were a good crop in the interior, but there was a considerable amount of rot on the lower mainland. Fruit prices were satisfactory, as also were those of all other farm produce with the possible exception of hay, of which this year's record crop lowered prices.

In the Northwest provinces the month opened fine and warm, but on the 2nd and 3rd a change to cool, unsettled conditions occurred which lasted until the 11th. Rain was almost general in Saskatchewan and Manitoba on the 6th, and light snow fell in some sections of the former province on that date. A fairly heavy rain occurred in Manitoba on the night of the 9th. A temporary change to warm weather occurred on the 12th and 13th, but this was again succeeded by a rapid fall in temperature, with snow in many places. As much as five and one-half inches was recorded at Calgary on the morning of the 14th. It was generally fair and cool from the 17th to the 20th. It then became quite mild again in Alberta, extending to Saskatchewan and Manitoba by the 22nd and continuing to the 24th. Snow fell in many localities on the 26th and 27th. A pronounced cold wave moved in from the northward on the 27th, and on the morning of the 28th minimum temperatures of zero to 4 below were recorded in Saskatchewan.

In Ontario, except for a disturbance which passed across the province on the 2nd, causing a general, and in some sections a fairly heavy rainfall, the weather continued fine and warm till the 11th. The temperatures of 81° and 83° registered at Toronto and London, respectively, on the 6th, approached the highest on record for October. Rain fell throughout the province on the 11th, and on the 12th it became quite cool. The first



heavy frost of the month in the southern portions of the province occurred on the morning of the 14th, after which the temperature rose quickly. The latter half of the month was characterised by alternate periods of fair and showery weather. It became quite cold on the 30th and 31st, and several inches of snow fell in some sections of the counties contiguous to Lake Huron.

In Quebec, except for a heavy rain on the 2nd, the weather was fine and warm until the 11th. Cooler conditions then set in, and the balance of the month was generally unsettled with frequent rains and fair intervals. It became colder on the 30th, with snow flurries in some localities.

Heavy rains occurred in the Maritime provinces on the 2nd and 3rd, after which the weather, as in Ontario and Quebec, became fair and warm and continued so until the 12th. Rain then set in and continued without intermission in many districts until the 18th. During this time four inches fell at Halifax and five and one-half inches at Chatham, N.B. With but a few fair intervals the rainy weather continued to the 30th, when a change to cold, with local snowflurries, occurred with heavy frosts in most places.

## PRICES OF COLONIAL AND FOREIGN PRODUCE IN BRITISH MARKETS, 1913.

WHEAT (per bushel of 60 lb.)

| Description                 | Oct. 6 |        | Oct. 13 |        | Oct. 20 |        | Oct. 27 |        |
|-----------------------------|--------|--------|---------|--------|---------|--------|---------|--------|
|                             | \$ c.  | ¢      | \$ c.   | ¢      | \$ c.   | ¢      | \$ c.   | ¢      |
| Canadian, 1912, No. 1       | 1 11½  | -1 12½ | 1 08½   | -1 11½ | -       | -      | -       | -      |
| " No. 2                     | 1 08½  | -1 09½ | 1 06    | -1 08½ | -       | -      | -       | -      |
| " No. 3                     | 1 06   | -1 06½ | -       | -      | -       | -      | -       | -      |
| " No. 4                     | 1 01½  | -1 02½ | 1 00½   | -1 03  | -       | -      | -       | -      |
| Canadian, 1913, No. 1       | -      | -      | 1 06    | -1 08½ | 1 03    | -1 06  | 1 03    | -1 06  |
| " No. 2                     | -      | -      | 1 03    | -1 06  | 1 00½   | -1 03  | 1 00½   | -1 03  |
| " No. 3                     | -      | -      | -       | -      | -       | -      | 0 97½   | -1 00½ |
| " No. 4                     | -      | -      | 0 97½   | -1 00½ | 0 94    | -0 97½ | 0 94    | -0 97½ |
| American, 1912, best spring | 1 08½  | -1 10½ | -       | -      | -       | -      | -       | -      |
| " ordinary spring           | 1 06   | -1 07½ | -       | -      | -       | -      | -       | -      |
| " red winter                | 1 06   | -1 08½ | -       | -      | -       | -      | -       | -      |
| " hard winter               | 1 03   | -1 06  | -       | -      | -       | -      | -       | -      |
| American, 1913, best spring | -      | -      | 1 06    | -1 07½ | 1 03    | -1 04½ | 1 03    | -1 04½ |
| " ordinary spring           | -      | -      | 1 03    | -1 04½ | 1 00½   | -1 01½ | 1 00½   | -1 01½ |
| " red winter                | -      | -      | 1 03    | -1 06  | 1 00½   | -1 03  | 1 00½   | -1 03  |
| " hard winter               | -      | -      | 1 00½   | -1 03  | 0 97½   | -1 00½ | 0 97½   | -1 00½ |
| Australian                  | 1 11½  | -1 12½ | 1 11½   | -1 12½ | 1 10½   | -1 11½ | 1 10½   | -1 11½ |
| Russian, fine               | 1 03   | -1 08½ | 1 03    | -1 06  | 1 01½   | -1 04½ | 1 01½   | -1 04½ |
| " good                      | 0 97½  | -1 00½ | 0 97½   | -1 00½ | 0 95½   | -0 98½ | 0 95½   | -0 98½ |
| " common                    | 0 94   | -0 97½ | 0 94    | -0 97½ | 0 92½   | -0 95½ | 0 92½   | -0 95½ |
| Californian                 | 1 12½  | -1 15½ | 1 12½   | -1 15½ | 1 11½   | -1 14  | 1 09½   | -1 12½ |
| Blue Stem                   | 1 11½  | -1 14  | 1 11½   | -1 14  | 1 10½   | -1 12½ | 1 08½   | -1 11½ |
| White Walla                 | 1 11½  | -1 12½ | 1 11½   | -1 12½ | 1 09½   | -1 11½ | 1 08½   | -1 09½ |
| Red Walla                   | 1 09½  | -1 11½ | 1 09½   | -1 11½ | 1 08½   | -1 09½ | 1 06½   | -1 08½ |
| White Bombay                | 1 11½  | -1 11½ | 1 09½   | -1 10½ | 1 06½   | -1 07½ | 1 06    | -1 06½ |
| " Calcutta                  | 1 08½  | -1 10½ | 1 07½   | -1 08½ | 1 04½   | -1 06  | 1 03½   | -1 05½ |
| " Karachi                   | 1 08½  | -1 10½ | 1 07½   | -1 08½ | 1 04½   | -1 06  | 1 03½   | -1 05½ |
| Red Karachi                 | 1 08½  | -1 09½ | 1 07½   | -1 08½ | 1 04½   | -1 05½ | 1 03½   | -1 04½ |
| Argentine                   | 1 07½  | -1 08½ | 2 06    | -1 07½ | 1 03    | -1 04½ | 1 03    | -1 04½ |

## OATS (per bushel of 34 lb.)

| Description       | Oct. 6 |        | Oct. 13 |        | Oct. 20 |        | Oct. 27 |        |
|-------------------|--------|--------|---------|--------|---------|--------|---------|--------|
|                   | \$ c.  | \$ c.  | \$ c.   | \$ c.  | \$ c.   | \$ c.  | \$ c.   | \$ c.  |
| Canadian.....     | 0 49½  | -0 51½ | 0 47½   | -0 50½ | 0 47½   | -0 50½ | 0 47½   | -0 50½ |
| Bahia Blanca..... | 0 45½  | -0 46½ | 0 44½   | -0 45½ | 0 44½   | -0 45½ | 0 43½   | -0 44½ |
| Buenos Aires..... | 0 43½  | -0 44½ | 0 42½   | -0 43½ | 0 42½   | -0 43½ | 0 42    | -0 42½ |
| German.....       | 0 54½  | -0 56½ | 0 53    | -0 55½ | 0 53    | -0 55½ | 0 53    | -0 55½ |
| Russian.....      | 0 56½  | -0 59½ | 0 54½   | -0 56½ | 0 53    | -0 55½ | 0 53    | -0 55½ |

## FLOUR (per 280 lb.)

| Description                     | Oct. 6 |       | Oct. 13 |       | Oct. 20 |       | Oct. 27 |       |
|---------------------------------|--------|-------|---------|-------|---------|-------|---------|-------|
|                                 | \$ c.  | \$ c. | \$ c.   | \$ c. | \$ c.   | \$ c. | \$ c.   | \$ c. |
| Manitoba patents.....           | 6 57   | -6 63 | 6 69    | -6 81 | 6 57    | -6 63 | 6 57    | -6 63 |
| " straights.....                | 6 33   | -6 39 | 6 45    | -6 57 | 6 33    | -6 39 | 6 33    | -6 39 |
| " first bakers'.....            | 6 08   | -6 14 | 5 90    | -6 02 | 6 08    | -6 14 | 6 08    | -6 14 |
| " second ".....                 | 5 59   | -5 65 | 5 53    | -5 78 | 5 59    | -5 65 | 5 59    | -5 65 |
| American: Pillsbury's Best..... | 6 75   | -6 81 | 6 75    | -6 81 | 6 75    | -6 81 | 6 75    | -6 81 |
| Iron Duke.....                  | 6 08   | -6 20 | 6 08    | -6 14 | 6 08    | -6 20 | 6 08    | -6 20 |
| Minnesota first.....            | 6 75   | -6 87 | 6 75    | -6 87 | 6 75    | -6 87 | 6 75    | -6 87 |
| Straights.....                  | 6 33   | -6 45 | 6 33    | -6 45 | 6 33    | -6 45 | 6 33    | -6 45 |
| Minneapolis first.....          | 6 57   | -6 63 | 6 57    | -6 63 | 6 57    | -6 63 | 6 57    | -6 63 |
| Duluth first.....               | 6 51   | -6 69 | 6 51    | -6 69 | 6 51    | -6 69 | 6 51    | -6 69 |
| First patents spring.....       | 6 81   | -6 93 | 6 87    | -7 00 | 6 81    | -6 93 | 6 81    | -6 93 |
| Second ".....                   | 6 57   | -6 69 | 6 63    | -6 75 | 6 57    | -6 69 | 6 57    | -6 69 |
| First bakers' spring.....       | 6 08   | -6 20 | 5 96    | -6 02 | 6 08    | -6 20 | 6 08    | -6 20 |
| Second ".....                   | 5 59   | -5 72 | 5 53    | -5 78 | 5 59    | -5 72 | 5 59    | -5 72 |
| Top grade winter.....           | -      | -     | -       | -     | 6 57    | -6 69 | 6 57    | -6 69 |
| Good patents ".....             | -      | -     | -       | -     | 6 33    | -6 45 | 6 33    | -6 45 |
| Ordinary ".....                 | -      | -     | -       | -     | 6 20    | -6 33 | 6 20    | -6 33 |
| First bakers' ".....            | -      | -     | -       | -     | 6 08    | -6 20 | 6 08    | -6 20 |
| Common ".....                   | -      | -     | -       | -     | 5 59    | -5 84 | 5 59    | -5 84 |
| Californian.....                | 7 30   | -7 79 | 7 30    | -7 79 | 7 30    | -7 79 | 7 30    | -7 79 |
| Hungarian.....                  | 9 00   | -9 25 | 9 00    | -9 25 | 9 00    | -9 25 | 9 00    | -9 25 |
| Australian.....                 | 6 75   | -6 81 | 6 75    | -6 81 | 6 57    | -6 69 | 6 57    | -6 69 |
| French.....                     | 7 54   | -7 79 | 7 54    | -7 79 | 7 54    | -7 79 | 7 54    | -7 79 |
| Belgian.....                    | 7 91   | -8 03 | 7 91    | -8 03 | 7 91    | -8 03 | 7 91    | -8 03 |
| Galatz.....                     | 8 27   | -8 76 | 8 27    | -8 76 | 8 27    | -8 76 | 8 37    | -8 76 |

## FRESH MEATS (per cwt. of 100 lb.)

| Description                   | Oct. 1  | Oct. 8  | Oct. 15 | Oct. 22 | Oct. 29 |
|-------------------------------|---------|---------|---------|---------|---------|
|                               | \$ cts. | \$ cts. | \$ cts. | \$ cts. | \$ cts. |
| Argentine, frozen—            |         |         |         |         |         |
| Birmingham { hind qrs. ....   | 8 87    | 8 87    | 9 12    | 9 38    | 9 38    |
| { fore qrs. ....              | 6 84    | 6 84    | 7 04    | 7 35    | 7 35    |
| Leeds ..... { hind qrs. ....  | 8 87    | 8 87    | 9 38    | 9 63    | 9 63    |
| { fore qrs. ....              | 6 84    | 6 84    | 7 04    | 7 35    | 7 35    |
| Liverpool... { hind qrs. .... | 8 62    | 8 62    | 9 12    | 9 12    | 9 63    |
| { fore qrs. ....              | 6 59    | 6 59    | 7 04    | 7 04    | 7 04    |
| London ..... { hind qrs. .... | 8 37    | 8 37    | 9 12    | 8 62    | 9 12    |
| { fore qrs. ....              | 5 83    | 5 83    | 6 34    | 6 08    | 6 84    |
| Manchester. { hind qrs. ....  | 8 62    | 8 62    | 9 12    | 9 12    | 9 63    |
| { fore qrs. ....              | 6 59    | 6 59    | 7 04    | 7 04    | 7 04    |
| Dundee..... { hind qrs. ....  | 8 62    | 8 87    | 9 18    | 9 18    | 9 12    |
| { fore qrs. ....              | 6 85    | 6 85    | 7 35    | 7 39    | 7 10    |
| Edinburgh.. { hind qrs. ....  | 8 87    | 8 62    | 9 12    | 9 12    | 9 12    |
| { fore qrs. ....              | 6 85    | 6 85    | 7 10    | 7 10    | 7 10    |
| Glasgow..... { hind qrs. .... | 8 87    | 8 87    | 8 87    | 8 87    | 8 87    |
| { fore qrs. ....              | 6 59    | 6 85    | 6 85    | 6 85    | 6 85    |
| Argentine, chilled—           |         |         |         |         |         |
| Birmingham { hind qrs. ....   | 10 14   | 10 65   | 12 15   | 11 40   | 11 40   |
| { fore qrs. ....              | 6 59    | 6 84    | 7 60    | 7 35    | 7 35    |
| Leeds ..... { hind qrs. ....  | 10 14   | 10 65   | 12 15   | 10 89   | 11 15   |
| { fore qrs. ....              | 6 59    | 6 84    | 7 35    | 7 04    | 7 04    |
| Liverpool... { hind qrs. .... | 9 63    | 10 14   | 11 66   | 10 65   | 11 15   |
| { fore qrs. ....              | 6 08    | 6 59    | 7 04    | 6 59    | 7 04    |
| London ..... { hind qrs. .... | 10 14   | 10 65   | 12 15   | 11 15   | 11 66   |
| { fore qrs. ....              | 6 34    | 7 04    | 7 60    | 7 04    | 7 60    |
| Manchester. { hind qrs. ....  | 9 63    | 10 14   | 11 66   | 10 65   | 11 15   |
| { fore qrs. ....              | 6 08    | 6 59    | 7 04    | 6 59    | 7 04    |
| Dundee..... { hind qrs. ....  | 10 41   | 10 65   | 12 20   | 11 66   | 11 42   |
| { fore qrs. ....              | 6 85    | 7 10    | 7 60    | 7 35    | 7 60    |
| Edinburgh.. { hind qrs. ....  | 10 14   | 10 65   | 11 66   | 11 66   | 11 42   |
| { fore qrs. ....              | 6 59    | 6 85    | 7 60    | 7 35    | 7 10    |
| Glasgow..... { hind qrs. .... | 10 65   | 10 95   | 12 20   | 11 66   | 11 66   |
| { fore qrs. ....              | 7 10    | 7 60    | 7 85    | 7 10    | 7 85    |
| Australian, frozen—           |         |         |         |         |         |
| Birmingham { hind qrs. ....   | 8 37    | 8 62    | 8 87    | 9 12    | 8 87    |
| { fore qrs. ....              | 6 84    | 6 84    | 7 35    | 7 35    | 7 04    |
| Leeds ..... { hind qrs. ....  | 8 11    | 8 11    | 9 63    | 8 62    | 8 62    |
| { fore qrs. ....              | 6 59    | 7 04    | 7 04    | 7 04    | 6 84    |
| Liverpool... { hind qrs. .... | 8 11    | 8 11    | 8 62    | 8 62    | 8 62    |
| { fore qrs. ....              | 6 59    | 6 08    | 6 59    | 6 59    | 6 59    |
| London..... { hind qrs. ....  | 8 37    | 8 37    | 9 12    | 8 37    | 9 12    |
| { fore qrs. ....              | 5 83    | 5 83    | 6 34    | 6 08    | 6 84    |
| Manchester. { hind qrs. ....  | 8 11    | 8 11    | 8 62    | 8 62    | 8 62    |
| { fore qrs. ....              | 6 59    | 6 08    | 6 59    | 6 59    | 6 59    |
| Glasgow..... { hind qrs. .... | 8 35    | 8 35    | 8 62    | 8 62    | 8 62    |
| { fore qrs. ....              | 6 85    | 7 10    | 7 10    | 7 10    | 7 10    |

## GREEN BACON (per cwt. of 100 lb.)

| Description and Market        | Oct. 1 |       | Oct. 8 |       | Oct. 15 |       | Oct. 22 |       | Oct. 29 |       |
|-------------------------------|--------|-------|--------|-------|---------|-------|---------|-------|---------|-------|
|                               | \$ c.  | \$ c. | \$ c.  | \$ c. | \$ c.   | \$ c. | \$ c.   | \$ c. | \$ c.   | \$ c. |
| Canadian sides—               |        |       |        |       |         |       |         |       |         |       |
| Bristol.....                  | 17 38  | 16 95 | 16 73  | 16 29 | 16 51   | 16 29 | 16 29   | 15 86 | 15 64   | 15 21 |
| Liverpool.....                | 17 38  | 16 95 | 16 95  | 16 51 | 16 29   | 15 86 | 16 29   | 15 86 | 15 21   | 14 77 |
| London.....                   | 17 81  | 17 38 | 17 81  | 17 60 | 16 51   | 16 08 | 16 29   | 16 08 | 15 64   | 15 21 |
| Glasgow.....                  | 17 81  | 17 38 | 16 95  | 16 51 | 16 51   | 16 29 | 16 29   | 15 86 | 15 43   | 14 99 |
| Canadian Cumber-<br>land cut— |        |       |        |       |         |       |         |       |         |       |
| Liverpool.....                | 17 17  | 16 73 | 17 17  | 16 51 | 16 95   | 16 29 | 16 95   | 16 29 | 16 95   | 16 29 |
| Glasgow.....                  | 17 38  | 16 95 | 16 95  | 16 51 | 16 95   | 16 51 | 16 95   | 16 51 | 16 95   | 16 51 |
| Danish sides—                 |        |       |        |       |         |       |         |       |         |       |
| Bristol.....                  | 18 47  | 17 81 | 17 81  | 16 95 | 17 38   | 16 51 | 16 95   | 16 29 | 16 08   | 15 64 |
| Liverpool.....                | 18 47  | 18 03 | 17 38  | 16 73 | 16 73   | 16 29 | 16 38   | 16 08 | 15 86   | 15 21 |
| London.....                   | 18 69  | 18 25 | 17 81  | 17 38 | 16 73   | 16 29 | 16 73   | 16 29 | 16 29   | 15 64 |

## GREEN HAMs (per cwt. of 100 lb.)

|                    |       |       |       |       |       |       |       |       |       |       |
|--------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Canadian long cut— |       |       |       |       |       |       |       |       |       |       |
| Bristol.....       | 19 35 | 18 69 | 19 35 | 18 69 | 18 25 | 17 81 | 17 81 | 16 95 | 17 38 | 16 95 |
| Liverpool.....     | 18 03 | 17 38 | 17 38 | 16 51 | 16 29 | 15 21 | 16 29 | 15 21 | 16 73 | 15 21 |
| London.....        | 18 47 | 17 81 | —     | —     | —     | 16 95 | 17 38 | 16 95 | 17 38 | 16 95 |
| Glasgow.....       | 18 25 | 17 81 | 16 95 | 16 51 | 16 51 | 16 08 | 16 51 | 16 08 | 16 95 | 16 51 |
| American long cut— |       |       |       |       |       |       |       |       |       |       |
| Bristol.....       | 16 51 | 15 86 | 16 29 | 15 86 | 15 86 | 15 43 | 15 64 | 14 99 | 15 64 | 14 99 |
| Liverpool.....     | 15 75 | 14 77 | 15 54 | 14 56 | 14 88 | 14 12 | 15 10 | 14 45 | 15 21 | 14 67 |
| London.....        | 17 38 | 16 73 | 17 38 | 16 73 | 17 38 | 16 51 | 16 95 | 16 51 | 16 95 | 16 51 |
| Glasgow.....       | 15 21 | —     | 14 77 | —     | 14 77 | —     | 14 77 | —     | 14 77 | —     |
| Americ. short cut— |       |       |       |       |       |       |       |       |       |       |
| Bristol.....       | 16 29 | 15 86 | 15 86 | 15 21 | 15 64 | 14 77 | 15 43 | 14 56 | 15 64 | 14 77 |
| Liverpool.....     | 15 75 | 14 99 | 15 54 | 14 67 | 14 88 | 14 23 | 15 10 | 14 45 | 15 32 | 14 67 |
| London.....        | 15 86 | 15 21 | 15 43 | 14 99 | 15 21 | 14 77 | 15 21 | 14 56 | 15 21 | 14 56 |
| Glasgow.....       | 14 99 | —     | 14 34 | 13 90 | 14 34 | —     | 14 77 | —     | 15 21 | —     |

## CHEESE (per cwt. of 100 lb.)

| Description and Market | Oct. 1 |       | Oct. 8 |       | Oct. 15 |       | Oct. 22 |       | Oct. 29 |       |
|------------------------|--------|-------|--------|-------|---------|-------|---------|-------|---------|-------|
|                        | \$ c.  | \$ c. | \$ c.  | \$ c. | \$ c.   | \$ c. | \$ c.   | \$ c. | \$ c.   | \$ c. |
| Canadian—              |        |       |        |       |         |       |         |       |         |       |
| Bristol.....           | 14 56  | 14 01 | 14 45  | 13 90 | 14 34   | 13 90 | 14 34   | 13 79 | 14 12   | 13 69 |
| Liverpool.....         | 14 45  | 14 01 | 14 34  | 13 79 | 14 23   | 13 69 | 14 12   | 13 58 | 14 12   | 13 58 |
| London.....            | 14 67  | 14 34 | 14 56  | 14 34 | 14 12   | 13 90 | 14 34   | 14 12 | 14 34   | 14 12 |
| Glasgow.....           | 14 56  | —     | 14 56  | —     | 14 34   | —     | 14 34   | —     | 14 12   | —     |

NOTE.—The prices of grain are from the Market Supplements to the Mark Lane Express. The prices of meat and dairy produce are from the British official returns. Rate of conversion from English currency: £1=\$4.86.



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PUBLISHED BY AUTHORITY OF HONOURABLE GEORGE E. FOSTER, MINISTER OF TRADE AND COMMERCE. CORRESPONDENCE RELATING TO THE CENSUS AND STATISTICS MONTHLY SHOULD BE ADDRESSED TO ARCHIBALD BLUE, CHIEF OFFICER OF THE CENSUS AND STATISTICS OFFICE, DEPARTMENT OF TRADE AND COMMERCE, OTTAWA, CANADA.

## FIELD CROPS OF CANADA, 1913.

Report for the year ended December 31, 1913.

Last year's season was very favourable for grain-growing in the Northwest provinces, where during the ripening, harvesting, and threshing periods conditions generally speaking were ideal. In Ontario, Quebec and parts of the Maritime provinces, on the other hand, the yield of grain was adversely affected by prolonged drouth.

For the whole of Canada the principal field crops occupied a total estimated area of 35,375,000 acres, as compared with 35,575,000 acres in 1912, and their value, computed at average local market prices, was \$552,771,500, as compared with \$556,344,100 in 1912.

Wheat upon 11,015,000 acres produced 231,717,000 bushels of the value of \$156,462,000, the corresponding figures in 1912 being 10,996,700 acres, 224,159,000 bushels and \$139,090,000. Of the total wheat area 970,000 acres were devoted to fall wheat, the production being 22,592,000 bushels, and the value \$18,185,000, as compared with 971,000 acres, 20,387,000 bushels and \$17,157,000 in 1912.

Oats yielded a total of 404,669,000 bushels from 10,434,000 acres, and the value reached \$128,893,000, the corresponding figures of 1912 being 9,966,000 acres, 391,629,000 bushels and \$126,304,000.

Both the spring wheat and oat crops of 1913 are the highest on record in Canada, spring wheat as regards area, yield and value and oats as regards area and yield. The value of the oat crop was exceeded in 1911 when the amount was \$132,949,000.

Barley upon 1,613,000 acres yielded 48,319,000 bushels of the value of \$20,144,000, as against 1,581,000 acres, 49,398,000 bushels and \$22,354,000 in 1912.

Flaxseed occupied 1,552,800 acres, and the production was 17,539,000 bushels of the value of \$17,084,000, as compared with 2,021,900 acres, 26,130,000 bushels and \$23,608,000 in 1912.

The quality of the grain crops, as indicated by average weight per measured bushel, was excellent and was superior to 1912. Spring wheat averaged 60.37 lb. against 58.90 lb. in 1912, oats 36.48 lb. against 35.40 lb. and barley 48.41 lb. against 47.59 lb.

In the three Northwest provinces of Manitoba, Saskatchewan and Alberta the production in 1913 of wheat is estimated at 209,262,000 bushels, compared with 204,280,000 bushels in 1912, of oats at 242,413,000 bushels, compared with 242,321,000 bushels and of barley at 31,060,000 bushels, compared with 31,600,000 bushels. The wheat production of 1913 in Manitoba was 53,331,000 bushels from 2,804,000 acres, in Saskatchewan 121,559,000 bushels from 5,720,000 acres and in Alberta 34,372,000 bushels from 1,512,000 acres.

## FIELD CROPS AND LIVE STOCK OF CANADA, 1910-1913.

### DESCRIPTION OF METHOD.

Our readers will remember that the present crop-reporting system of the Dominion Government was instituted by the Census and Statistics Office in 1908. Its object is to obtain, with as near an approach to accuracy as possible, (1) annual estimates of the areas, yields and values of the principal field crops of Canada; (2) annual estimates of the numbers of the principal descriptions of farm live stock; and (3) monthly reports on the condition of field crops during growth.

In the absence of any machinery for the collection of annual agricultural statistics from each individual farmer the services were enlisted of a corps of voluntary correspondents, selected from practical farmers throughout the Dominion. With the co-operation of these correspondents the Census and Statistics Office has sought to publish, for the general benefit, data which should be trustworthy as emanating from a responsible and independent source. Incidentally the services of our correspondents have been utilised for special statistical inquiries into, for instance, the value of farm lands, the cost of farm help and the cost of grain growing.

Shortly after the institution of this system the International Agricultural Institute began operations in Rome, and from 1910 the duty of reporting to the Institute on the field crops of Canada has devolved upon the Census and Statistics Office, Canada being one of the 50 countries adhering to the Institute under the International treaty of June 7, 1905.

The system adopted for the purpose of estimating the areas of field crops consists in the application to the areas of the previous year of the averages of the plus or minus percentages reported by correspondents, the original point of departure or datum line in 1908 having been obtained by careful collation of the sources of information then existing. The average yields per acre of the field crops are compiled from the reports of the correspondents, and these, multiplied by the areas, furnish the figures of the estimated total yields. Certain disadvantages of this method are generally recognised by agricultural statisticians. In the first place the results can never be so accurate as those obtained by the actual addition of units, as, for instance, in the case of the decennial census, and secondly errors that occur in any particular year are liable to multiplication in succeeding years; so that the cumulative effect may be serious after the lapse of years from the original starting point.

Omitting from present consideration the question of monthly reports during growth we give in the following tables the results of a careful recalculation in the light of the census data of 1911 of the areas, yields and values of the principal field crops of Canada for the years 1910, 1911, 1912 and 1913. A column is also added to each table showing the annual averages of the five preceding years, 1908 to 1912.

## AREAS OF FIELD CROPS, 1910-1913.

Table 1 gives the areas of field crops in Canada for each of the years 1910 to 1913 and the average of the five years 1908 to 1912. In this table the areas for 1910 and 1911 are the latest revised figures of the Census of 1911, the areas of field crops for both 1910 and 1911 having then been collected. For 1912 and 1913 the areas are estimated by application to the figures of the previous year in each case of the average percentages compiled from the reports of correspondents.

## I. Areas of Field Crops in Canada, 1910-1913.

| Crops                   | 1910      | 1911       | 1912       | 1913       | Five year average 1908-1912 |
|-------------------------|-----------|------------|------------|------------|-----------------------------|
|                         | acres     | acres      | acres      | acres      | acres                       |
| Canada—                 |           |            |            |            |                             |
| Fall wheat.....         | 974,704   | 1,161,265  | 971,000    | 970,000    | 908,000                     |
| Spring wheat.....       | 7,888,447 | 9,939,468  | 10,025,700 | 10,045,000 | 8,156,000                   |
| All wheat.....          | 8,863,151 | 11,100,673 | 10,996,700 | 11,015,000 | 9,064,000                   |
| Oats.....               | 8,652,015 | 9,630,760  | 9,966,000  | 10,434,000 | 9,098,000                   |
| Barley.....             | 1,286,611 | 1,521,694  | 1,581,300  | 1,613,000  | 1,600,000                   |
| Rye.....                | 114,343   | 131,240    | 127,000    | 119,300    | 113,000                     |
| Peas.....               | 355,262   | 294,750    | 259,550    | 218,980    | 343,000                     |
| Beans.....              | 46,149    | 52,896     | 52,560     | 46,600     | 54,000                      |
| Buckwheat.....          | 361,871   | 371,560    | 398,700    | 380,700    | 341,000                     |
| Mixed grains.....       | 430,763   | 525,224    | 496,500    | 473,800    | 523,000                     |
| Flax.....               | 582,326   | 878,872    | 2,021,900  | 1,552,800  | 752,000                     |
| Corn for husking.....   | 293,775   | 321,875    | 298,190    | 278,140    | 327,000                     |
| Potatoes.....           | 465,903   | 479,211    | 484,000    | 473,500    | 489,000                     |
| Turnips, mangolds, etc. | 177,423   | 207,861    | 198,200    | 186,400    | 221,000                     |
| Hay and clover.....     | 8,281,932 | 8,617,251  | 8,276,000  | 8,169,000  | 8,319,000                   |
| Fodder corn.....        | 294,009   | 294,238    | 299,390    | 303,650    | 283,000                     |
| Sugar beets.....        | 17,045    | 20,677     | 18,900     | 17,000     | 15,000                      |
| Alfalfa.....            | 56,818    | 96,890     | 100,660    | 93,560     | 85,000 <sup>1</sup>         |
| P. E. Island—           |           |            |            |            |                             |
| Spring wheat.....       | 28,721    | 30,953     | 32,000     | 32,000     | 29,000                      |
| Oats.....               | 181,636   | 179,068    | 180,000    | 180,000    | 179,000                     |
| Barley.....             | 4,878     | 4,615      | 5,000      | 4,000      | 5,000                       |
| Peas.....               | 35        | 86         | 90         | 80         | 290                         |
| Buckwheat.....          | 2,436     | 2,765      | 2,700      | 2,700      | 3,000                       |
| Mixed grains.....       | 6,559     | 7,649      | 7,700      | 7,800      | 10,000                      |
| Potatoes.....           | 30,607    | 30,612     | 33,000     | 32,000     | 32,000                      |
| Turnips, mangolds, etc. | 6,523     | 7,776      | 8,000      | 8,000      | 8,000                       |
| Hay and clover.....     | 215,083   | 213,193    | 194,000    | 190,000    | 220,000                     |
| Fodder corn.....        | 191       | 283        | 300        | 300        | 460                         |
| Alfalfa.....            | 2         | 85         | 90         | 90         | 60 <sup>1</sup>             |
| Nova Scotia—            |           |            |            |            |                             |
| Spring wheat.....       | 12,152    | 13,409     | 13,000     | 13,000     | 16,000                      |
| Oats.....               | 96,177    | 101,010    | 100,000    | 101,500    | 114,000                     |
| Barley.....             | 5,348     | 5,551      | 5,000      | 5,000      | 7,000                       |
| Rye.....                | 349       | 315        | 300        | 300        | 500                         |
| Peas.....               | 106       | 210        | 200        | 200        | 700                         |
| Beans.....              | 730       | 945        | 900        | 900        | 2,000                       |
| Buckwheat.....          | 9,536     | 11,811     | 11,000     | 11,000     | 14,000                      |
| Mixed grains.....       | 2,420     | 4,359      | 4,000      | 4,000      | 5,000                       |
| Corn for husking.....   | 64        | 137        | 130        | 100        | 220                         |
| Potatoes.....           | 30,802    | 30,686     | 32,000     | 32,000     | 36,000                      |
| Turnips, mangolds, etc. | 9,526     | 11,757     | 12,000     | 12,000     | 14,000                      |
| Hay and clover.....     | 542,007   | 528,838    | 521,000    | 531,000    | 573,000                     |
| Fodder corn.....        | 561       | 644        | 600        | 600        | 1,000                       |
| Alfalfa.....            | 10        | 31         | 30         | 30         | 25                          |

<sup>1</sup> Three year average, 1910-12.

## I. Areas of Field Crops in Canada, 1910-13—continued.

| Crops                   | 1910      | 1911      | 1912      | 1913      | Five year average 1908-1912 |
|-------------------------|-----------|-----------|-----------|-----------|-----------------------------|
|                         | acres     | acres     | acres     | acres     | acres                       |
| New Brunswick—          |           |           |           |           |                             |
| Spring wheat.....       | 13,384    | 13,897    | 13,000    | 13,000    | 16,000                      |
| Oats.....               | 201,140   | 207,408   | 195,000   | 195,000   | 205,000                     |
| Barley.....             | 2,608     | 2,791     | 2,700     | 2,500     | 3,000                       |
| Peas.....               | 429       | 701       | 600       | 500       | 1,000                       |
| Beans.....              | 250       | 366       | 300       | 300       | 900                         |
| Buckwheat.....          | 58,366    | 65,491    | 64,000    | 64,000    | 62,000                      |
| Mixed grains.....       | 724       | 1,129     | 1,600     | 1,000     | 3,000                       |
| Corn for husking.....   | 63        | 75        | 60        | 40        | 70                          |
| Potatoes.....           | 40,319    | 41,147    | 43,000    | 43,500    | 47,000                      |
| Turnips, mangolds, etc. | 8,578     | 9,748     | 10,000    | 9,000     | 8,000                       |
| Hay and clover.....     | 625,911   | 635,446   | 602,000   | 577,000   | 648,000                     |
| Fodder corn.....        | 235       | 215       | 190       | 150       | 450                         |
| Alfalfa.....            | 83        | 116       | 140       | 140       | 110 <sup>1</sup>            |
| Quebec—                 |           |           |           |           |                             |
| Spring wheat.....       | 61,143    | 68,599    | 60,000    | 58,600    | 79,000                      |
| Oats.....               | 1,387,961 | 1,430,209 | 1,296,000 | 1,303,600 | 1,446,000                   |
| Barley.....             | 101,728   | 99,762    | 94,000    | 89,000    | 103,000                     |
| Rye.....                | 11,099    | 12,735    | 11,600    | 10,000    | 15,000                      |
| Peas.....               | 30,303    | 32,507    | 30,000    | 26,000    | 38,000                      |
| Beans.....              | 4,196     | 6,065     | 5,000     | 5,000     | 8,000                       |
| Buckwheat.....          | 124,220   | 112,880   | 117,000   | 110,000   | 103,000                     |
| Mixed grains.....       | 94,237    | 114,347   | 104,000   | 101,000   | 116,000                     |
| Flax.....               | 1,361     | 1,146     | 900       | 800       | 1,000 <sup>1</sup>          |
| Corn for husking.....   | 18,802    | 23,473    | 19,000    | 18,000    | 25,000                      |
| Potatoes.....           | 124,598   | 124,381   | 116,000   | 116,000   | 129,000                     |
| Turnips, mangolds, etc. | 13,637    | 13,543    | 12,000    | 11,000    | 22,000                      |
| Hay and clover.....     | 3,224,122 | 3,294,230 | 3,108,000 | 3,014,000 | 3,089,000                   |
| Fodder corn.....        | 41,082    | 37,155    | 34,000    | 34,000    | 39,000                      |
| Alfalfa.....            | 4,044     | 3,134     | 3,500     | 3,000     | 3,700 <sup>1</sup>          |
| Ontario                 |           |           |           |           |                             |
| Fall wheat.....         | 759,916   | 832,889   | 735,000   | 739,000   | 716,000                     |
| Spring wheat.....       | 110,439   | 135,538   | 120,000   | 111,000   | 127,000                     |
| All wheat.....          | 870,355   | 968,427   | 855,000   | 850,000   | 843,000                     |
| Oats.....               | 2,871,288 | 2,806,203 | 2,785,000 | 2,814,000 | 2,943,000                   |
| Barley.....             | 503,129   | 519,967   | 512,000   | 485,000   | 600,000                     |
| Rye.....                | 92,731    | 96,751    | 93,000    | 85,000    | 81,000                      |
| Peas.....               | 321,996   | 258,461   | 226,000   | 190,000   | 360,000                     |
| Beans.....              | 40,626    | 45,130    | 46,000    | 40,000    | 43,000                      |
| Buckwheat.....          | 167,313   | 178,613   | 204,000   | 193,000   | 159,000                     |
| Mixed grains.....       | 323,329   | 389,366   | 371,000   | 352,000   | 385,000                     |
| Flax.....               | 8,780     | 8,790     | 9,000     | 7,000     | 9,000 <sup>1</sup>          |
| Corn for husking.....   | 274,846   | 298,190   | 279,000   | 260,000   | 301,000                     |
| Potatoes.....           | 158,363   | 156,990   | 158,000   | 152,000   | 168,000                     |
| Turnips, mangolds, etc. | 132,529   | 138,735   | 139,000   | 121,000   | 154,000                     |
| Hay and clover.....     | 3,216,154 | 3,445,907 | 3,337,000 | 3,312,000 | 3,417,000                   |
| Fodder corn.....        | 245,048   | 243,497   | 251,000   | 255,000   | 236,000                     |
| Sugar beets.....        | 15,966    | 18,882    | 17,000    | 15,000    | 13,000                      |
| Alfalfa.....            | 45,625    | 75,000    | 76,000    | 69,000    | 66,000 <sup>1</sup>         |
| Manitoba—               |           |           |           |           |                             |
| Fall wheat.....         | 4,553     | 13,291    | 15,000    | 19,000    | 11,000 <sup>1</sup>         |
| Spring wheat.....       | 2,755,818 | 3,081,542 | 2,824,000 | 2,785,000 | 2,885,000                   |
| All wheat.....          | 2,760,371 | 3,094,833 | 2,839,000 | 2,804,000 | 2,896,000                   |
| Oats.....               | 1,209,173 | 1,307,434 | 1,348,000 | 1,398,000 | 1,315,000                   |
| Barley.....             | 416,016   | 448,105   | 481,000   | 496,000   | 541,000                     |

<sup>1</sup> Three year average, 1910-12.



## I. Areas of Field Crops in Canada, 1910-13.—continued.

| Crops                   | 1910      | 1911      | 1912      | 1913      | Five year<br>average<br>1908-1912 |
|-------------------------|-----------|-----------|-----------|-----------|-----------------------------------|
|                         | acres     | acres     | acres     | acres     | acres                             |
| Manitoba—con.           |           |           |           |           |                                   |
| Rye.....                | 2,738     | 4,725     | 5,000     | 5,000     | 5,000                             |
| Peas.....               | 298       | 414       | 400       | —         | 800                               |
| Mixed grains.....       | 473       | 1,541     | 1,500     | 1,500     | 1,000 <sup>1</sup>                |
| Flax.....               | 34,684    | 79,765    | 100,000   | 54,000    | 52,000                            |
| Potatoes.....           | 26,210    | 26,488    | 27,000    | 26,000    | 24,000                            |
| Turnips, mangolds, etc. | 2,008     | 4,167     | 4,000     | 4,000     | 3,000                             |
| Hay and clover.....     | 137,671   | 153,372   | 151,000   | 162,000   | 135,000                           |
| Fodder corn.....        | 4,603     | 9,919     | 11,000    | 11,000    | 9,000 <sup>1</sup>                |
| Alfalfa.....            | 539       | 3,324     | 3,100     | 4,000     | 2,000 <sup>1</sup>                |
| Saskatchewan—           |           |           |           |           |                                   |
| Fall wheat.....         | 1,230     | 2,638     | 3,000     | 4,000     | 2,000 <sup>1</sup>                |
| Spring wheat.....       | 4,226,992 | 5,273,836 | 5,579,000 | 5,716,000 | 4,228,000                         |
| All wheat.....          | 4,228,222 | 5,256,474 | 5,582,000 | 5,720,000 | 4,230,000 <sup>1</sup>            |
| Oats.....               | 1,888,359 | 2,332,912 | 2,556,000 | 2,755,000 | 1,911,000                         |
| Barley.....             | 129,621   | 273,988   | 292,000   | 332,000   | 182,000                           |
| Rye.....                | 754       | 2,271     | 2,700     | 3,000     | 2,000                             |
| Peas.....               | 236       | 389       | 400       | 400       | 300 <sup>1</sup>                  |
| Mixed grains.....       | 637       | 1,876     | 2,000     | 2,000     | 1,500 <sup>1</sup>                |
| Flax.....               | 506,425   | 682,000   | 1,780,000 | 1,386,000 | 638,000                           |
| Potatoes.....           | 24,046    | 30,040    | 31,000    | 31,000    | 24,000                            |
| Turnips, mangolds, etc. | 990       | 13,907    | 14,000    | 13,000    | 6,000                             |
| Hay and clover.....     | 37,694    | 47,720    | 59,000    | 62,000    | 34,000                            |
| Fodder corn.....        | 675       | 1,357     | 1,300     | 1,600     | 1,000 <sup>1</sup>                |
| Alfalfa.....            | 182       | 1,168     | 1,400     | 1,600     | 900 <sup>1</sup>                  |
| Alberta—                |           |           |           |           |                                   |
| Fall wheat.....         | 204,633   | 305,788   | 212,000   | 202,000   | 181,000                           |
| Spring wheat.....       | 674,665   | 1,334,186 | 1,378,000 | 1,310,000 | 772,000                           |
| All wheat.....          | 879,301   | 1,639,974 | 1,590,000 | 1,512,000 | 953,000                           |
| Oats.....               | 783,072   | 1,221,217 | 1,461,000 | 1,339,000 | 961,000                           |
| Barley.....             | 121,435   | 164,132   | 187,000   | 197,000   | 158,000                           |
| Rye.....                | 6,672     | 14,443    | 15,000    | 16,000    | 10,000                            |
| Peas.....               | 287       | 493       | 460       | 500       | 400 <sup>1</sup>                  |
| Mixed grains.....       | 1,798     | 2,789     | 2,800     | 2,000     | 2,500 <sup>1</sup>                |
| Flax.....               | 31,076    | 107,171   | 132,000   | 105,000   | 56,000                            |
| Potatoes.....           | 20,086    | 23,863    | 27,000    | 26,000    | 20,000                            |
| Turnips, mangolds, etc. | 1,333     | 4,828     | 5,000     | 5,000     | 3,000                             |
| Hay and clover.....     | 149,973   | 162,411   | 171,000   | 176,000   | 120,000                           |
| Fodder corn.....        | 1,259     | 739       | 600       | 600       | 900 <sup>1</sup>                  |
| Sugar beets.....        | 1,079     | 1,795     | 1,900     | 2,000     | 2,400                             |
| Alfalfa.....            | 2,592     | 7,890     | 9,300     | 9,000     | 7,000 <sup>1</sup>                |
| British Columbia—       |           |           |           |           |                                   |
| Fall wheat.....         | 4,369     | 6,599     | 6,000     | 6,000     | 6,000 <sup>1</sup>                |
| Spring wheat.....       | 5,133     | 7,108     | 6,700     | 7,000     | 6,000 <sup>1</sup>                |
| All wheat.....          | 9,492     | 13,707    | 12,700    | 13,000    | 12,000 <sup>1</sup>               |
| Oats.....               | 33,209    | 45,299    | 45,000    | 48,500    | 31,000 <sup>1</sup>               |
| Barley.....             | 1,853     | 2,783     | 2,600     | 2,500     | 2,000 <sup>1</sup>                |
| Peas.....               | 1,572     | 1,489     | 1,400     | 1,300     | 1,000 <sup>1</sup>                |
| Beans.....              | 347       | 390       | 360       | 400       | 400 <sup>1</sup>                  |
| Mixed grains.....       | 526       | 2,248     | 2,500     | 2,500     | 2,000 <sup>1</sup>                |
| Potatoes.....           | 10,872    | 14,974    | 17,000    | 15,000    | 14,000 <sup>1</sup>               |
| Turnips, mangolds, etc. | 2,239     | 3,400     | 3,200     | 3,400     | 3,000 <sup>1</sup>                |
| Hay and clover.....     | 133,317   | 136,134   | 139,000   | 145,000   | 136,000 <sup>1</sup>              |
| Fodder corn.....        | 355       | 429       | 400       | 400       | 400 <sup>1</sup>                  |
| Alfalfa.....            | 3,741     | 5,642     | 6,700     | 6,700     | 5,000 <sup>1</sup>                |

<sup>1</sup> Three year average, 1910-12.

## TOTAL YIELDS OF FIELD CROPS, 1910-13.

Table II gives the estimated total yields for each of the same four years, 1910 to 1913, with the average of the five years 1908 to 1912. For 1910 the yields represent addition of the actual figures furnished to the census enumerators by individual farmers; but for the other years the yields are obtained by multiplication of the areas in Table I by the average yields per acre as estimated by our correspondents.

## II. Total Yields of Field Crops in Canada, 1910-1913.

| Crops                   | 1910        | 1911        | 1912        | 1913        | Five year<br>average<br>1908-1912 |
|-------------------------|-------------|-------------|-------------|-------------|-----------------------------------|
| Canada—                 | bush.       | bush.       | bush.       | bush.       | bush.                             |
| Fall wheat.....         | 20,383,552  | 25,814,000  | 20,387,000  | 22,592,000  | 20,295,000                        |
| Spring wheat.....       | 111,685,230 | 205,150,000 | 263,772,000 | 269,125,000 | 152,965,000                       |
| All wheat.....          | 132,048,782 | 230,924,000 | 224,159,000 | 231,717,000 | 173,261,000                       |
| Oats.....               | 243,506,292 | 365,179,000 | 391,629,000 | 404,669,000 | 320,831,000                       |
| Barley.....             | 28,816,425  | 44,415,000  | 49,398,000  | 48,319,000  | 44,964,000                        |
| Rye.....                | 1,536,635   | 2,492,000   | 2,428,000   | 2,300,000   | 1,976,000                         |
| Peas.....               | 4,808,145   | 4,666,000   | 3,913,000   | 3,951,800   | 5,718,000                         |
| Beans.....              | 825,648     | 1,026,800   | 920,500     | 860,900     | 1,068,000                         |
| Buckwheat.....          | 7,200,284   | 8,441,000   | 10,517,000  | 8,372,000   | 8,223,000                         |
| Mixed grains.....       | 13,176,792  | 15,712,000  | 17,198,000  | 15,792,000  | 16,905,000                        |
| Flax.....               | 4,244,566   | 10,075,500  | 26,130,000  | 17,539,000  | 8,832,000                         |
| Corn for husking.....   | 14,321,833  | 19,185,000  | 16,949,700  | 16,772,600  | 18,518,000                        |
| Potatoes.....           | 55,609,883  | 71,238,000  | 84,885,000  | 78,544,000  | 76,922,000                        |
| Turnips, mangolds, etc. | 51,602,057  | 78,497,000  | 80,016,000  | 66,788,000  | 83,817,000                        |
| Hay and clover.....     | 11,363,609  | 13,989,000  | 12,117,000  | 10,859,000  | 12,147,000                        |
| Fodder corn.....        | 2,703,399   | 2,671,200   | 3,037,500   | 2,616,300   | 2,823,000                         |
| Sugar beets.....        | 188,000     | 175,000     | 201,000     | 143,000     | 152,000                           |
| Alfalfa.....            | 117,601     | 227,750     | 285,700     | 237,770     | 210,000 <sup>1</sup>              |
| P. E. Island—           | bush.       | bush.       | bush.       | bush.       | bush.                             |
| Spring wheat.....       | 501,295     | 596,000     | 582,000     | 628,000     | 519,000                           |
| Oats.....               | 5,211,588   | 5,336,000   | 7,358,000   | 6,143,000   | 5,833,000                         |
| Barley.....             | 114,430     | 118,000     | 145,000     | 111,000     | 147,000                           |
| Peas.....               | 647         | 2,000       | 2,000       | 1,600       | 6,000                             |
| Buckwheat.....          | 43,690      | 74,000      | 100,000     | 65,000      | 84,000                            |
| Mixed grains.....       | 227,374     | 267,000     | 355,000     | 308,000     | 411,000                           |
| Potatoes.....           | 4,202,525   | 5,581,000   | 6,741,000   | 6,219,000   | 6,422,000                         |
| Turnips, mangolds, etc. | 2,992,784   | 3,714,000   | 3,590,000   | 4,024,000   | 3,679,000                         |
| Hay and clover.....     | 260,294     | 296,000     | 248,000     | 340,000     | 322,000                           |
| Fodder corn.....        | 1,761       | 3,000       | 1,600       | 3,400       | 4,000                             |
| Alfalfa.....            | 4           | 200         | 220         | 270         | 100 <sup>1</sup>                  |
| Nova Scotia—            | bush.       | bush.       | bush.       | bush.       | bush.                             |
| Spring wheat.....       | 222,285     | 282,000     | 265,000     | 267,000     | 306,000                           |
| Oats.....               | 2,973,769   | 2,454,000   | 3,267,000   | 3,291,000   | 3,459,000                         |
| Barley.....             | 142,223     | 143,000     | 143,600     | 134,000     | 185,000                           |
| Rye.....                | 5,367       | 5,000       | 5,000       | 8,000       | 8,000                             |
| Peas.....               | 1,873       | 5,000       | 5,000       | 6,700       | 17,000                            |
| Beans.....              | 12,251      | 21,000      | 24,000      | 22,000      | 39,000                            |
| Buckwheat.....          | 206,005     | 258,000     | 296,000     | 277,000     | 336,000                           |
| Mixed grains.....       | 78,369      | 128,000     | 150,000     | 143,000     | 174,000                           |
| Corn for husking.....   | 2,684       | 5,000       | 7,000       | 3,000       | 4,000                             |
| Potatoes.....           | 3,581,757   | 5,641,000   | 9,447,000   | 5,369,000   | 7,130,000                         |
| Turnips, mangolds, etc. | 3,478,442   | 5,010,000   | 5,606,000   | 4,681,000   | 6,126,000                         |
| Hay and clover.....     | 724,393     | 904,000     | 823,000     | 876,000     | 932,000                           |
| Fodder corn.....        | 5,205       | 4,000       | 5,300       | 4,000       | 5,000                             |
| Alfalfa.....            | 25          | 100         | 100         | 100         | 100 <sup>1</sup>                  |

<sup>1</sup> Three year average, 1910-12.

## II. Total Yields of Field Crops in Canada, 1910-1913—continued.

| Crops                   | 1910       | 1911       | 1912       | 1913        | Five year average 1908-1912 |
|-------------------------|------------|------------|------------|-------------|-----------------------------|
| New Brunswick—          | bush.      | bush.      | bush.      | bush.       | bush.                       |
| Spring wheat.....       | 203,355    | 283,000    | 236,000    | 269,000     | 293,000                     |
| Oats.....               | 5,538,796  | 5,986,000  | 5,607,000  | 5,946,000   | 5,592,000                   |
| Barley.....             | 56,758     | 79,000     | 74,000     | 74,000      | 76,000                      |
| Peas.....               | 6,569      | 17,000     | 10,000     | 11,000      | 24,000                      |
| Beans.....              | 4,514      | 8,000      | 6,500      | 4,300       | 26,000                      |
| Buckwheat.....          | 1,149,984  | 1,732,000  | 1,563,000  | 1,782,000   | 1,549,000                   |
| Mixed grains.....       | 20,426     | 35,000     | 28,000     | 30,000      | 79,000                      |
| Corn for husking.....   | 1,524      | 1,050      | 700        | 1,600       | 1,000 <sup>1</sup>          |
| Potatoes.....           | 5,228,269  | 8,826,000  | 7,558,000  | 10,629,000  | 9,012,000                   |
| Turnips, mangolds, etc. | 2,675,883  | 4,060,000  | 2,721,000  | 3,346,000   | 2,730,000                   |
|                         | tons       | tons       | tons       | tons        | tons                        |
| Hay and clover.....     | 669,528    | 902,000    | 891,000    | 698,000     | 849,000                     |
| Fodder corn.....        | 2,315      | 2,000      | 1,400      | 1,700       | 5,000                       |
| Alfalfa.....            | 100        | 450        | 280        | 400         | 300 <sup>1</sup>            |
| Quebec—                 | bush.      | bush.      | bush.      | bush.       | bush.                       |
| Spring wheat.....       | 907,991    | 1,223,000  | 974,000    | 1,054,000   | 1,241,000                   |
| Oats.....               | 33,734,172 | 37,500,000 | 33,516,000 | 39,025,000  | 36,550,000                  |
| Barley.....             | 2,378,372  | 2,271,000  | 2,226,000  | 2,263,000   | 2,330,000                   |
| Rye.....                | 148,925    | 200,000    | 173,000    | 156,000     | 236,000                     |
| Peas.....               | 432,098    | 517,000    | 449,000    | 451,000     | 568,000                     |
| Beans.....              | 76,582     | 114,000    | 84,000     | 97,000      | 157,000                     |
| Buckwheat.....          | 2,468,479  | 2,518,000  | 3,094,000  | 2,560,000   | 2,441,000                   |
| Mixed grains.....       | 2,192,770  | 2,925,000  | 2,783,000  | 2,867,000   | 2,988,000                   |
| Flax.....               | 13,350     | 13,000     | 9,000      | 9,000       | 11,000                      |
| Corn for husking.....   | 575,360    | 712,000    | 476,000    | 586,000     | 787,000                     |
| Potatoes.....           | 15,547,671 | 15,763,000 | 15,945,000 | 20,504,000  | 18,957,000                  |
| Turnips, mangolds, etc. | 5,056,798  | 3,943,000  | 3,056,000  | 3,284,000   | 7,006,000                   |
|                         | tons       | tons       | tons       | tons        | tons                        |
| Hay and clover.....     | 1,726,694  | 6,260,000  | 3,792,000  | 4,069,000   | 3,939,000                   |
| Fodder corn.....        | 377,914    | 325,000    | 254,000    | 256,000     | 370,000                     |
| Alfalfa.....            | 6,520      | 14,000     | 9,700      | 6,300       | 10,000                      |
| Ontario—                | bush.      | bush.      | bush.      | bush.       | bush.                       |
| Fall wheat.....         | 17,863,306 | 17,449,000 | 15,163,000 | 17,669,000  | 16,072,000                  |
| Spring wheat.....       | 1,979,325  | 2,338,000  | 2,258,000  | 2,182,000   | 2,202,000                   |
| All wheat.....          | 19,842,631 | 19,787,000 | 17,421,000 | 19,851,000  | 18,274,000                  |
| Oats.....               | 88,946,041 | 84,860,000 | 97,053,000 | 105,159,000 | 96,774,000                  |
| Barley.....             | 14,055,327 | 13,722,000 | 15,093,000 | 14,589,000  | 16,989,000                  |
| Rye.....                | 1,232,495  | 1,728,000  | 1,711,000  | 1,567,000   | 1,359,000                   |
| Peas.....               | 4,311,133  | 4,055,000  | 3,374,000  | 3,431,000   | 5,054,300                   |
| Beans.....              | 726,955    | 876,000    | 801,000    | 670,000     | 841,000                     |
| Buckwheat.....          | 3,332,216  | 3,829,000  | 5,464,000  | 3,688,000   | 3,813,000                   |
| Mixed grains.....       | 10,390,756 | 12,086,000 | 13,556,000 | 12,098,000  | 13,120,000                  |
| Flax.....               | 82,901     | 124,000    | 143,000    | 161,000     | 116,000 <sup>1</sup>        |
| Corn for husking.....   | 18,742,266 | 18,467,000 | 16,466,000 | 16,182,000  | 17,725,000                  |
| Potatoes.....           | 17,295,370 | 16,043,000 | 22,690,000 | 18,105,000  | 21,718,000                  |
| Turnips, mangolds, etc. | 35,505,868 | 53,274,000 | 56,795,000 | 43,916,000  | 59,496,000                  |
|                         | tons       | tons       | tons       | tons        | tons                        |
| Hay and clover.....     | 4,418,456  | 4,721,000  | 5,406,000  | 3,941,000   | 4,901,000                   |
| Fodder corn.....        | 2,296,841  | 2,247,000  | 2,685,000  | 2,247,000   | 2,391,000                   |
| Sugar beets.....        | 182,124    | 161,000    | 188,000    | 138,000     | 133,000                     |
| Alfalfa.....            | 95,138     | 152,000    | 211,000    | 160,000     | 153,000 <sup>1</sup>        |
| Manitoba—               | bush.      | bush.      | bush.      | bush.       | bush.                       |
| Fall wheat.....         | 86,176     | 380,000    | 333,000    | 388,000     | 266,000                     |
| Spring wheat.....       | 34,039,773 | 62,309,000 | 62,684,000 | 52,943,000  | 52,401,000                  |
| All wheat.....          | 34,125,949 | 62,689,000 | 63,017,000 | 53,331,000  | 52,667,000                  |
| Oats.....               | 30,378,379 | 60,037,000 | 57,154,000 | 56,759,000  | 49,509,000                  |
| Barley.....             | 6,506,634  | 11,949,000 | 15,826,000 | 14,305,000  | 15,048,000                  |
| Rye.....                | 29,205     | 104,000    | 105,000    | 103,000     | 83,000                      |
| Peas.....               | 4,863      | 9,000      | 10,000     | -           | 16,000                      |

<sup>1</sup> Three year average, 1910-12.

## II. Total Yields of Field Crops in Canada, 1910-13—continued.

| Crops                   | 1910       | 1911        | 1912        | 1913        | Five year<br>average<br>(1908-1912) |
|-------------------------|------------|-------------|-------------|-------------|-------------------------------------|
| Manitoba—con.           | bush.      | bush.       | bush.       | bush.       | bush.                               |
| Mixed grains            | 8,772      | 54,000      | 68,000      | 41,000      | 43,000 <sup>1</sup>                 |
| Flax                    | 176,675    | 1,152,000   | 1,252,000   | 632,000     | 636,000                             |
| Potatoes                | 2,865,839  | 5,490,000   | 6,182,000   | 5,120,000   | 4,492,000                           |
| Turnips, mangolds, etc. | 496,674    | 1,356,000   | 1,451,000   | 1,011,000   | 1,184,000                           |
|                         | tons       | tons        | tons        | tons        | tons                                |
| Hay and clover          | 124,954    | 255,000     | 259,000     | 240,000     | 205,000                             |
| Fodder corn             | 14,158     | 76,000      | 84,000      | 89,000      | 58,000 <sup>1</sup>                 |
| Alfalfa                 | 579        | 7,000       | 9,400       | 11,000      | 5,000 <sup>1</sup>                  |
| Saskatchewan—           | bush.      | bush.       | bush.       | bush.       | bush.                               |
| Fall wheat              | 14,343     | 58,000      | 65,000      | 94,000      | 46,000 <sup>1</sup>                 |
| Spring wheat            | 66,964,653 | 109,017,000 | 106,895,000 | 121,465,000 | 80,563,000                          |
| All wheat               | 66,978,996 | 109,075,000 | 106,960,000 | 121,559,000 | 80,609,000                          |
| Oats                    | 58,922,791 | 107,594,000 | 117,537,000 | 114,112,000 | 81,011,000                          |
| Barley                  | 3,061,007  | 8,661,000   | 9,595,000   | 10,421,000  | 5,552,000                           |
| Rye                     | 11,639     | 61,000      | 57,000      | 68,000      | 42,000                              |
| Peas                    | 2,612      | 8,000       | 11,000      | 7,000       | 7,000 <sup>1</sup>                  |
| Mixed grains            | 8,967      | 66,000      | 73,000      | 77,000      | 49,000 <sup>1</sup>                 |
| Flax                    | 3,893,160  | 7,672,500   | 23,023,000  | 15,579,000  | 7,506,000                           |
| Potatoes                | 2,917,340  | 5,510,000   | 6,552,000   | 5,138,000   | 4,150,000                           |
| Turnips, mangolds, etc. | 175,436    | 3,966,000   | 4,165,000   | 3,305,000   | 1,893,000                           |
|                         | tons       | tons        | tons        | tons        | tons                                |
| Hay and clover          | 45,129     | 72,000      | 90,000      | 114,000     | 54,000                              |
| Fodder corn             | 977        | 9,500       | 2,000       | 11,000      | 4,000 <sup>1</sup>                  |
| Alfalfa                 | 199        | 2,000       | 3,000       | 3,7000      | 1,000 <sup>1</sup>                  |
| Alberta—                | bush.      | bush.       | bush.       | bush.       | bush.                               |
| Fall wheat              | 2,323,530  | 7,730,000   | 4,625,000   | 4,242,000   | 3,938,000                           |
| Spring wheat            | 6,736,680  | 23,872,000  | 29,675,000  | 30,130,000  | 15,339,000                          |
| All wheat               | 9,060,210  | 36,602,000  | 34,303,000  | 34,372,000  | 19,277,000                          |
| Oats                    | 16,099,223 | 59,034,000  | 67,630,000  | 71,542,000  | 40,788,000                          |
| Barley                  | 2,489,165  | 4,356,000   | 6,179,000   | 6,334,000   | 4,579,000                           |
| Rye                     | 109,006    | 394,000     | 377,000     | 398,000     | 216,000                             |
| Peas                    | 4,371      | 8,000       | 9,000       | 8,500       | 7,000 <sup>1</sup>                  |
| Mixed grains            | 36,556     | 84,000      | 97,000      | 73,000      | 73,000 <sup>1</sup>                 |
| Flax                    | 78,480     | 1,114,000   | 1,693,000   | 1,155,000   | 613,000                             |
| Potatoes                | 2,339,901  | 4,606,000   | 5,775,000   | 4,350,000   | 3,457,000                           |
| Turnips, mangolds, etc. | 236,178    | 1,451,000   | 1,281,000   | 1,234,000   | 891,000                             |
|                         | tons       | tons        | tons        | tons        | tons                                |
| Hay and clover          | 125,662    | 270,000     | 291,000     | 275,000     | 177,000                             |
| Fodder corn             | 2,392      | 1,400       | 1,200       | 2,200       | 1,700 <sup>1</sup>                  |
| Sugar beets             | 5,876      | 14,000      | 13,000      | 10,000      | 18,000                              |
| Alfalfa                 | 5,133      | 21,000      | 24,000      | 25,000      | 17,000 <sup>1</sup>                 |
| British Columbia—       | bush.      | bush.       | bush.       | bush.       | bush.                               |
| Fall wheat              | 96,197     | 197,000     | 198,000     | 199,000     | 163,000 <sup>1</sup>                |
| Spring wheat            | 109,873    | 190,000     | 203,000     | 187,000     | 168,000 <sup>1</sup>                |
| All wheat               | 206,070    | 387,000     | 401,000     | 386,000     | 331,000 <sup>1</sup>                |
| Oats                    | 1,701,533  | 2,378,000   | 2,507,000   | 2,692,000   | 2,196,000 <sup>1</sup>              |
| Barley                  | 51,509     | 116,000     | 117,000     | 88,000      | 95,000 <sup>1</sup>                 |
| Peas                    | 43,979     | 45,000      | 43,000      | 35,000      | 44,000 <sup>1</sup>                 |
| Beans                   | 5,346      | 7,800       | 5,000       | 7,600       | 6,000 <sup>1</sup>                  |
| Mixed grains            | 12,802     | 57,000      | 88,000      | 155,000     | 56,000 <sup>1</sup>                 |
| Potatoes                | 1,631,211  | 3,778,000   | 3,995,000   | 3,119,000   | 3,135,000 <sup>1</sup>              |
| Turnips, mangolds, etc. | 984,494    | 1,723,000   | 1,351,000   | 1,987,000   | 1,353,000 <sup>1</sup>              |
|                         | tons       | tons        | tons        | tons        | tons                                |
| Hay and clover          | 208,499    | 309,000     | 317,000     | 306,000     | 278,000 <sup>1</sup>                |
| Fodder corn             | 2,736      | 3,300       | 3,000       | 3,000       | 3,000 <sup>1</sup>                  |
| Alfalfa                 | 9,903      | 31,000      | 28,000      | 31,000      | 23,000 <sup>1</sup>                 |

<sup>1</sup> Three year average, 1910-12.



## AVERAGE YIELDS PER ACRE, 1910-1913.

Table III gives the average yields per acre for each year, with also the average for the five years 1908 to 1912. For 1910 these yields are obtained by division of the total yields by the total acreages, the data for both factors having been collected by the Census. For each of the other years the yields per acre represent the averages of the figures furnished by our correspondents.

## III. Average Yields per acre of Field Crops in Canada, 1910-1913.

| Crops                   | 1910   | 1911   | 1912   | 1913   | Average<br>for 5 years,<br>1908-1912 |
|-------------------------|--------|--------|--------|--------|--------------------------------------|
| Canada—                 | bush.  | bush.  | bush.  | bush.  | bush.                                |
| Fall wheat.....         | 20.91  | 22.23  | 20.99  | 23.29  | 22.57                                |
| Spring wheat.....       | 14.16  | 20.64  | 20.32  | 20.81  | 18.75                                |
| All wheat.....          | 14.89  | 20.80  | 20.38  | 21.04  | 19.11                                |
| Oats.....               | 28.14  | 37.92  | 39.29  | 38.78  | 35.00                                |
| Barley.....             | 22.42  | 29.19  | 31.24  | 29.96  | 27.87                                |
| Rye.....                | 13.44  | 18.99  | 19.11  | 19.28  | 17.47                                |
| Peas.....               | 13.50  | 15.83  | 15.07  | 18.05  | 16.44                                |
| Beans.....              | 17.89  | 19.41  | 17.51  | 17.19  | 21.09                                |
| Buckwheat.....          | 19.90  | 22.72  | 26.38  | 21.99  | 24.24                                |
| Mixed grains.....       | 30.59  | 29.91  | 34.64  | 33.33  | 32.23                                |
| Flax.....               | 7.29   | 11.46  | 12.92  | 11.30  | 11.74                                |
| Corn for husking.....   | 48.75  | 59.60  | 56.84  | 60.30  | 56.46                                |
| Potatoes.....           | 119.36 | 148.66 | 175.38 | 165.88 | 153.67                               |
| Turnips, mangolds, etc. | 290.84 | 377.64 | 403.71 | 358.30 | 375.89                               |
|                         | tons   | tons   | tons   | tons   | tons                                 |
| Hay and clover.....     | 1.36   | 1.62   | 1.46   | 1.33   | 1.45                                 |
| Fodder corn.....        | 9.19   | 9.08   | 10.15  | 8.62   | 10.00                                |
| Sugar beets.....        | 11.03  | 8.46   | 10.63  | 8.71   | 9.76                                 |
| Alfalfa.....            | 2.07   | 2.35   | 2.84   | 2.54   | 2.42 <sup>1</sup>                    |
| P. E. Island—           | bush.  | bush.  | bush.  | bush.  | bush.                                |
| Spring wheat.....       | 17.45  | 19.26  | 18.39  | 19.62  | 17.89                                |
| Oats.....               | 28.69  | 29.80  | 40.77  | 34.13  | 33.33                                |
| Barley.....             | 23.46  | 25.67  | 32.04  | 27.73  | 28.07                                |
| Peas.....               | 18.49  | 20.00  | 22.33  | 20.25  | 21.24                                |
| Buckwheat.....          | 17.90  | 26.75  | 36.83  | 24.00  | 26.83                                |
| Mixed grains.....       | 34.66  | 35.29  | 45.83  | 39.50  | 39.32                                |
| Potatoes.....           | 137.30 | 182.15 | 206.39 | 194.33 | 186.37                               |
| Turnips, mangolds, etc. | 458.80 | 477.57 | 440.75 | 503.04 | 471.82                               |
|                         | tons   | tons   | tons   | tons   | tons                                 |
| Hay and clover.....     | 1.21   | 1.39   | 1.28   | 1.79   | 1.45                                 |
| Fodder corn.....        | 9.70   | 10.12  | 6.00   | 11.20  | 9.64                                 |
| Alfalfa.....            | 2.00   | 2.50   | 2.63   | 3.00   | 2.37 <sup>1</sup>                    |
| Nova Scotia—            | bush.  | bush.  | bush.  | bush.  | bush.                                |
| Spring wheat.....       | 18.29  | 21.05  | 20.19  | 20.50  | 19.34                                |
| Oats.....               | 30.92  | 29.24  | 32.53  | 32.42  | 31.19                                |
| Barley.....             | 26.59  | 25.77  | 27.22  | 26.89  | 26.63                                |
| Rye.....                | 15.37  | 16.00  | 16.40  | 27.00  | 17.15                                |
| Peas.....               | 17.66  | 23.40  | 25.50  | 33.25  | 23.67                                |
| Beans.....              | 16.78  | 21.90  | 26.95  | 24.93  | 22.34                                |
| Buckwheat.....          | 21.60  | 21.81  | 26.27  | 25.21  | 24.04                                |
| Mixed grains.....       | 32.38  | 29.34  | 34.70  | 33.65  | 33.54                                |
| Corn for husking.....   | 41.93  | 35.00  | 58.50  | 27.50  | 39.11 <sup>2</sup>                   |
| Potatoes.....           | 116.30 | 183.83 | 298.57 | 197.79 | 197.19                               |
| Turnips, mangolds, etc. | 365.15 | 426.06 | 475.54 | 390.06 | 429.66                               |
|                         | tons   | tons   | tons   | tons   | tons                                 |
| Hay and clover.....     | 1.34   | 1.71   | 1.58   | 1.65   | 1.61                                 |
| Fodder corn.....        | 9.28   | 6.02   | 8.58   | 6.32   | 7.45                                 |
| Alfalfa.....            | 2.50   | 3.00   | 3.50   | 3.75   | 3.00 <sup>1</sup>                    |

<sup>1</sup> Three year average, 1910-12.<sup>2</sup> Average for four years, 1908, 1910-12.

## III. Average Yields per acre of Field Crops in Canada, 1910-13—continued.

| Crops                   | 1910   | 1911   | 1912   | 1913   | Average<br>for 5 years<br>1908-1912 |
|-------------------------|--------|--------|--------|--------|-------------------------------------|
| <b>New Brunswick—</b>   | bush.  | bush.  | bush.  | bush.  | bush.                               |
| Spring wheat .....      | 15 19  | 20 39  | 18 11  | 20 72  | 18 23                               |
| Oats .....              | 27 51  | 28 86  | 28 81  | 30 49  | 27 57                               |
| Barley .....            | 21 80  | 28 16  | 27 42  | 29 64  | 25 83                               |
| Peas .....              | 15 31  | 24 00  | 16 14  | 21 30  | 18 16                               |
| Beans .....             | 18 05  | 21 75  | 19 25  | 14 33  | 24 45                               |
| Buckwheat .....         | 19 70  | 26 44  | 24 36  | 27 85  | 24 97                               |
| Mixed grains .....      | 28 21  | 30 66  | 27 36  | 30 30  | 29 47                               |
| Corn for husking .....  | 24 92  | 13 00  | 12 00  | 39 50  | 16 64 <sup>1</sup>                  |
| Potatoes .....          | 129 67 | 214 49 | 174 64 | 241 35 | 187 36                              |
| Turnips, mangolds, etc. | 311 89 | 416 49 | 284 75 | 371 73 | 353 20                              |
|                         | tons   | tons   | tons   | tons   | tons                                |
| Hay and clover .....    | 1 07   | 1 42   | 1 48   | 1 21   | 1 31                                |
| Fodder corn .....       | 9 85   | 8 25   | 7 30   | 11 00  | 10 33                               |
| Alfalfa .....           | 1 20   | 3 00   | 2 00   | 3 00   | 2 06 <sup>1</sup>                   |
| <b>Quebec—</b>          | bush.  | bush.  | bush.  | bush.  | bush.                               |
| Spring wheat .....      | 14 85  | 17 73  | 16 17  | 18 17  | 15 79                               |
| Oats .....              | 24 30  | 26 22  | 25 86  | 29 95  | 25 27                               |
| Barley .....            | 23 38  | 22 76  | 23 69  | 25 43  | 22 73                               |
| Rye .....               | 13 41  | 15 72  | 15 44  | 15 60  | 15 65                               |
| Peas .....              | 14 25  | 15 91  | 15 11  | 17 34  | 14 89                               |
| Beans .....             | 18 25  | 17 14  | 15 59  | 19 35  | 18 87                               |
| Buckwheat .....         | 18 87  | 22 57  | 26 44  | 23 27  | 23 81                               |
| Mixed grains .....      | 23 26  | 25 58  | 26 74  | 28 39  | 25 69                               |
| Flax .....              | 9 80   | 11 31  | 9 66   | 10 84  | 10 25 <sup>1</sup>                  |
| Corn for husking .....  | 30 60  | 30 30  | 24 47  | 32 58  | 30 28                               |
| Potatoes .....          | 124 78 | 126 73 | 137 11 | 176 76 | 144 72                              |
| Turnips, mangolds, etc. | 369 19 | 291 18 | 251 60 | 298 56 | 315 38                              |
|                         | tons   | tons   | tons   | tons   | tons                                |
| Hay and clover .....    | 1 46   | 1 90   | 1 22   | 1 35   | 1 46                                |
| Fodder corn .....       | 9 17   | 8 75   | 7 38   | 7 50   | 9 34                                |
| Alfalfa .....           | 1 61   | 3 75   | 2 75   | 2 11   | 2 70 <sup>1</sup>                   |
| <b>Ontario—</b>         | bush.  | bush.  | bush.  | bush.  | bush.                               |
| Fall wheat .....        | 23 50  | 20 95  | 20 63  | 23 91  | 22 58                               |
| Spring wheat .....      | 17 92  | 17 25  | 18 77  | 19 66  | 17 44                               |
| All wheat .....         | 22 80  | 20 43  | 20 38  | 23 35  | 21 69                               |
| Oats .....              | 30 97  | 30 24  | 34 85  | 37 37  | 32 78                               |
| Barley .....            | 27 93  | 26 39  | 29 49  | 30 08  | 28 25                               |
| Rye .....               | 13 29  | 17 86  | 18 38  | 18 43  | 16 98                               |
| Peas .....              | 13 38  | 15 69  | 14 95  | 18 06  | 16 59                               |
| Beans .....             | 17 80  | 19 40  | 17 57  | 16 74  | 19 70                               |
| Buckwheat .....         | 19 91  | 21 44  | 26 74  | 19 11  | 24 06                               |
| Mixed grains .....      | 32 75  | 31 04  | 36 54  | 34 37  | 33 99                               |
| Flax .....              | 9 43   | 14 06  | 16 70  | 23 38  | 13 39 <sup>1</sup>                  |
| Corn for husking .....  | 49 99  | 61 93  | 59 06  | 62 24  | 58 67                               |
| Potatoes .....          | 109 21 | 102 19 | 143 90 | 119 11 | 128 82                              |
| Turnips, mangolds, etc. | 267 92 | 384 00 | 436 25 | 362 94 | 382 00                              |
|                         | tons   | tons   | tons   | tons   | tons                                |
| Hay and clover .....    | 1 37   | 1 37   | 1 62   | 1 19   | 1 43                                |
| Fodder corn .....       | 9 37   | 9 23   | 10 70  | 8 81   | 10 21                               |
| Sugar beets .....       | 11 40  | 8 53   | 11 16  | 9 23   | 10 37                               |
| Alfalfa .....           | 2 10   | 2 03   | 2 76   | 2 32   | 2 29 <sup>1</sup>                   |
| <b>Manitoba—</b>        | bush.  | bush.  | bush.  | bush.  | bush.                               |
| Fall wheat .....        | 18 92  | 28 56  | 22 22  | 20 44  | 23 23 <sup>1</sup>                  |
| Spring wheat .....      | 12 35  | 20 22  | 22 20  | 19 01  | 18 11                               |
| All wheat .....         | 12 36  | 22 56  | 22 20  | 19 02  | 18 17                               |
| Oats .....              | 25 12  | 45 92  | 42 40  | 40 60  | 37 40                               |
| Barley .....            | 15 64  | 33 36  | 32 92  | 23 84  | 27 54                               |
| Rye .....               | 10 66  | 22 00  | 21 00  | 20 64  | 17 13                               |
| Peas .....              | 16 31  | 22 00  | 25 00  | -      | 20 66                               |

<sup>1</sup> Three year average, 1910-12.

## III. Average Yields per acre of Field Crops in Canada, 1910-13—continued.

| Crops                    | 1910   | 1911   | 1912   | 1913   | Average<br>for 5 years<br>1908-1912 |
|--------------------------|--------|--------|--------|--------|-------------------------------------|
| <b>Manitoba—con.</b>     | bush.  | bush.  | bush.  | bush.  | bush.                               |
| Mixed grains             | 18.54  | 35.00  | 45.00  | 27.17  | 31.51 <sup>2</sup>                  |
| Flax                     | 5.09   | 14.44  | 12.49  | 11.70  | 11.63                               |
| Potatoes                 | 109.34 | 207.35 | 231.55 | 196.93 | 185.95                              |
| Turnips, mangolds, etc   | 247.36 | 325.46 | 354.20 | 252.80 | 365.18                              |
|                          | tons   | tons   | tons   | tons   | tons                                |
| Hay and clover           | .91    | 1.66   | 1.71   | 1.48   | 1.51                                |
| Fodder corn              | 3.08   | 7.71   | 7.68   | 8.09   | 6.15 <sup>1</sup>                   |
| Alfalfa                  | 1.07   | 2.00   | 2.73   | 2.82   | 1.93 <sup>1</sup>                   |
| <b>Saskatchewan—</b>     | bush.  | bush.  | bush.  | bush.  | bush.                               |
| Fall wheat               | 11.66  | 22.00  | 21.56  | 23.57  | 23.00                               |
| Spring wheat             | 15.84  | 20.75  | 19.16  | 21.35  | 19.05                               |
| All wheat                | 15.84  | 20.75  | 19.16  | 21.25  | 19.06                               |
| Oats                     | 31.20  | 46.12  | 45.99  | 41.42  | 40.88                               |
| Barley                   | 23.61  | 31.61  | 32.87  | 31.39  | 29.09                               |
| Rye                      | 15.43  | 27.00  | 21.00  | 22.67  | 18.22                               |
| Peas                     | 11.06  | 20.00  | 23.00  | 17.54  | 20.26 <sup>2</sup>                  |
| Mixed grains             | 14.07  | 35.00  | 36.40  | 38.40  | 28.49 <sup>1</sup>                  |
| Flax                     | 7.68   | 11.25  | 12.94  | 11.24  | 11.69                               |
| Potatoes                 | 121.32 | 183.43 | 209.70 | 165.74 | 171.91                              |
| Turnips, mangolds, etc   | 177.21 | 285.25 | 304.47 | 254.24 | 294.38                              |
|                          | tons   | tons   | tons   | tons   | tons                                |
| Hay and clover           | 1.19   | 1.50   | 1.70   | 1.84   | 1.69                                |
| Fodder corn              | 1.44   | 7.00   | 1.56   | 7.00   | 3.31 <sup>1</sup>                   |
| Alfalfa                  | 1.09   | 1.50   | 2.19   | 2.27   | 1.59 <sup>1</sup>                   |
| <b>Alberta—</b>          | bush.  | bush.  | bush.  | bush.  | bush.                               |
| Fall wheat               | 11.35  | 25.28  | 21.83  | 21.00  | 22.59                               |
| Spring wheat             | 9.98   | 21.64  | 21.54  | 23.00  | 20.13                               |
| All wheat                | 10.30  | 22.32  | 21.57  | 22.73  | 20.22                               |
| Oats                     | 20.56  | 18.34  | 46.30  | 43.65  | 41.18                               |
| Barley                   | 20.42  | 26.54  | 33.05  | 32.15  | 28.98                               |
| Rye                      | 16.33  | 27.30  | 25.56  | 24.89  | 24.46                               |
| Peas                     | 15.23  | 16.00  | 18.50  | 17.00  | 21.18 <sup>2</sup>                  |
| Mixed grains             | 20.33  | 30.00  | 34.50  | 36.67  | 32.45 <sup>2</sup>                  |
| Flax                     | 2.53   | 10.39  | 12.83  | 11.00  | 11.40                               |
| Potatoes                 | 116.49 | 193.03 | 211.64 | 167.32 | 168.69                              |
| Turnips, mangolds, etc   | 177.18 | 300.61 | 260.98 | 246.77 | 269.68                              |
|                          | tons   | tons   | tons   | tons   | tons                                |
| Hay and clover           | .84    | 1.66   | 1.70   | 1.56   | 1.52                                |
| Fodder corn              | 1.89   | 1.95   | 2.00   | 3.70   | 1.95 <sup>1</sup>                   |
| Sugar beets              | 5.45   | 8.00   | 7.00   | 5.00   | 7.29                                |
| Alfalfa                  | 1.98   | 2.62   | 2.56   | 2.77   | 2.38 <sup>1</sup>                   |
| <b>British Columbia—</b> | bush.  | bush.  | bush.  | bush.  | bush.                               |
| Fall wheat               | 28.55  | 29.81  | 33.00  | 33.14  | 30.45 <sup>1</sup>                  |
| Spring wheat             | 21.40  | 26.73  | 30.33  | 26.67  | 26.02 <sup>1</sup>                  |
| All wheat                | 21.70  | 28.23  | 31.57  | 29.69  | 27.68 <sup>1</sup>                  |
| Oats                     | 51.24  | 52.50  | 56.00  | 55.50  | 53.25 <sup>1</sup>                  |
| Barley                   | 27.79  | 41.66  | 45.33  | 35.25  | 38.25 <sup>1</sup>                  |
| Peas                     | 27.97  | 30.25  | 30.66  | 26.67  | 29.62 <sup>1</sup>                  |
| Beans                    | 15.40  | 20.00  | 13.00  | 19.00  | 16.13 <sup>1</sup>                  |
| Mixed grains             | 24.33  | 30.00  | 35.00  | 62.00  | 29.77 <sup>1</sup>                  |
| Potatoes                 | 150.03 | 252.31 | 233.15 | 207.30 | 211.83 <sup>1</sup>                 |
| Turnips, mangolds, etc   | 439.70 | 506.65 | 415.90 | 584.35 | 454.08 <sup>1</sup>                 |
|                          | tons   | tons   | tons   | tons   | tons                                |
| Hay and clover           | 1.56   | 2.27   | 2.28   | 2.11   | 2.03 <sup>1</sup>                   |
| Fodder corn              | 7.70   | 7.80   | 8.00   | 7.66   | 7.83 <sup>1</sup>                   |
| Alfalfa                  | 2.64   | 5.50   | 4.20   | 4.60   | 4.11 <sup>1</sup>                   |

<sup>1</sup> Three year average, 1910-12.

## VALUES OF FIELD CROPS, 1910-1913.

Table IV gives the estimated total values of the field crops for each of the four years 1910 to 1913 and the average for the five years 1908 to 1912. In this table the values are derived from the averages per unit, as furnished by our crop-reporting correspondents, multiplied by the revised total quantities in Table II. The total value of all the field crops for 1910 thus arrived at is considerably in excess of the total value for the same year as returned by the Census. The two sets of figures rest however upon different bases. The census figures of 1910 were collected in June 1911 and represent the total values supplied by farmers of products whether sold or consumed on the farm. The estimates in the table are computed from the average local market prices supplied by our correspondents in December, 1910.

Table V gives the average values per unit (bushel or ton) of each of the principal field crops for the years 1910 to 1913, with the annual average for the five years 1908 to 1912. For the most part these values were furnished by our correspondents, but in some instances defects of data were made good from other sources of information.

## IV. Total Values of Field Crops in Canada, 1910-1913.

| Crops                   | 1910        | 1911        | 1912        | 1913        | Five year average 1908-1912 |
|-------------------------|-------------|-------------|-------------|-------------|-----------------------------|
|                         | \$          | \$          | \$          | \$          | \$                          |
| Canada—                 |             |             |             |             |                             |
| Fall wheat.....         | 17,564,000  | 21,458,000  | 17,157,000  | 18,185,000  | 17,654,800                  |
| Spring wheat.....       | 81,966,000  | 126,663,000 | 121,933,000 | 138,277,000 | 106,203,000                 |
| All wheat.....          | 99,530,000  | 148,123,000 | 139,090,000 | 156,462,000 | 123,857,800                 |
| Oats.....               | 85,402,000  | 132,949,000 | 126,304,000 | 128,893,000 | 112,706,800                 |
| Barley.....             | 13,976,000  | 24,704,000  | 22,354,000  | 20,144,000  | 21,563,000                  |
| Rye.....                | 1,045,000   | 1,899,700   | 1,755,000   | 1,524,000   | 1,443,000                   |
| Peas.....               | 4,177,900   | 4,766,600   | 4,944,400   | 4,382,000   | 5,416,000                   |
| Beans.....              | 1,417,000   | 1,970,000   | 2,008,000   | 1,505,000   | 1,854,600                   |
| Buckwheat.....          | 4,095,000   | 5,422,000   | 6,544,000   | 5,320,000   | 4,966,000                   |
| Mixed grains.....       | 6,714,000   | 9,531,000   | 10,194,000  | 8,685,000   | 9,499,000                   |
| Flax.....               | 8,778,000   | 15,130,000  | 23,608,000  | 17,084,000  | 16,346,800                  |
| Corn for husking.....   | 7,667,500   | 12,367,000  | 10,540,700  | 10,784,300  | 11,032,000                  |
| Potatoes.....           | 25,832,000  | 42,359,000  | 37,329,000  | 38,418,000  | 35,347,600                  |
| Turnips, mangolds, etc. | 11,697,000  | 19,069,000  | 18,924,000  | 18,643,000  | 17,083,000                  |
| Hay and clover.....     | 111,305,000 | 162,846,000 | 134,338,000 | 124,696,000 | 132,532,000                 |
| Fodder corn.....        | 12,707,500  | 13,014,200  | 14,377,000  | 12,506,000  | 13,519,000                  |
| Sugar beets.....        | 1,096,000   | 1,154,000   | 1,005,000   | 906,000     | 866,600                     |
| Alfalfa.....            | 1,195,340   | 2,622,500   | 3,429,000   | 2,819,200   | 2,415,600                   |
| Prince Edward Island—   |             |             |             |             |                             |
| Spring wheat.....       | 481,000     | 590,000     | 559,000     | 628,000     | 502,600                     |
| Oats.....               | 1,928,000   | 2,294,000   | 3,164,000   | 2,273,000   | 2,377,800                   |
| Barley.....             | 65,000      | 73,000      | 94,000      | 65,000      | 88,600                      |
| Peas.....               | 600         | 2,300       | 2,000       | 3,000       | 6,500                       |
| Buckwheat.....          | 26,000      | 45,000      | 64,000      | 42,000      | 58,000                      |
| Mixed grains.....       | 91,000      | 134,000     | 174,000     | 148,000     | 202,600                     |
| Potatoes.....           | 1,887,000   | 2,009,000   | 1,753,000   | 1,741,000   | 1,667,000                   |
| Turnips, mangolds, etc. | 539,000     | 780,000     | 754,000     | 966,000     | 706,000                     |
| Hay and clover.....     | 2,160,000   | 3,161,000   | 2,884,000   | 3,658,000   | 3,165,000                   |
| Fodder corn.....        | 3,500       | 9,000       | 6,000       | 8,500       | 14,500                      |
| Alfalfa.....            | 40          | 2,000       | 2,000       | 7,000       | 1,300                       |

1 Three year average, 1910-12.



## IV. Total Values of Field Crops in Canada, 1910-1913—continued.

| Crops                   | 1910       | 1911       | 1912       | 1913       | Five year average<br>1908-1912 |
|-------------------------|------------|------------|------------|------------|--------------------------------|
| <b>Nova Scotia—</b>     | \$         | \$         | \$         | \$         | \$                             |
| Spring wheat.....       | 249,000    | 310,000    | 286,000    | 304,000    | 340,000                        |
| Oats.....               | 1,457,000  | 1,301,000  | 1,732,000  | 1,744,000  | 1,785,000                      |
| Barley.....             | 110,000    | 109,000    | 110,000    | 101,000    | 140,000                        |
| Rye.....                | 5,000      | 4,700      | 4,000      | 8,000      | 6,700                          |
| Peas.....               | 3,000      | 7,300      | 9,000      | 12,000     | 22,000                         |
| Beans.....              | 28,000     | 43,000     | 60,000     | 53,000     | 87,000                         |
| Buckwheat.....          | 132,000    | 168,000    | 192,000    | 183,000    | 196,700                        |
| Mixed grains.....       | 47,000     | 86,000     | 102,000    | 93,000     | 99,000                         |
| Corn for husking.....   | 2,000      | 3,300      | 6,000      | 2,000      | 3,500                          |
| Potatoes.....           | 1,433,000  | 2,821,000  | 4,440,000  | 2,792,000  | 3,238,000                      |
| Turnips, mangolds, etc. | 904,000    | 1,653,000  | 1,906,000  | 1,685,000  | 1,430,000                      |
| Hay and clover.....     | 7,027,000  | 10,640,000 | 10,545,000 | 10,135,000 | 10,441,000                     |
| Fodder corn.....        | 33,000     | 27,200     | 27,000     | 19,500     | 33,600                         |
| Alfalfa.....            | 300        | 1,000      | 1,000      | 1,400      | 700 <sup>1</sup>               |
| <b>New Brunswick—</b>   |            |            |            |            |                                |
| Spring wheat.....       | 230,000    | 303,000    | 177,000    | 361,000    | 310,000                        |
| Oats.....               | 2,492,000  | 2,993,000  | 2,972,000  | 3,032,000  | 2,759,000                      |
| Barley.....             | 38,000     | 32,000     | 49,000     | 51,000     | 47,800                         |
| Peas.....               | 8,000      | 24,000     | 15,000     | 16,000     | 31,800                         |
| Beans.....              | 11,000     | 19,000     | 18,000     | 11,000     | 65,800                         |
| Buckwheat.....          | 609,000    | 987,000    | 969,000    | 962,000    | 884,800                        |
| Mixed grains.....       | 12,000     | 21,000     | 21,000     | 18,000     | 47,000                         |
| Corn for husking.....   | 1,500      | 700        | 700        | 1,300      | 900 <sup>1</sup>               |
| Potatoes.....           | 2,300,000  | 4,590,000  | 3,174,000  | 4,677,000  | 3,786,600                      |
| Turnips, mangolds, etc. | 696,000    | 1,380,000  | 871,000    | 1,271,000  | 803,000                        |
| Hay and clover.....     | 5,731,000  | 7,333,000  | 9,018,000  | 7,615,000  | 7,904,600                      |
| Fodder corn.....        | 11,000     | 8,000      | 8,000      | 5,000      | 19,000                         |
| Alfalfa.....            | 1,000      | 4,500      | 3,000      | 4,800      | 2,800 <sup>1</sup>             |
| <b>Quebec—</b>          |            |            |            |            |                                |
| Spring wheat.....       | 1,090,000  | 1,443,000  | 1,149,000  | 1,275,000  | 1,461,000                      |
| Oats.....               | 14,843,000 | 19,875,000 | 18,009,000 | 18,732,000 | 18,387,000                     |
| Barley.....             | 1,689,000  | 1,771,000  | 1,759,000  | 1,743,000  | 1,619,600                      |
| Rye.....                | 139,000    | 202,000    | 164,000    | 165,000    | 217,800                        |
| Peas.....               | 531,000    | 708,000    | 911,000    | 888,000    | 771,600                        |
| Beans.....              | 151,000    | 225,000    | 214,000    | 224,000    | 301,800                        |
| Buckwheat.....          | 1,629,000  | 1,886,000  | 2,259,000  | 1,920,000  | 1,695,000                      |
| Mixed grains.....       | 1,338,000  | 2,018,000  | 1,864,000  | 1,892,000  | 1,996,000                      |
| Flax.....               | 28,000     | 22,000     | 15,000     | 18,000     | 21,600 <sup>1</sup>            |
| Corn for husking.....   | 518,000    | 719,000    | 490,000    | 586,000    | 722,600                        |
| Potatoes.....           | 6,841,000  | 10,561,000 | 5,580,000  | 9,432,000  | 8,562,600                      |
| Turnips, mangolds, etc. | 1,770,000  | 1,459,000  | 856,000    | 1,182,000  | 2,027,600                      |
| Hay and clover.....     | 43,911,000 | 63,664,000 | 35,492,000 | 49,154,000 | 45,141,000                     |
| Fodder corn.....        | 1,798,000  | 1,560,000  | 962,000    | 1,326,000  | 1,722,800                      |
| Alfalfa.....            | 49,000     | 135,000    | 87,000     | 52,000     | 90,000 <sup>1</sup>            |
| <b>Ontario—</b>         |            |            |            |            |                                |
| Fall wheat.....         | 15,720,000 | 15,180,000 | 13,950,000 | 15,019,000 | 14,633,000                     |
| Spring wheat.....       | 1,762,000  | 2,104,000  | 1,987,000  | 1,877,000  | 1,985,800                      |
| All wheat.....          | 17,482,000 | 17,284,000 | 15,937,000 | 16,896,000 | 16,618,800                     |
| Oats.....               | 32,021,000 | 38,187,000 | 39,792,000 | 39,960,000 | 39,348,000                     |
| Barley.....             | 7,449,000  | 9,605,000  | 9,207,000  | 8,170,000  | 9,829,600                      |
| Rye.....                | 813,000    | 1,318,000  | 1,283,000  | 1,081,000  | 991,800                        |
| Peas.....               | 3,578,000  | 3,933,000  | 3,914,000  | 3,397,000  | 4,511,000                      |
| Beans.....              | 1,214,000  | 1,673,000  | 1,706,000  | 1,199,000  | 1,389,600                      |
| Buckwheat.....          | 1,699,000  | 2,336,000  | 3,060,000  | 2,213,000  | 2,131,600                      |
| Mixed grains.....       | 5,189,000  | 7,131,000  | 7,862,000  | 6,412,000  | 7,072,000                      |
| Flax.....               | 136,000    | 234,000    | 231,000    | 228,000    | 200,000 <sup>1</sup>           |
| Corn for husking.....   | 7,146,000  | 11,634,000 | 10,044,000 | 10,195,000 | 10,306,000                     |
| Potatoes.....           | 7,956,000  | 12,834,000 | 13,387,000 | 11,768,000 | 11,758,600                     |
| Turnips, mangolds, etc. | 7,101,000  | 10,122,000 | 10,791,000 | 9,662,000  | 9,933,600                      |
| Hay and clover.....     | 45,112,000 | 66,047,000 | 65,088,000 | 43,627,000 | 58,805,000                     |
| Fodder corn.....        | 10,726,000 | 10,628,000 | 12,997,000 | 10,246,000 | 11,350,000                     |
| Sugar beets.....        | 1,067,000  | 1,084,000  | 938,000    | 856,000    | 775,800                        |
| Alfalfa.....            | 918,000    | 1,684,000  | 2,478,000  | 1,925,000  | 1,693,000 <sup>1</sup>         |

<sup>1</sup> Three year average, 1910-12.

## IV. Total Values of Field Crops in Canada, 1910-1913—continued.

| Crops                    | 1910       | 1911       | 1912       | 1913       | Five year<br>average<br>1908-1912 |
|--------------------------|------------|------------|------------|------------|-----------------------------------|
| <b>Manitoba—</b>         | \$         | \$         | \$         | \$         | \$                                |
| Fall wheat.....          | 72,000     | 255,000    | 223,000    | 268,000    | 183,000 <sup>1</sup>              |
| Spring wheat.....        | 27,232,000 | 41,747,000 | 41,998,000 | 37,590,000 | 39,751,000                        |
| All wheat.....           | 27,304,000 | 42,002,000 | 42,221,000 | 37,858,000 | 39,934,000                        |
| Oats.....                | 9,417,000  | 19,212,000 | 16,003,000 | 15,893,000 | 15,214,600                        |
| Barley.....              | 2,538,000  | 7,176,000  | 5,855,000  | 4,864,000  | 6,040,600                         |
| Rye.....                 | 21,000     | 75,000     | 61,000     | 60,000     | 52,000                            |
| Peas.....                | 3,000      | 11,000     | 15,000     | -          | 30,000                            |
| Mixed grains.....        | 4,000      | 24,000     | 31,000     | 12,000     | 19,600 <sup>1</sup>               |
| Flax.....                | 369,000    | 2,028,000  | 1,302,000  | 664,000    | 878,000                           |
| Potatoes.....            | 1,548,000  | 2,306,000  | 2,164,000  | 1,843,000  | 1,756,600                         |
| Turnips, mangolds, etc.  | 219,000    | 515,000    | 551,000    | 415,000    | 387,500                           |
| Hay and clover.....      | 1,276,000  | 2,433,000  | 2,434,000  | 2,074,000  | 1,806,600                         |
| Fodder corn.....         | 94,000     | 684,000    | 924,000    | 757,000    | 567,000 <sup>1</sup>              |
| Alfalfa.....             | 7,000      | 84,000     | 86,000     | 117,000    | 59,000 <sup>1</sup>               |
| <b>Saskatchewan—</b>     |            |            |            |            |                                   |
| Fall wheat.....          | 11,000     | 34,000     | 49,000     | 67,000     | 31,000 <sup>1</sup>               |
| Spring wheat.....        | 46,206,000 | 63,230,000 | 59,861,000 | 77,738,000 | 52,770,000                        |
| All wheat.....           | 46,217,000 | 63,264,000 | 59,910,000 | 77,805,000 | 52,801,000                        |
| Oats.....                | 17,088,000 | 31,202,000 | 27,033,000 | 28,528,000 | 21,403,000                        |
| Barley.....              | 1,102,000  | 4,071,000  | 3,166,000  | 3,126,000  | 2,142,000                         |
| Rye.....                 | 6,000      | 32,000     | 32,000     | 27,000     | 31,000                            |
| Peas.....                | 3,300      | 9,000      | 11,000     | 6,000      | 7,700 <sup>1</sup>                |
| Mixed grains.....        | 5,000      | 35,000     | 44,000     | 31,000     | 38,000 <sup>1</sup>               |
| Flax.....                | 8,098,000  | 11,508,000 | 20,503,000 | 14,800,000 | 8,693,600                         |
| Potatoes.....            | 1,721,000  | 2,810,000  | 2,621,000  | 2,415,000  | 1,945,600                         |
| Turnips, mangolds, etc.  | 75,000     | 1,705,000  | 1,749,000  | 1,653,000  | 774,000                           |
| Hay and clover.....      | 431,000    | 701,000    | 693,000    | 841,000    | 427,500                           |
| Fodder corn.....         | 6,000      | 62,000     | 16,000     | 88,000     | 28,000                            |
| Alfalfa.....             | 3,000      | 26,000     | 35,000     | 56,000     | 21,000 <sup>1</sup>               |
| <b>Alberta—</b>          |            |            |            |            |                                   |
| Fall wheat.....          | 1,673,000  | 5,798,000  | 2,731,000  | 2,630,000  | 2,796,000                         |
| Spring wheat.....        | 4,581,000  | 16,746,000 | 15,728,000 | 18,379,000 | 8,986,000                         |
| All wheat.....           | 6,254,000  | 22,544,000 | 18,459,000 | 21,009,000 | 11,782,000                        |
| Oats.....                | 5,152,000  | 16,530,000 | 16,231,000 | 17,170,000 | 10,703,000                        |
| Barley.....              | 942,000    | 1,786,000  | 2,039,000  | 1,964,000  | 1,615,800                         |
| Rye.....                 | 61,000     | 240,000    | 211,000    | 183,000    | 142,000                           |
| Peas.....                | 7,000      | 9,000      | 8,400      | 7,000      | 8,000 <sup>1</sup>                |
| Mixed grains.....        | 17,000     | 35,000     | 39,000     | 25,000     | 30,000 <sup>1</sup>               |
| Flax.....                | 147,000    | 1,337,000  | 1,557,000  | 1,374,000  | 642,000                           |
| Potatoes.....            | 1,498,000  | 1,935,000  | 2,252,000  | 1,697,000  | 1,512,800                         |
| Turnips, mangolds, etc.  | 111,000    | 421,000    | 730,000    | 617,000    | 355,000                           |
| Hay and clover.....      | 1,832,000  | 3,305,000  | 2,644,000  | 2,390,000  | 1,885,000                         |
| Fodder corn.....         | 18,000     | 11,000     | 10,000     | 20,000     | 13,000 <sup>1</sup>               |
| Sugar beets.....         | 29,000     | 70,000     | 67,000     | 50,000     | 90,800                            |
| Alfalfa.....             | 82,000     | 252,000    | 256,000    | 206,000    | 196,600 <sup>1</sup>              |
| <b>British Columbia—</b> |            |            |            |            |                                   |
| Fall wheat.....          | 88,000     | 191,000    | 204,000    | 201,000    | 161,000 <sup>1</sup>              |
| Spring wheat.....        | 135,000    | 192,000    | 188,000    | 185,000    | 171,600 <sup>1</sup>              |
| All wheat.....           | 223,000    | 383,000    | 392,000    | 386,000    | 332,600 <sup>1</sup>              |
| Oats.....                | 1,004,000  | 1,355,000  | 1,278,000  | 1,561,000  | 1,212,000 <sup>1</sup>            |
| Barley.....              | 43,000     | 81,000     | 75,000     | 60,000     | 66,000 <sup>1</sup>               |
| Peas.....                | 44,000     | 63,000     | 59,000     | 53,000     | 55,000 <sup>1</sup>               |
| Beans.....               | 13,000     | 19,000     | 10,000     | 18,000     | 14,000 <sup>1</sup>               |
| Mixed grains.....        | 11,000     | 47,000     | 57,000     | 54,000     | 38,000 <sup>1</sup>               |
| Potatoes.....            | 1,148,000  | 2,493,000  | 1,958,000  | 2,053,000  | 1,866,000 <sup>1</sup>            |
| Turnips, mangolds, etc.  | 282,000    | 1,034,000  | 716,000    | 1,192,000  | 677,000 <sup>1</sup>              |
| Hay and clover.....      | 3,825,000  | 5,562,000  | 5,540,000  | 5,202,000  | 4,975,600 <sup>1</sup>            |
| Fodder corn.....         | 18,000     | 25,000     | 27,000     | 36,000     | 23,000 <sup>1</sup>               |
| Alfalfa.....             | 135,000    | 434,000    | 481,000    | 454,000    | 350,000 <sup>1</sup>              |

<sup>1</sup>Three year average, 1910-12.

## V. Average Values per unit of Field Crops in Canada 1910-1913.

| Crops                   | 1910      | 1911      | 1912      | 1913      | Five year<br>average<br>1908-1912 |
|-------------------------|-----------|-----------|-----------|-----------|-----------------------------------|
|                         | \$        | \$        | \$        | \$        | \$                                |
| Canada—                 | per bush. | per bush. | per bush. | per bush. | per bush.                         |
| Fall wheat.....         | 0.86      | 0.83      | 0.84      | 0.80      | 0.87                              |
| Spring wheat.....       | 0.73      | 0.62      | 0.60      | 0.66      | 0.71                              |
| All wheat.....          | 0.75      | 0.64      | 0.62      | 0.67      | 0.74                              |
| Oats.....               | 0.35      | 0.36      | 0.32      | 0.32      | 0.35                              |
| Barley.....             | 0.48      | 0.56      | 0.45      | 0.42      | 0.48                              |
| Rye.....                | 0.68      | 0.76      | 0.72      | 0.66      | 0.72                              |
| Peas.....               | 0.87      | 1.02      | 1.26      | 1.11      | 0.97                              |
| Beans.....              | 1.72      | 1.93      | 2.18      | 1.88      | 1.76                              |
| Buckwheat.....          | 0.57      | 0.64      | 0.62      | 0.64      | 0.60                              |
| Mixed grains.....       | 0.51      | 0.61      | 0.58      | 0.55      | 0.56                              |
| Flax.....               | 2.06      | 1.51      | 0.90      | 0.97      | 1.33                              |
| Corn for husking.....   | 0.53      | 0.64      | 0.62      | 0.64      | 0.59                              |
| Potatoes.....           | 0.46      | 0.59      | 0.44      | 0.49      | 0.46                              |
| Turnips, mangolds, etc. | 0.23      | 0.24      | 0.24      | 0.28      | 0.21                              |
|                         | per ton   | per ton   | per ton   | per ton   | per ton                           |
| Hay and clover.....     | 9.85      | 11.64     | 11.09     | 11.48     | 10.73                             |
| Fodder corn.....        | 4.70      | 4.87      | 4.93      | 4.78      | 4.79                              |
| Sugar beets.....        | 5.83      | 6.59      | 5.00      | 6.12      | 5.71                              |
| Alfalfa.....            | 10.16     | 11.51     | 12.00     | 11.85     | 11.22 <sup>1</sup>                |
| Prince Edward Island—   | per bush. | per bush. | per bush. | per bush. | per bush.                         |
| Spring wheat.....       | 0.96      | 0.99      | 0.96      | 1.00      | 0.96                              |
| Oats.....               | 0.37      | 0.43      | 0.43      | 0.37      | 0.41                              |
| Barley.....             | 0.57      | 0.62      | 0.65      | 0.59      | 0.60                              |
| Peas.....               | 0.90      | 1.17      | 1.14      | 1.69      | 1.04                              |
| Buckwheat.....          | 0.60      | 0.61      | 0.64      | 0.64      | 0.58                              |
| Mixed grains.....       | 0.40      | 0.50      | 0.49      | 0.48      | 0.48                              |
| Potatoes.....           | 0.33      | 0.36      | 0.26      | 0.28      | 0.28                              |
| Turnips, mangolds, etc. | 0.18      | 0.21      | 0.21      | 0.24      | 0.19                              |
|                         | per ton   | per ton   | per ton   | per ton   | per ton                           |
| Hay and clover.....     | 8.30      | 10.68     | 11.64     | 10.76     | 9.78                              |
| Fodder corn.....        | 2.00      | 3.00      | 4.00      | 2.50      | 3.02                              |
| Alfalfa.....            | 10.80     | 10.00     | 10.00     | 11.00     | 10.27 <sup>1</sup>                |
| Nova Scotia—            | per bush. | per bush. | per bush. | per bush. | per bush.                         |
| Spring wheat.....       | 1.12      | 1.10      | 1.08      | 1.14      | 1.10                              |
| Oats.....               | 0.49      | 0.53      | 0.53      | 0.53      | 0.51                              |
| Barley.....             | 0.77      | 0.76      | 0.77      | 0.75      | 0.76                              |
| Rye.....                | 0.93      | 0.93      | 0.82      | 0.97      | 0.86                              |
| Peas.....               | 1.58      | 1.45      | 1.82      | 1.85      | 1.46                              |
| Beans.....              | 2.29      | 2.03      | 2.51      | 2.40      | 2.25                              |
| Buckwheat.....          | 0.64      | 0.65      | 0.65      | 0.66      | 0.64                              |
| Mixed grains.....       | 0.60      | 0.67      | 0.68      | 0.65      | 0.63                              |
| Corn for husking.....   | 0.69      | 0.66      | 0.84      | 0.69      | 0.75                              |
| Potatoes.....           | 0.40      | 0.50      | 0.47      | 0.52      | 0.45                              |
| Turnips, mangolds, etc. | 0.26      | 0.33      | 0.34      | 0.36      | 0.28                              |
|                         | per ton   | per ton   | per ton   | per ton   | per ton                           |
| Hay and clover.....     | 9.70      | 11.77     | 12.82     | 11.57     | 11.17                             |
| Fodder corn.....        | 6.33      | 6.80      | 5.00      | 4.88      | 5.89                              |
| Alfalfa.....            | 9.76      | 10.00     | 12.00     | 14.00     | 10.59 <sup>1</sup>                |
| New Brunswick—          | per bush. | per bush. | per bush. | per bush. | per bush.                         |
| Spring wheat.....       | 1.13      | 1.07      | 0.75      | 1.12      | 1.04                              |
| Oats.....               | 0.45      | 0.50      | 0.53      | 0.51      | 0.49                              |
| Barley.....             | 0.67      | 0.41      | 0.66      | 0.69      | 0.62                              |
| Peas.....               | 1.26      | 1.39      | 1.53      | 1.49      | 1.33                              |
| Beans.....              | 2.36      | 2.33      | 2.84      | 2.46      | 2.46                              |

<sup>1</sup> Three year average, 1910-12.

V. Average Values per unit of Field Crops in Canada, 1910-1913—continued.

| Crops                  | 1910            | 1911            | 1912            | 1913            | Five year<br>average<br>1908-1912 |
|------------------------|-----------------|-----------------|-----------------|-----------------|-----------------------------------|
|                        | \$<br>per bush. | \$<br>per bush. | \$<br>per bush. | \$<br>per bush. | \$<br>per bush.                   |
| New Brunswick—con.     |                 |                 |                 |                 |                                   |
| Buckwheat .....        | 0.53            | 0.57            | 0.62            | 0.54            | 0.56                              |
| Mixed grains .....     | 0.57            | 0.59            | 0.75            | 0.59            | 0.61                              |
| Corn for husking.....  | 0.97            | 0.65            | 1.00            | 0.80            | 0.87 <sup>1</sup>                 |
| Potatoes .....         | 0.44            | 0.52            | 0.42            | 0.44            | 0.43                              |
| Turnips, mangolds, etc | 0.26            | 0.34            | 0.32            | 0.38            | 0.29                              |
|                        | per ton         | per ton         | per ton         | per ton         | per ton                           |
| Hay and clover .....   | 8.56            | 8.13            | 10.12           | 10.91           | 9.27                              |
| Fodder corn .....      | 4.66            | 4.00            | 6.13            | 3.00            | 4.29                              |
| Alfalfa .....          | 9.58            | 10.00           | 10.00           | 12.00           | 9.86 <sup>1</sup>                 |
| Quebec—                | per bush.       | per bush.       | per bush.       | per bush.       | per bush.                         |
| Spring wheat.....      | 1.20            | 1.18            | 1.18            | 1.21            | 1.17                              |
| Oats .....             | 0.44            | 0.53            | 0.54            | 0.48            | 0.50                              |
| Barley .....           | 0.71            | 0.78            | 0.79            | 0.77            | 0.74                              |
| Rye .....              | 0.93            | 1.01            | 0.95            | 1.06            | 0.93                              |
| Peas .....             | 1.23            | 1.37            | 2.03            | 1.97            | 1.40                              |
| Beans .....            | 1.97            | 1.97            | 2.55            | 2.31            | 2.01                              |
| Buckwheat .....        | 0.66            | 0.74            | 0.73            | 0.75            | 0.69                              |
| Mixed grains .....     | 0.61            | 0.69            | 0.67            | 0.66            | 0.66                              |
| Hay .....              | 2.06            | 1.71            | 1.76            | 1.95            | 1.71                              |
| Corn for husking.....  | 0.90            | 1.01            | 1.03            | 1.00            | 0.93                              |
| Potatoes .....         | 0.44            | 0.67            | 0.35            | 0.46            | 0.47                              |
| Turnips, mangolds, etc | 0.35            | 0.37            | 0.28            | 0.36            | 0.31                              |
|                        | per ton         | per ton         | per ton         | per ton         | per ton                           |
| Hay and clover .....   | 9.29            | 10.17           | 9.36            | 12.08           | 9.96                              |
| Fodder corn .....      | 4.77            | 4.80            | 3.79            | 5.20            | 4.59                              |
| Alfalfa .....          | 7.45            | 9.63            | 9.00            | 8.30            | 8.60 <sup>1</sup>                 |
| Ontario—               | per bush.       | per bush.       | per bush.       | per bush.       | per bush.                         |
| Fall wheat .....       | 0.88            | 0.87            | 0.92            | 0.85            | 0.91                              |
| Spring wheat.....      | 0.89            | 0.90            | 0.88            | 0.86            | 0.90                              |
| All wheat .....        | 0.88            | 0.87            | 0.91            | 0.85            | 0.91                              |
| Oats .....             | 0.36            | 0.45            | 0.41            | 0.38            | 0.40                              |
| Barley .....           | 0.53            | 0.70            | 0.61            | 0.56            | 0.58                              |
| Rye .....              | 0.66            | 0.78            | 0.75            | 0.69            | 0.72                              |
| Peas .....             | 0.83            | 0.97            | 1.16            | 0.99            | 0.92                              |
| Beans .....            | 1.67            | 1.91            | 2.13            | 1.79            | 1.66                              |
| Buckwheat .....        | 0.51            | 0.61            | 0.56            | 0.60            | 0.55                              |
| Mixed grains .....     | 0.49            | 0.50            | 0.58            | 0.53            | 0.53                              |
| Flax .....             | 1.64            | 1.89            | 1.62            | 1.39            | 1.55                              |
| Corn for husking.....  | 0.52            | 0.63            | 0.61            | 0.63            | 0.58                              |
| Potatoes .....         | 0.46            | 0.80            | 0.59            | 0.65            | 0.56                              |
| Turnips, mangolds, etc | 0.20            | 0.19            | 0.19            | 0.22            | 0.17                              |
|                        | per ton         | per ton         | per ton         | per ton         | per ton                           |
| Hay and clover .....   | 10.21           | 13.99           | 12.04           | 11.07           | 11.99                             |
| Fodder corn .....      | 4.67            | 4.73            | 4.84            | 4.56            | 4.74                              |
| Sugar beets .....      | 5.86            | 6.73            | 5.00            | 6.20            | 5.82                              |
| Alfalfa .....          | 9.65            | 11.08           | 11.75           | 12.03           | 10.83 <sup>1</sup>                |
| Manitoba—              | per bush.       | per bush.       | per bush.       | per bush.       | per bush.                         |
| Fall wheat .....       | 0.83            | 0.67            | 0.67            | 0.69            | 0.72 <sup>1</sup>                 |
| Spring wheat.....      | 0.80            | 0.67            | 0.67            | 0.71            | 0.77                              |
| All wheat .....        | 0.80            | 0.67            | 0.67            | 0.71            | 0.75                              |
| Oats .....             | 0.31            | 0.32            | 0.28            | 0.28            | 0.30                              |
| Barley .....           | 0.39            | 0.48            | 0.37            | 0.34            | 0.40                              |
| Rye .....              | 0.71            | 0.70            | 0.58            | 0.58            | 0.64                              |
| Peas .....             | 0.60            | 1.26            | 1.50            |                 | 0.84                              |
| Mixed grains .....     | 0.44            | 0.44            | 0.45            | 0.29            | 0.42                              |
| Flax .....             | 2.09            | 1.76            | 1.04            | 1.05            | 1.43                              |
| Potatoes .....         | 0.54            | 0.42            | 0.35            | 0.36            | 0.40                              |

<sup>1</sup> Three year average, 1910-12.



## V. Average Values per unit of Field Crops in Canada, 1910-1913—continued.

| Crops                   | 1910      | 1911      | 1912      | 1913      | Five year<br>average<br>1908-1913 |
|-------------------------|-----------|-----------|-----------|-----------|-----------------------------------|
|                         | \$        | \$        | \$        | \$        | \$                                |
| Manitoba—con.           | per bush. | per bush. | per bush. | per bush. | per bush.                         |
| Turnips, mangolds, etc. | 0.44      | 0.38      | 0.38      | 0.41      | 0.34                              |
|                         | per ton   | per ton   | per ton   | per ton   | per ton                           |
| Hay and clover          | 10.21     | 9.54      | 9.40      | 8.64      | 8.83                              |
| Fodder corn             | 6.64      | 9.00      | 11.00     | 8.50      | 8.88 <sup>1</sup>                 |
| Alfalfa                 | 12.87     | 12.00     | 9.20      | 10.67     | 11.36 <sup>1</sup>                |
| Saskatchewan—           | per bush. | per bush. | per bush. | per bush. | per bush.                         |
| Fall wheat              | 0.76      | 0.58      | 0.76      | 0.71      | 0.67 <sup>1</sup>                 |
| Spring wheat            | 0.69      | 0.58      | 0.56      | 0.64      | 0.65                              |
| All wheat               | 0.69      | 0.58      | 0.56      | 0.61      | 0.65                              |
| Oats                    | 0.29      | 0.29      | 0.23      | 0.25      | 0.27                              |
| Barley                  | 0.36      | 0.47      | 0.33      | 0.39      | 0.38                              |
| Rye                     | 0.50      | 0.53      | 0.56      | 0.49      | 0.50                              |
| Peas                    | 1.27      | 1.10      | 1.00      | 0.85      | 0.84                              |
| Mixed grains            | 0.53      | 0.53      | 0.60      | 0.40      | 0.56                              |
| Flax                    | 2.08      | 1.50      | 0.89      | 0.95      | 1.34                              |
| Potatoes                | 0.59      | 0.51      | 0.40      | 0.47      | 0.49                              |
| Turnips, mangolds, etc. | 0.43      | 0.43      | 0.42      | 0.50      | 0.37                              |
|                         | per ton   | per ton   | per ton   | per ton   | per ton                           |
| Hay and clover          | 9.56      | 9.73      | 7.71      | 7.38      | 7.39                              |
| Fodder corn             | 6.34      | 6.50      | 8.00      | 8.00      | 6.94 <sup>1</sup>                 |
| Alfalfa                 | 13.53     | 13.00     | 11.66     | 15.25     | 12.74 <sup>1</sup>                |
| Alberta—                | per bush. | per bush. | per bush. | per bush. | per bush.                         |
| Fall wheat              | 0.72      | 0.75      | 0.59      | 0.62      | 0.71                              |
| Spring wheat            | 0.68      | 0.58      | 0.53      | 0.61      | 0.59                              |
| All wheat               | 0.69      | 0.62      | 0.54      | 0.61      | 0.61                              |
| Oats                    | 0.32      | 0.28      | 0.24      | 0.24      | 0.27                              |
| Barley                  | 0.38      | 0.41      | 0.33      | 0.31      | 0.35                              |
| Rye                     | 0.56      | 0.61      | 0.56      | 0.46      | 0.56                              |
| Peas                    | 1.29      | 1.10      | 0.93      | 0.85      | 1.10 <sup>1</sup>                 |
| Mixed grains            | 0.47      | 0.42      | 0.40      | 0.34      | 0.40                              |
| Flax                    | 1.87      | 1.20      | 0.92      | 1.19      | 0.96                              |
| Potatoes                | 0.64      | 0.42      | 0.39      | 0.39      | 0.45                              |
| Turnips, mangolds, etc. | 0.47      | 0.29      | 0.57      | 0.50      | 0.40                              |
|                         | per ton   | per ton   | per ton   | per ton   | per ton                           |
| Hay and clover          | 14.58     | 12.24     | 9.09      | 8.69      | 10.49                             |
| Fodder corn             | 7.53      | 8.00      | 8.50      | 9.00      | 8.01 <sup>1</sup>                 |
| Sugar beets             | 5.00      | 5.00      | 5.00      | 5.00      | 5.00                              |
| Alfalfa                 | 15.94     | 12.00     | 10.70     | 8.25      | 12.88 <sup>1</sup>                |
| British Columbia—       | per bush. | per bush. | per bush. | per bush. | per bush.                         |
| Fall wheat              | 0.91      | 0.97      | 1.03      | 1.01      | 0.97 <sup>1</sup>                 |
| Spring wheat            | 1.23      | 1.01      | 0.93      | 0.90      | 1.09 <sup>1</sup>                 |
| All wheat               | 1.08      | 0.99      | 0.98      | 1.00      | 1.00 <sup>1</sup>                 |
| Oats                    | 0.59      | 0.57      | 0.51      | 0.58      | 0.56 <sup>1</sup>                 |
| Barley                  | 0.83      | 0.70      | 0.64      | 0.68      | 0.72 <sup>1</sup>                 |
| Peas                    | 0.99      | 1.40      | 1.38      | 1.50      | 1.26 <sup>1</sup>                 |
| Beans                   | 2.50      | 2.40      | 2.00      | 2.40      | 2.30 <sup>1</sup>                 |
| Mixed grains            | 0.84      | 0.70      | 0.65      | 0.35      | 0.73 <sup>1</sup>                 |
| Potatoes                | 0.74      | 0.66      | 0.49      | 0.66      | 0.63 <sup>1</sup>                 |
| Turnips, mangolds, etc. | 0.29      | 0.60      | 0.53      | 0.60      | 0.47 <sup>1</sup>                 |
|                         | per ton   | per ton   | per ton   | per ton   | per ton                           |
| Hay and clover          | 18.34     | 18.00     | 17.45     | 17.00     | 17.93 <sup>1</sup>                |
| Fodder corn             | 6.46      | 7.50      | 9.00      | 12.00     | 7.65 <sup>1</sup>                 |
| Alfalfa                 | 13.58     | 14.00     | 17.00     | 14.66     | 14.86 <sup>1</sup>                |

<sup>1</sup> Three year average, 1910-12.

## QUALITY OF GRAIN CROPS, 1910-13.

The total yields, the yields per acre and the average price per bushel, as recorded in Tables i to iv relate to bushels of the Canadian legal weight for each grain, viz. 60 lb. per bushel for wheat, peas and beans, 56 lb. for corn, rye and flaxseed, 48 lb. for barley and buckwheat and 34 lb. for oats. In Table vi are given for Canada and the provinces the average weights per measured bushel for each of the four years 1910 to 1913. This represents the natural weight of the grain, and is an indication of its quality due to the character of the season. It will be observed that for spring wheat, oats, barley and buckwheat, the weights per measured bushel in 1913 are higher than in any previous year in the table; in fact they are higher than in any year since 1908 when records were first obtained.

## VI. Quality of Grain Crops as Indicated by weight per measured bushel, 1910-1913.

| Crops          | 1910  | 1911  | 1912  | 1913  | Crops          | 1910  | 1911  | 1912  | 1913  |
|----------------|-------|-------|-------|-------|----------------|-------|-------|-------|-------|
|                | lb.   | lb.   | lb.   | lb.   |                | lb.   | lb.   | lb.   | lb.   |
| Canada—        |       |       |       |       | Quebec—con.    |       |       |       |       |
| Fall wheat.... | 60.11 | 61.12 | 60.21 | 60.25 | Buckwheat....  | 47.74 | 47.33 | 47.27 | 47.88 |
| Spring wheat.. | 59.71 | 59.21 | 58.90 | 60.37 | Mixed grains.. | 46.16 | 45.74 | 44.21 | 46.56 |
| Oats.....      | 36.08 | 34.65 | 35.40 | 36.48 | Flax.....      | —     | 53.81 | 53.07 | 55.10 |
| Barley.....    | 47.69 | 46.97 | 47.59 | 48.41 | Corn for husk- |       |       |       |       |
| Rye.....       | 55.72 | 55.11 | 54.84 | 55.66 | ing.....       | 56.34 | 55.13 | 55.71 | 55.88 |
| Peas.....      | 58.73 | 59.58 | 56.88 | 60.00 | Ontario—       |       |       |       |       |
| Beans.....     | 59.81 | 58.30 | 59.05 | 59.70 | Fall wheat.... | 59.94 | 61.61 | 60.53 | 60.16 |
| Buckwheat....  | 47.83 | 47.32 | 47.62 | 50.32 | Spring wheat.. | 59.87 | 58.33 | 57.93 | 59.33 |
| Mixed grains.. | 45.45 | 45.10 | 44.48 | 44.74 | Oats.....      | 34.92 | 31.57 | 34.88 | 34.68 |
| Flax.....      | 54.96 | 58.29 | 54.88 | 55.79 | Barley.....    | 47.89 | 46.18 | 47.45 | 48.08 |
| Corn for husk- |       |       |       |       | Rye.....       | 55.92 | 55.00 | 55.70 | 55.76 |
| ing.....       | 57.14 | 50.31 | 55.67 | 56.27 | Peas.....      | 59.92 | 55.35 | 58.95 | 59.31 |
| Prince Edward  |       |       |       |       | Beans.....     | 60.08 | 59.48 | 61.27 | 59.17 |
| Island—        |       |       |       |       | Buckwheat....  | 48.05 | 47.18 | 48.29 | 47.46 |
| Spring wheat.. | 60.00 | 59.37 | 58.93 | 59.50 | Mixed grains.. | 44.67 | 43.17 | 46.96 | 43.53 |
| Oats.....      | 37.20 | 34.73 | 37.16 | 36.35 | Flax.....      | —     | 52.25 | 52.82 | 53.56 |
| Barley.....    | 48.32 | 47.14 | 47.75 | 48.76 | Corn for husk- |       |       |       |       |
| Peas.....      | 59.00 | 56.75 | 59.00 | 58.25 | ing.....       | 58.46 | 55.47 | 55.50 | 56.75 |
| Beans.....     | 56.00 |       |       |       | Manitoba—      |       |       |       |       |
| Buckwheat....  | 47.33 | 47.78 | 46.55 | 47.67 | Fall wheat.... | —     | 59.66 | 59.13 | 61.50 |
| Mixed grains.. | 44.73 | 42.15 | 44.35 | 44.47 | Spring wheat.. | 59.74 | 59.14 | 60.77 | 60.83 |
| Nova Scotia—   |       |       |       |       | Oats.....      | 34.94 | 35.51 | 35.63 | 36.32 |
| Spring wheat.. | 59.75 | 58.00 | 58.82 | 59.04 | Barley.....    | 46.61 | 47.75 | 47.47 | 47.57 |
| Oats.....      | 35.03 | 33.24 | 33.41 | 34.68 | Rye.....       | 52.00 | —     | —     | 60.00 |
| Barley.....    | 48.67 | 47.75 | 48.06 | 48.59 | Peas.....      | 48.00 | —     | —     | —     |
| Rye.....       | 56.50 | 54.00 | 55.20 | 58.33 | Flax.....      | 55.00 | 55.31 | 55.76 | 56.16 |
| Peas.....      | 60.13 | 58.62 | 60.43 | 59.36 | Saskatchewan—  |       |       |       |       |
| Beans.....     | 59.60 | 58.49 | 59.73 | 59.09 | Fall wheat.... | —     | 59.00 | 59.50 | 59.78 |
| Buckwheat....  | 47.85 | 45.60 | 47.72 | 46.83 | Spring wheat.. | 59.60 | 59.98 | 59.63 | 61.23 |
| Mixed grains.. | 44.32 | 43.96 | 44.10 | 43.35 | Oats.....      | 36.27 | 35.69 | 36.64 | 37.78 |
| Corn for husk- |       |       |       |       | Barley.....    | 46.59 | 46.52 | 48.15 | 48.86 |
| ing.....       | 50.33 | 54.66 | 58.83 | 55.00 | Rye.....       | 54.66 | —     | —     | —     |
| New Brunswick— |       |       |       |       | Flax.....      | 55.24 | 53.89 | 55.32 | 56.04 |
| Spring wheat.. | 59.56 | 59.75 | 56.62 | 59.31 | Alberta—       |       |       |       |       |
| Oats.....      | 36.00 | 35.91 | 34.29 | 34.43 | Fall wheat.... | 60.48 | 59.46 | 59.63 | 60.96 |
| Barley.....    | 48.78 | 46.30 | 46.88 | 48.21 | Spring wheat.. | 59.64 | 58.90 | 58.01 | 61.12 |
| Peas.....      | 57.86 | 59.15 | 53.88 | 59.46 | Oats.....      | 38.05 | 37.34 | 38.94 | 38.67 |
| Beans.....     | 59.08 | 58.42 | 58.14 | 59.67 | Barley.....    | 47.92 | 46.84 | 48.12 | 49.06 |
| Buckwheat....  | 47.94 | 47.67 | 47.14 | 48.10 | Rye.....       | 56.22 | 55.27 | 54.00 | 57.07 |
| Mixed grains.. | 46.15 | 45.18 | 43.67 | 42.30 | Flax.....      | 54.93 | 53.43 | 54.76 | 56.26 |
| Quebec—        |       |       |       |       | British Colum- |       |       |       |       |
| Spring wheat.. | 59.71 | 59.36 | 57.96 | 59.71 | bia—           |       |       |       |       |
| Oats.....      | 36.94 | 35.65 | 33.93 | 36.85 | Fall wheat.... | —     | 61.00 | 58.50 | 59.25 |
| Barley.....    | 48.17 | 47.71 | 46.95 | 48.46 | Spring wheat.. | —     | 57.20 | 60.25 | 60.00 |
| Rye.....       | 55.72 | 55.67 | 53.57 | 54.56 | Oats.....      | —     | 35.46 | 35.00 | 40.83 |
| Peas.....      | 57.37 | 60.58 | 53.96 | 61.03 | Barley.....    | —     | 50.50 | 48.00 | 48.00 |
| Beans.....     | 59.84 | 60.57 | 57.31 | 60.16 | Peas.....      | —     | 62.50 | 62.50 | 63.00 |

## WHEAT, OATS AND BARLEY IN THE NORTHWEST PROVINCES.

Tables VII and VIII give the areas and yields of wheat, oats and barley in the three Northwest provinces for the years 1900, 1905, 1906, 1910, 1911, 1912 and 1913. For 1900, 1905, 1906, 1910 and 1911 the areas are those collected by the Census; for 1912 and 1913 they are estimated as in Table I. For 1900, 1905, 1906 and 1910 the yields are those of the Census; for 1911, 1912 and 1913 the yields are estimated upon the basis of the census data of 1911 as in Table II.

## VII. Comparative Areas of Wheat, Oats and Barley in the Northwest Provinces for the years 1900-05-06-10-11-12-13.

| Provinces        | 1900      | 1905      | 1906      | 1910      | 1911      | 1912       | 1913       |
|------------------|-----------|-----------|-----------|-----------|-----------|------------|------------|
|                  | acres     | acres     | acres     | acres     | acres     | acres      | acres      |
| N. W. provinces— |           |           |           |           |           |            |            |
| Wheat .....      | 2,495,466 | 3,941,369 | 5,062,493 | 7,867,894 | 9,991,281 | 10,011,000 | 10,036,000 |
| Oats .....       | 833,300   | 1,697,170 | 2,309,439 | 3,880,604 | 4,861,563 | 5,365,000  | 5,792,000  |
| Barley .....     | 162,557   | 379,850   | 522,734   | 667,072   | 886,225   | 960,000    | 1,025,000  |
| Manitoba—        |           |           |           |           |           |            |            |
| Wheat .....      | 1,965,193 | 2,417,253 | 2,721,679 | 2,760,371 | 3,094,833 | 2,839,000  | 2,804,000  |
| Oats .....       | 573,848   | 779,279   | 931,282   | 1,209,173 | 1,307,434 | 1,348,000  | 1,398,000  |
| Barley .....     | 159,660   | 249,218   | 336,986   | 416,016   | 448,105   | 481,000    | 496,000    |
| Saskatchewan—    |           |           |           |           |           |            |            |
| Wheat .....      | 487,170   | 1,376,281 | 2,117,484 | 4,228,222 | 5,256,474 | 5,582,000  | 5,720,000  |
| Oats .....       | 141,517   | 606,346   | 901,646   | 1,888,359 | 2,332,912 | 2,556,000  | 2,755,000  |
| Barley .....     | 11,798    | 40,732    | 77,573    | 129,621   | 273,988   | 292,000    | 332,000    |
| Alberta—         |           |           |           |           |           |            |            |
| Wheat .....      | 43,103    | 147,835   | 223,930   | 879,301   | 1,639,974 | 1,590,000  | 1,512,000  |
| Oats .....       | 118,025   | 311,545   | 476,511   | 783,072   | 1,221,217 | 1,461,000  | 1,639,000  |
| Barley .....     | 11,099    | 80,900    | 108,175   | 121,435   | 164,132   | 187,000    | 197,000    |

## VIII. Comparative Yields of Wheat, Oats and Barley in the Northwest Provinces for the years 1900-05-06-10-11-12-13.

| Provinces        | 1900       | 1905       | 1906        | 1910        | 1911        | 1912        | 1913        |
|------------------|------------|------------|-------------|-------------|-------------|-------------|-------------|
|                  | bush.      | bush.      | bush.       | bush.       | bush.       | bush.       | bush.       |
| N. W. provinces— |            |            |             |             |             |             |             |
| Wheat .....      | 23,156,839 | 82,461,627 | 110,586,824 | 110,163,153 | 268,999,000 | 234,283,000 | 269,262,000 |
| Oats .....       | 16,633,681 | 68,819,855 | 110,569,628 | 105,400,393 | 176,282,000 | 242,321,000 | 242,413,000 |
| Barley .....     | 3,141,121  | 10,971,755 | 18,681,690  | 12,047,806  | 27,969,000  | 31,600,000  | 31,060,000  |
| Manitoba—        |            |            |             |             |             |             |             |
| Wheat .....      | 18,352,920 | 47,624,589 | 54,472,198  | 34,125,949  | 62,681,000  | 63,017,000  | 53,331,000  |
| Oats .....       | 10,952,365 | 31,458,692 | 41,613,300  | 30,378,376  | 60,037,000  | 67,151,000  | 66,759,000  |
| Barley .....     | 2,006,567  | 7,544,150  | 11,979,654  | 6,506,634   | 14,949,000  | 15,820,000  | 14,305,000  |
| Saskatchewan—    |            |            |             |             |             |             |             |
| Wheat .....      | 4,306,091  | 31,790,198 | 50,182,359  | 66,978,990  | 100,075,000 | 106,990,000 | 121,550,000 |
| Oats .....       | 2,270,057  | 25,623,819 | 41,880,257  | 58,922,791  | 107,394,000 | 117,537,000 | 114,112,000 |
| Barley .....     | 187,211    | 1,196,419  | 2,828,387   | 3,061,007   | 8,661,000   | 9,595,000   | 10,421,000  |
| Alberta—         |            |            |             |             |             |             |             |
| Wheat .....      | 797,839    | 3,035,813  | 5,932,267   | 9,660,210   | 20,602,000  | 34,303,000  | 34,372,000  |
| Oats .....       | 3,791,259  | 11,728,314 | 21,027,071  | 16,099,223  | 39,031,000  | 67,630,000  | 71,542,000  |
| Barley .....     | 287,343    | 2,231,186  | 3,876,468   | 2,489,163   | 4,356,000   | 6,179,000   | 6,334,000   |

## NUMBERS OF FARM LIVE STOCK.

At the Census of 1911 records were taken of the numbers of the principal descriptions of farm live stock as at June 1 of that year. From these data have been recalculated the estimated numbers of animals in 1912 and 1913, by application to the census figures of 1911 for 1912 and to the estimated numbers of 1912 for 1913 of the average percentages reported by our correspondents on June 30 each year. The results are given in Table IX, with, for comparison, the estimates of the two previous years 1909 and 1910.

IX. Numbers of Farm Live Stock, 1909-1913.

| Live stock            | 1909      | 1910      | 1911      | 1912      | 1913      |
|-----------------------|-----------|-----------|-----------|-----------|-----------|
|                       | No.       | No.       | No.       | No.       | No.       |
| Canada—               |           |           |           |           |           |
| Horses.....           | 2,132,489 | 2,213,190 | 2,595,912 | 2,692,357 | 2,866,008 |
| Milch cows.....       | 2,849,305 | 2,853,957 | 2,594,179 | 2,604,488 | 2,740,434 |
| Other cattle.....     | 4,384,779 | 4,250,063 | 3,939,257 | 3,827,373 | 3,915,687 |
| Sheep.....            | 2,705,390 | 2,598,470 | 2,175,302 | 2,082,381 | 2,128,531 |
| Swine.....            | 2,912,509 | 2,753,964 | 3,610,428 | 3,477,310 | 3,448,326 |
| Prince Edward Island— |           |           |           |           |           |
| Horses.....           | 34,121    | 34,121    | 35,935    | 35,638    | 35,952    |
| Milch cows.....       | 53,915    | 55,365    | 52,109    | 49,415    | 48,565    |
| Other cattle.....     | 58,013    | 57,648    | 68,287    | 64,688    | 64,261    |
| Sheep.....            | 109,244   | 110,599   | 91,232    | 87,793    | 85,660    |
| Swine.....            | 47,853    | 48,623    | 56,377    | 50,463    | 43,762    |
| Nova Scotia—          |           |           |           |           |           |
| Horses.....           | 68,128    | 68,721    | 61,355    | 61,735    | 62,550    |
| Milch cows.....       | 147,663   | 148,948   | 129,302   | 130,104   | 130,468   |
| Other cattle.....     | 182,507   | 180,189   | 158,122   | 156,051   | 153,726   |
| Sheep.....            | 361,444   | 358,263   | 220,907   | 216,135   | 217,734   |
| Swine.....            | 70,308    | 69,958    | 63,322    | 61,194    | 56,580    |
| New Brunswick—        |           |           |           |           |           |
| Horses.....           | 66,496    | 66,855    | 65,458    | 65,582    | 65,103    |
| Milch cows.....       | 122,577   | 122,136   | 108,532   | 110,507   | 106,904   |
| Other cattle.....     | 113,850   | 110,389   | 113,659   | 113,136   | 107,864   |
| Sheep.....            | 213,289   | 203,620   | 158,216   | 148,723   | 135,115   |
| Swine.....            | 94,140    | 91,250    | 87,391    | 85,905    | 77,914    |
| Quebec—               |           |           |           |           |           |
| Horses.....           | 362,796   | 368,419   | 369,237   | 367,402   | 369,974   |
| Milch cows.....       | 856,579   | 856,151   | 763,134   | 759,770   | 761,816   |
| Other cattle.....     | 622,888   | 600,277   | 697,860   | 695,906   | 693,540   |
| Sheep.....            | 570,342   | 549,068   | 637,062   | 620,881   | 602,751   |
| Swine.....            | 670,942   | 651,415   | 793,348   | 747,254   | 661,768   |
| Ontario—              |           |           |           |           |           |
| Horses.....           | 821,611   | 802,949   | 811,585   | 805,271   | 902,628   |
| Milch cows.....       | 1,260,572 | 1,243,680 | 1,032,979 | 1,033,392 | 1,141,071 |
| Other cattle.....     | 1,771,433 | 1,629,364 | 1,471,694 | 1,380,890 | 1,460,015 |
| Sheep.....            | 1,118,945 | 1,032,227 | 743,483   | 677,462   | 765,848   |
| Swine.....            | 1,586,565 | 1,481,668 | 1,864,165 | 1,693,594 | 1,652,440 |
| Manitoba—             |           |           |           |           |           |
| Horses.....           | 237,161   | 244,987   | 280,374   | 293,776   | 304,088   |
| Milch cows.....       | 167,442   | 164,746   | 155,357   | 148,471   | 152,792   |
| Other cattle.....     | 333,752   | 314,995   | 279,776   | 267,130   | 256,926   |
| Sheep.....            | 29,074    | 30,266    | 37,322    | 40,800    | 42,840    |
| Swine.....            | 172,374   | 142,312   | 188,416   | 183,370   | 184,745   |
| Saskatchewan—         |           |           |           |           |           |
| Horses.....           | 279,063   | 332,922   | 507,400   | 551,645   | 580,386   |
| Milch cows.....       | 124,186   | 138,455   | 181,146   | 184,896   | 194,843   |
| Other cattle.....     | 391,789   | 431,164   | 452,466   | 461,244   | 468,255   |
| Sheep.....            | 129,630   | 135,360   | 114,216   | 114,810   | 115,568   |
| Swine.....            | 131,757   | 125,788   | 286,295   | 344,298   | 386,784   |



## IX. Numbers of Farm Live Stock, 1909-1913—con.

| Live stock         | 1909    | 1910    | 1911    | 1912    | 1913    |
|--------------------|---------|---------|---------|---------|---------|
|                    | NO.     | NO.     | NO.     | NO.     | NO.     |
| Alberta—           |         |         |         |         |         |
| Horses .....       | 263,713 | 294,225 | 407,153 | 451,573 | 484,809 |
| Milch cows .....   | 116,371 | 124,470 | 147,687 | 157,922 | 168,376 |
| Other cattle ..... | 910,547 | 926,937 | 592,163 | 587,307 | 610,917 |
| Sheep .....        | 171,422 | 179,067 | 133,592 | 135,075 | 178,015 |
| Swine .....        | 139,270 | 143,560 | 237,510 | 278,747 | 350,692 |
| British Columbia—  |         |         |         |         |         |
| Horses .....       | —       | —       | 57,415  | 59,735  | 60,518  |
| Milch cows .....   | —       | —       | 33,953  | 34,011  | 35,599  |
| Other cattle ..... | —       | —       | 105,230 | 101,021 | 100,183 |
| Sheep .....        | —       | —       | 39,272  | 40,702  | 45,000  |
| Swine .....        | —       | —       | 33,604  | 32,485  | 34,541  |

NOTE.—The numbers of live stock in 1911 are the actual returns of the Census of that year. The numbers for 1912 and 1913 are estimates based on the census returns of 1911.

## WINTER FEED FOR LIVE STOCK.

Correspondents were requested to answer "Yes" or "No" in each case to the question as to whether the supplies of hay, straw, ensilage, grain and roots were expected to suffice for the needs of live stock during the winter. The percentage of the affirmative replies is given in the following table :

## Winter Feed for Live Stock, 1913-14.

| Provinces                  | Hay  | Straw | Ensilage | Grain | Roots |
|----------------------------|------|-------|----------|-------|-------|
|                            | p.c. | p.c.  | p.c.     | p.c.  | p.c.  |
| Prince Edward Island ..... | 96   | 87    | 50       | 100   | 80    |
| Nova Scotia .....          | 92   | 92    | 30       | 53    | 71    |
| New Brunswick .....        | 80   | 92    | 41       | 59    | 70    |
| Quebec .....               | 83   | 85    | 37       | 79    | 40    |
| Ontario .....              | 74   | 87    | 77       | 88    | 64    |
| Manitoba .....             | 96   | 100   | 59       | 96    | 61    |
| Saskatchewan .....         | 89   | 100   | 22       | 96    | 54    |
| Alberta .....              | 91   | 99    | 45       | 93    | 69    |
| British Columbia .....     | 89   | 88    | 20       | 56    | 76    |

Exceptionally mild weather during the fall and early winter enabled farmers to economise feeding supplies. Where these were short, surplus animals were readily disposed of by sale.

## NOTES OF REPORTS FROM THE PROVINCES.

**Maritime Provinces.** Much rain in some parts, especially in Prince Edward Island, injured a great deal of grain ; but there are records of excellent grain crops well saved before the rains set in. The weather continued very mild up to the end of the year, and all live stock are thriving well. Buckwheat unfortunately was caught by early frosts. A cor-

respondent in New Brunswick writes that hay will be quite plentiful on account of so many cattle going to the American market and to the west.

**Quebec.** Buckwheat has not done well this year, as it was caught by early frosts; corn for husking is also poor. The drouth caused short fodder crops, but the mild weather during the fall and early winter enabled farmers to economise their winter supplies. In many cases, where these supplies might otherwise have been short, the farmers have reduced their stock by sales to United States buyers at good prices. A correspondent at St. Thérèse, Terrebonne, writes that 10 cars of horned cattle, averaging 20 head per car or 200 head altogether, have been sold for foreign and neighbouring places. This has increased the price of beef, which is very dear. Another correspondent refers to the value of corn ensilage, especially in a year when the hay harvest failed. He says that only seven per cent of the farmers in his district have silos. He himself harvested 100 tons of corn from seven arpents. Seventy-five tons were put into the silo and the rest was cut and mixed with straw. He has 32 head of cattle, and up to the end of December he had not used for them one ton of hay, whilst the silo had not then been opened.

**Ontario.** The fine fall enabled farmers to economise winter feeding supplies, which owing to the drouth would otherwise in many places have proved insufficient. Matters have been further equalised by the large demand for cattle on the part of buyers from the United States, in consequence of the abolition of the duty on cattle. Correspondents report from various localities throughout the province that thousands of cattle have been shipped at good prices. Some state that farmers have left themselves with only a third as many cattle as they retain in average years. Only in southern Ontario is there evidence to the contrary. Here the drouth does not appear to have prevailed so badly as in other parts, and there is consequently plenty of feed for stock. One correspondent in south Ontario reports hay as selling at \$7 per ton, and another refers to the hay crop as the largest in history. In Elgin county cattle are being brought in to consume the abundant feed; a correspondent in West Elgin states that 1,500 head of cattle have been brought in to feed this winter, the crop of corn being splendid. Another correspondent states that farmers are going more into the raising of hogs, which of late has been more or less abandoned. A correspondent in West Northumberland, central Ontario, writes: "Farmers now realise the importance of having good types of beef cattle, as there never was such a demand for choice feeders as there is at present, and there will be an unlimited demand in the American market for such cattle for many years to come. This will tend to stimulate a better system of breeding. It pays well to cater to the great American markets."

**Northwest Provinces.** The quality of the grain crops has proved excellent, and a large proportion has graded high. The exceptionally mild weather during the fall and early winter has been very favourable to live stock, which in numerous instances throughout the three provinces were reported by correspondents at Christmas time as still getting their food out of doors. There are many complaints of the low prices now prevailing for grain, and many state that these prices, coupled with the high cost of pro-

duction, are a source of much discouragement to grain growers. Low yields are frequently attributed to indifferent farming. Thus one correspondent writes that the practice of stubbling in is responsible for the yield of wheat not being greater, and that last season there was a difference of five bushels per acre in favour of ploughed land, whether ploughed in the fall or in the spring. Another correspondent, whose own yield of oats was given as considerably higher than that of his neighbours, accounted for the difference by the fact that whereas they seeded oats on spring ploughing, he always seeded this crop on summer fallow land. His best piece of wheat went 33 bushels to the acre for 60 acres. He had the best crop of oats in the district,—over 86 bushels per acre, whilst the next best was 70 bushels and the poorest 15 bushels. Several correspondents refer to the superiority of Marquis wheat in yield and early maturity. A correspondent in the district of Turtle Mountain, Manitoba, states that for the last five years he has been using, with splendid results, a grain cleaner for seed, imported from France; he also cleans seed for his neighbours to the extent of 210,000 bushels. American buyers have bought up the young stock in some districts, farmers parting with the animals where supplies of fodder were low.

Dairying and stock raising are reported as paying much better than grain raising at present prices; but there are special difficulties incident to the transition from grain growing to mixed farming. A correspondent in the Lethbridge district writes: "We could fatten more stock if we had a stockyard in south Alberta to establish a market for stockers from the ranches." A correspondent in the Humboldt district says that he is almost exclusively engaged in raising sheep, and that they pay better than any other stock.

**British Columbia.** A remarkably mild fall made stock feeding very easy.

## FODDER AND PASTURE PLANTS<sup>1</sup>.

The Dominion Department of Agriculture has just issued a book on Fodder and Pasture Plants, written in collaboration by George H. Clark, B.S.A., Seed Commissioner, and M. Oscar Malte, Ph. D., Agrostologist at the Central Experimental Farm. It is a work of 143 large 8vo. pages with 27 full page water colour plates by Norman Criddle.

The first part of the book consists of a general description of the botanical characteristics of grasses and clovers, followed by practical observations on seeding to fodder and pasture plants. Then follow detailed descriptions of each grass and clover or other legume under appropriate headings, including botanical description, history, climate, soil, varieties, agricultural value, seed, geographical distribution, cultural conditions, etc.

Interspersed throughout the book are quotations from old writers, compiled by Miss A. L. Brown of the Seed Branch. These, though necessarily limited in range by want of access to more complete collections, are of considerable interest. They are culled mainly from classical authors,

<sup>1</sup> Fodder and Pasture Plants. By Geo. H. Clark, B.S.A., and M. Oscar Malte, Ph. D., with water colour illustrations by Norman Criddle. Published by direction of the Hon. Martin Burrell, Minister of Agriculture, and available at the Office of the Superintendent of Stationery, Government Printing Bureau, Ottawa, price 50 cents.

such as Xenophon, Varro, Cato, Virgil, Pliny and Epictetus, and from old English authors, including Chaucer, Spencer, Shakespeare and Milton among the great poets, and Thomas Tusser, Samuel Hartlib, John Evelyn and Arthur Young among agricultural writers.

Altogether this work, which is attractively printed and illustrated, cannot fail to be of great practical interest and value to the farmers of Canada. It is published at the nominal price of 50 cents.

We have much pleasure in announcing that the Minister of Agriculture has placed a number of copies of this work at the disposal of the Census and Statistics Office for the purpose of presenting a free copy to each of its Crop Reporting Correspondents, and the distribution will begin immediately. A copy will be mailed to every correspondent on the list now sending reports regularly. The volume will form a suitable companion to the work on Farm Weeds of which copies were similarly presented to our Crop-Reporting Correspondents in 1909.

## DEPARTMENT OF AGRICULTURE.

**Experimental Farms and Stations.** At the Central Farm, Ottawa, the weather during November has been on the whole exceptionally fine and quite favourable for all out door operations. The temperatures ranged higher than those recorded during the same period of 1912, the highest being 63.2, the lowest 17.2 and the mean 37.9, compared with extremes of 58.4 and 5.2 and a mean temperature of 34.42 for the corresponding period last year. The precipitation amounts to only 2.68 inches, made up of 2.48 inches of rain and 2 inches of snow; while a year ago it totalled 4.89 inches, consisting of 2.59 inches of rain and 23 inches of snow.

The rebuilding of the large barn, destroyed by fire on October 11th, progressed so well that by about the middle of the month one of the wings was occupied by cattle, while during the succeeding fortnight the other wing has been nearly as far advanced towards completion, and the masonry in connection with the main part of the building is now also well on.

The annual circular letter inviting those interested in superior seed to apply for a sample of potatoes, and also one either of spring wheat, oats, barley or field peas, was sent to all the newspapers of the country about the 15th of the month. All those anxious to share in the distribution of varieties at present available, and who may not have seen the announcement in the Press, should write immediately to the Dominion Cerealist, Experimental Farm, Ottawa, for a copy of the regulations.

J. A. Clark, Superintendent of the Station at Charlottetown, P.E.I., reports: "November came in with snow flurries, and cold winds dried out what grain remained to be harvested, so that it was saved in good condition for feeding purposes. The loss was not so great as had been anticipated. Mild weather followed the first bluster, so that the turnips that remained out were saved in good shape. The potatoes which remained in the ground during the cold snap were more or less damaged, while many potatoes have rotted in cellars. Good progress has been made with tile draining at the



Station, thanks to the light rainfall of the month. Snow fell on the 26th and it still remains on the 30th. Steers and lambs have been purchased for feeding purposes and, beginning with the 1st of December, experiments in fattening will be conducted with these”.

W. S. Blair, Superintendent of the Station at Kentville, N.S., reports: “November has been fine, with bright days and little rain. The month, until the 26th, was open for ploughing and other fall work, which has been finished up in good shape. The temperatures were high during parts of the second and third weeks, which materially hastened the ripening of fruit in air-cooled storage houses, where the temperature could not be kept lower than that of the air outside. This year's fruit crop in the counties of Annapolis, Hants and King's was approximately half a million barrels, compared with over a million barrels last season. Owing to unfavourable conditions for spraying, the crop in many instances was injured by the scab fungus, which materially lessened the quantity of first grade fruit. On the other hand the fruit was practically free from scab where two sprayings at intervals of ten days (the last just before the blossom buds were fully open) were given before the blossoms were fully open. Experimental data secured at this Station would seem to indicate that two sprayings with lime sulphur should be given before the blossoms are fully open to control the scab.”

W. W. Baird, Superintendent of the Farm at Nappan, N.S., reports: “November has been for the greater part a very seasonable month. Though the thermometer has dropped to as low as 10 degrees above zero comparatively little cold weather has been experienced. In fact part of the time it was so mild that buds burst out on honeysuckle, and some of the branches were quite green. Light showers have been recorded on seven different days, giving a total rainfall of 2.03 inches. The first snow fell on the 26th and 27th, amounting to 4 inches. Due to the heavy rainfall of October considerable trouble has been experienced in harvesting the root crop. Then, too, some loss has resulted from rotting. This trouble seemed to be quite general throughout the district. Much less fall ploughing than usual has been done, owing to the wet condition of the ground. The work, other than pulling roots, engaging attention at this Farm has included ploughing, repairing dykes, clearing new land, hauling manure, packing fruit, threshing grain and planting bulbs. All classes of live stock are in good condition. Some twenty-eight head of steers have been put in for experimental feeding, also some fifty-six lambs, all of which have about finished their period of preparatory feeding and are now ready to start their experiments.”

W. W. Hubbard, Superintendent of the Station at Fredericton, N.B., reports: “November has been characterised by its exceptionally mild weather and absence of storm and wind, affording ideal conditions for all kinds of outdoor work on the farm and for building operations, etc. It has been, however, very unfavourable, by reason of the absence of frost, for lumbering operations, and New Brunswick lumbermen complain that so far this year has been one of the worst in the history of the business in the province. The heavy rains of October flooded the swamps and streams and, during November, the ground has been so soft as to prohibit work

with horses in many places and making it extremely difficult to transport supplies into the camps. In some cases crews of men taken to the woods in September and October have been sent home to await the coming of frost. The wet weather of October spoiled a great deal of grain in the field and also started disease among potatoes, and the cold snap during the last week of that month froze many potatoes still in the ground and in transport. November weather has afforded an ideal opportunity to farmers for finishing the shipment of their produce and for threshing and ploughing, and more fall ploughing than usual has been done. Live stock has been out of doors most of the month, and, with the exception of dairy herds, the animals have not been drawing on winter fodder supplies to any extent."

Joseph Begin, Superintendent of the Station at Ste. Anne de la Pocatière, Que., reports: "November has been on the whole exceptionally dry and free from snow, the first snow of the season, amounting to one inch, falling on the 27th and melting during the next two days. The favourable weather has prolonged the season for work on the land, and probably fifty per cent more fall ploughing than usual has been accomplished in this district, which should mean early spring seeding and a correspondingly better chance for good crops. At the Station the work during the month has included the ploughing of the oldest sod on the part of the farm property recently purchased, the laying of 1,400 feet of tile, the straightening and widening of ditches and preparing land for the planting of fruit trees. Good progress has been made in erecting horse and cattle barns, which are expected to be completed during December. Both barns are now nearly finished on the outside, including painting, and they look quite striking and attractive. The new buildings at this Station have already been much admired by visitors, and they promise to serve as models to numerous farmers wanting plans embodying the latest improvements in stables and barns."

G. A. Langelier, Superintendent of the Station at Cap Rouge, Que., reports: "November has been milder than last year, the average temperature being 30.92 for 1912 and 33.42 for 1913. The precipitation amounts to only 2.01 inches, compared with 4.97 inches in 1912. On the whole it has been one of the mildest and brightest Novembers in years, and at the end of the month wheels are still in use, while usually a fortnight of sleighing has been experienced at this time. Farmers have not been able to do much outside during the month, because of the absence of winter roads for hauling lumber, wood for fuel, and hay. At the Station we have been busily engaged putting down the floor and finishing the outside of a new horse barn, which, when completed, promises to be one of the very best for the purpose in all eastern Canada."

W. C. McKillican, Superintendent of the Farm at Brandon, Man., reports: "November has been mild and somewhat brighter than the same period of last year. The middle of the month showed signs of storms, and there were a few light falls of snow, which came to a climax on the 22nd, when two inches fell. This however has not been added to up to date and it has diminished daily under the influence of the sun. From the 16th to 22nd was the mildest week in the month, with an average minimum tem-

perature of 26 degrees. After this period the weather turned toward mist and hoar frost, though the misty mornings were productive of excellent days; in fact the whole month has been on the average remarkably calm and spring-like. Work on the Experimental Farm, in addition to ordinary routine, has been chiefly in connection with feeding experiments with cattle and swine. The fine, open weather has been taken advantage of as much as possible and a considerable supply of feed has been hauled to the buildings. Crushing grain and other chores inseparable from stock feeding have occupied a good deal of the working period."

T. J. Harrison, Superintendent of the Farm at Indian Head, Sask., reports: "November has been very favourable for the completion of farm work. While the ground froze up about the first of the month little snow has fallen, and the temperature has been comparatively mild. This has had the effect of putting the roads into an ideal condition for drawing the wheat to market. The threshing was finished about the 16th, so that a large percentage of the grain has already been marketed. The weather being mild, the stock have been able to procure much of their food from the fields, and only in the latter part of the month have they been stabled and put on winter rations. The work on the Experimental Farm during the month has consisted largely in drawing gravel for the walks and in drawing feed for the stock. A number of interesting experiments with live stock have been started. One of these consists in feeding steers on different rations, both in the barn and in a corral outside. Another consists in feeding horses on different winter rations to determine the cheapest method of wintering. One hundred lambs are also being fed to investigate the profits from this line of farming."

W. A. Munro, Superintendent of the Station at Rosthern, Sask., reports: "The month of November has been unusually mild and free from storms, allowing of the easy marketing of grain. A snowfall of 2.5 inches was experienced on the 18th. A new line of work for this Station is now being carried on, namely, experiments in steer feeding. Eleven steers, two and a half years old, of an average weight of 1,004 lb., are being fed to find out what profit may be expected, if any, from steer feeding in this locality. They are to be fed on such material as can be easily produced in the district."

R. E. Everest, Superintendent of the Station at Scott, Sask., reports: "November has been a beautiful month. At times one fine day would follow another for several days in succession. On the 18th a snowfall was experienced—not sufficient for sleighing, but enough to benefit ranging stock. Seventeen head of steers were purchased in October for an outside feeding experiment. These cattle were weighed and loaded, and, in a journey of 249 miles, changed cars once, had a delay of fourteen hours, and from unloading point were driven over trail eight miles to pasture. They remained on pasture forty-two days, with supplementary feed, after November 20th, of one green sheaf apiece on seven different days. They were weighed into corral, for the commencement of winter feeding, 633 lb. heavier than initial weight. Work engaging attention at this Station has included the completion of 700 feet of lawn fence and of entrance at front of grounds and the extension of the water pipe line from the barn to the corral for stock purposes."

G. M. Hutton, Superintendent of the Station at Lacombe, Alta., reports: "Though frost in the ground prevented ploughing at any time during November, conditions during the month have been favourable for finishing other fall work. The fine weather has lent itself to the starting of all cattle on food under the most auspicious circumstances, and the animals are showing evidence of very satisfactory gains. At the Station three groups have been placed on feed under different conditions, these conditions being similar to those of last year. Water having been piped to the beef barn since last fall, and now being available to the cattle inside at any time, it is quite possible that the group being fed inside will make a better showing than the corresponding group last year to which water was carried twice daily. The dairy cows are still producing a satisfactory flow of milk, and the individuals entered in the Record of Performance are holding up well."

Mr. W. H. Fairfield, Superintendent of the Station at Lethbridge, Alta., reports: "The weather during November has been mild and reasonably favourable for field operations in Alberta. There has not been much frost in the ground, and farmers have been able to work on their land for the greater part of the month, although in the vicinity of Lethbridge the land has been too dry for good ploughing, as there has been very little precipitation. The mean temperature for the month is 35.1, against 39.5 for the corresponding period of last year. At the Station the feeding experiments for the winter are under way, a carload of steers being divided into three lots and 250 wether lambs divided into five groups of 50 each and one group of 50 yearling wethers. The general object of these tests is to gather data in regard to the return from alfalfa hay when utilised for feeding."

G. E. Parham, Superintendent of the Station at Invermere, B.C., reports: "The weather during November has been changeable, with rough winds, snow and some rain. The ground was frozen on the 20th of the month, when the temperature went down to 5° F. On the 24th the snow disappeared, and the frost was out of the ground for two days. At the Experimental Station the foreman's cottage, which was started in July, is now complete. Two poultry houses on the Ottawa (Central Farm) cotton-fronted system, have been built, and their occupants, viz., 25 White Leghorn and 24 Barred Rock pullets, have produced 208 eggs during the month. The six colonies of bees received from Salmon Arm in June have been placed in winter quarters; two of the hives are being wintered in the open, in a crate packed with chaff, and the other four are placed in an unheated portion of the basement of the new cottage."

P. H. Moore, Superintendent of the Farm at Agassiz, B.C., reports: "This has been quite a typical November, characterised by very little sunshine and considerable rain. On two occasions there was a slight fall of snow, amounting to two inches, which melted in a few hours. Work on the farm has had to be varied. The root harvesting was completed by the middle of the month. Considerable threshing was done when it was too wet to work outside. All the sheds and out-buildings have been repaired for winter. The heaviest task completed was the removing of the cedar hedge from the southern border of the farm and cleaning up the old fence. One point worthy of note from the mangold cultural work of this season,



which has been a wet one, is the benefit shown from the use of common salt as an indirect fertiliser, along with and in addition to other fertilisers. The field in question, which was old orchard land that had been previously in pasture, was treated with 16 tons of barnyard manure, 350 lb. of superphosphate, 150 lb. of muriate of potash, and 100 lb. of nitrate of soda per acre. The salt plot had 400 lb. per acre of common salt added. The variety of mangold used in the experiment was Giant Half Sugar White. The plot without salt yielded 25 tons 1,780 lb. per acre, and the one treated with salt, 32 tons 565 lb. per acre, showing an increase of 6 tons 780 lb. per acre from an expenditure of \$3.60 for salt. What effect this treatment will have on the succeeding crops remains of course to be seen."

Samuel Spencer, Foreman Manager of the Station at Sidney, Vancouver Island, B.C., reports: "November, on Vancouver Island, has been generally favourable for harvesting roots, and this crop has now been stored in pits in fair condition. Manuring and ploughing have proceeded simultaneously during the month. Clover not ploughed in continues to show growth, while the seed of Kentucky Blue grass sown on the lawns during the month has germinated. Winter wheat and rye appear to be in good shape. The mild weather accounts for a number of annuals being in bloom, including nasturtium, mignonette, stocks, Shirley poppy and African marigold. The plane trees along one of the avenues are still in leaf, as also are specimens of elder, while several varieties of ornamental shrubs are still in bloom."

The records of temperature, precipitation and sunshine at the several Experimental Farms and Stations for the month of November are given in the following table:

**Meteorological Record for November, 1913.**

| Experimental Farm<br>or Station at— | Degrees of temperature, F. |        |       | Precipitation<br>in<br>inches | Hours of sunshine |        |
|-------------------------------------|----------------------------|--------|-------|-------------------------------|-------------------|--------|
|                                     | Highest                    | Lowest | Mean  |                               | Possible          | Actual |
| Ottawa, Ont.....                    | 63·2                       | 17·2   | 37·90 | 2·68                          | 285               | 106·7  |
| Charlottetown, P.E.I..              | 61·0                       | 18·0   | 38·82 | 2·09                          | 281               | 101·6  |
| Kentville, N.S.....                 | 65·0                       | 21·0   | 38·45 | 1·97                          | 287               | 111·5  |
| Nappan, N.S.....                    | 65·0                       | 19·0   | 38·09 | 2·43                          | 285               | 115·4  |
| Fredericton, N.B.....               | 62·0                       | 5·0    | 35·50 | 1·15                          | 284               | "      |
| Ste. Anne de la Pocatière, Que..... | 60·0                       | 4·0    | 36·25 | ·77                           | 280               | 89·8   |
| Cap Rouge, Que.....                 | 61·0                       | 13·2   | 33·42 | 2·01                          | 280               | 61·1   |
| Brandon, Man.....                   | 59·7                       | -3·0   | 27·90 | ·29                           | 272               | 93·1   |
| Indian Head, Sask.....              | 53·0                       | 3·0    | 27·06 | ·75                           | 270               | 99·2   |
| Rosthern, Sask.....                 | 52·9                       | -3·9   | 22·45 | ·34                           | 258               | 101·9  |
| Scott, Sask.....                    | 54·8                       | -8·8   | 23·90 | ·25                           | 261               | 108·8  |
| Lacombe, Alta.....                  | 59·8                       | -5·0   | 29·10 | ·05                           | 263               | 146·2  |
| Lethbridge, Alta.....               | 58·0                       | 9·0    | 35·10 | ·36                           | 273               | 121·8  |
| Invermere, B.C.....                 | 46·0                       | 5·0    | "     | ·63                           | 270               | 60·5   |
| Agassiz, B.C.....                   | 61·0                       | 25·0   | 45·23 | 12·29                         | 274               | 39·5   |
| Sidney, Vancouver I.,<br>B.C.....   | 55·0                       | 31·0   | 43·00 | 4·32                          | 276               | 76·2   |

<sup>1</sup> Not available.

Ottawa, Dec. 9.

J. H. GRISDALE,  
Director Experimental Farms.

**Seed Branch.** Immense quantities of western grown grain are re-cleaned at the terminal elevators at Fort William and Port Arthur under the Canada Grain Act. The average dockage, or waste in re-cleaning, varies of course from year to year, but may be put at from 5 p.c. to 7 p.c. in the case of flax and from 2 p.c. to 3 p.c. in the case of wheat. The extent to which grain is sometimes contaminated with weed seeds is shown by an examination of a car of western grown flax. The weed seeds made up 16 p.c. of the total weight of the car. One ounce of the flax contained more than 3,000 weed seeds.

Last year (Sept 1, 1912, to August 31, 1913,) the shipments of screenings from Port Arthur and Fort William were as follows:—

|                           | tons   |
|---------------------------|--------|
| To United States .....    | 35,505 |
| To points in Canada ..... | 2,305  |

An examination of about 6,000 tons of screenings shipped from various elevators at different periods of the year, and which should give a fair indication of the screenings shipped to the United States last year, showed that the composition of these screenings is 37 p.c. scalplings, 7 p.c. succotash flax, 18 p.c. buckwheat screenings and 38 p.c. black seeds, which are trade terms commonly used to indicate the different separations of screenings that are made commercially. The scalplings consist of 65 p.c. wheat, 25 p.c. other grains, 3 p.c. weed seeds and 7 p.c. chaff and straw. Succotash flax has 30 p.c. flax, 40 p.c. broken wheat, 15 p.c. weed seeds, chiefly wild buckwheat, lamb's quarters and wild oats, and 15 p.c. chaff; buckwheat screenings, 58 p.c. wild buckwheat, 29 p.c. broken wheat, oats and flax, 9 p.c. weed seeds and 4 p.c. chaff. The 38 p.c. of black seeds was separated into two parts by a  $\frac{1}{2}$  inch perforated zinc screen, which removed 7 p.c. of fine seeds and dust. These fine seeds consist of 22 p.c. tumbling mustard, 63 p.c. dust, 10 p.c. lamb's quarters and 5 p.c. other weed seeds. The balance of 31 p.c. of black seeds consists of 53 p.c. lamb's quarters, 3 p.c. wild mustard, 8 p.c. other mustards, 9 p.c. other weed seeds and 27 p.c. chaff.

The market price of this dockage fluctuates with corn, oats and millfeed. During the winter of 1912-13, screenings sold in Fort William at from \$4 to \$5 per ton, the price varying with the quality of the material. For the same period buckwheat screenings sold at Fort William at \$14 per ton, and wild mustard, practically pure, at \$20 per ton. The black seeds, when finely ground, sell at from \$9.50 to \$12.50 per ton, usually selling about \$5 per ton cheaper than bran. It is commonly used in the preparation of molasses feeds and as a filler for mixing with oil cake.

The investigation included the following of cargoes of screenings shipped to United States points. They are used principally for feeding sheep during the winter season in large sheds operated in connection with the stockyards of the various railway companies on whose lines the sheep are carried from the ranges. Sheep taken from the ranges are usually fed for about thirty days. At first they are given only hay, then a small quantity (half a pound per day) of light chaffy screenings. Gradually this quantity is increased until in about a week or ten days the sheep have access to the self-feeders, from which they eat what screenings they care for—about two pounds per day. At the same time the proportion of chaff in the screenings

is decreased and the proportion of seeds increased. The sheep are kept on a diet of pure screenings for a few days only, and then a little cracked corn is added. The proportion of corn to screenings is increased gradually until the ration consists of half or slightly more of corn, the sheep being given all they can eat of this mixture. The aim of the feeder is to get the sheep on a diet of corn as soon as possible, but pure corn is too heavy for the sheep, and the screenings are used as a sort of filler. This material is not considered by the feeders to be as nutritive and as wholesome as some think it is, or as its chemical analysis would indicate; but the sheep eat it and for a time thrive on it when fed in this manner. On such feed the sheep commonly gain from 12 to 15 pounds during the first thirty days. Seed-house screenings and screenings containing a large proportion of broken flax are avoided.

In the Seed Laboratory 954 samples were received for tests, an increase of 257 over the corresponding period of 1912. These consisted of 862 samples from merchants and 92 from farmers made up as follows:

|                 |     |                               |     |
|-----------------|-----|-------------------------------|-----|
| Timothy.....    | 187 | Other grasses and clovers.... | 69  |
| Alsike.....     | 243 | Cereals.....                  | 153 |
| Red Clover..... | 203 | Vegetables.....               | 32  |
| Alfalfa.....    | 36  | Other sorts.....              | 31  |

Of the total number of timothy received, 24 samples graded No. 1, 101 graded No. 2, 35 graded No. 3 and 27 were rejected on account of excess in weed seeds. Of alsike, 9 graded No. 1, 54 graded No. 2, 99 graded No. 3 and 72 were rejected. Of red clover, 56 graded No. 1, 78 graded No. 2, 51 graded No. 3 and 18 were rejected. Taken as a whole the quality of seed this year appears to be decidedly better than it was last.

From the Calgary Laboratory Mr. J. R. Dymond reports a falling off in the number of samples received over the corresponding periods of the two previous years, due largely to the excellent condition in which the cereal crops were harvested, particularly to the absence of frost during the ripening season. For the month of November 263 samples were received for testing, 142 of which were from farmers and 121 from seed merchants. The amount of purity work done has increased threefold.

GEO. H. CLARK, Seed Commissioner.

Ottawa, January 17.

**Tobacco Division.** The tobacco harvest of 1913 may at the present moment be estimated as amounting approximately to 11,000,000 lb., as compared with the estimate for 1912 of 13,000,000 lb. Of the total, 7,000,000 lb. were grown in Ontario, as compared with 7,500,000 lb. in 1912 and 4,000,000 lb. in Quebec, as compared with 5,500,000 lb. in 1912. The cold season and the drouth impeded the growth of tobacco north of the St. Lawrence in the province of Quebec, and a violent storm, followed by hail, considerably reduced the yield of tobacco in Ontario South.

F. CHARLAN,  
Chief of Tobacco Division.

Ottawa, January 24.

## ON THE USE OF THE CULTIVATOR.

Allow me first of all to make a rectification with regard to the word "cultivator". In old French countries, where this agricultural implement has long been in use, it is called an "extirpateur". This is its true name, because it is used to extirpate from the soil weeds, roots, etc. I do not understand why it should be called a cultivator in Canada; one might just as well give this name to a disk plough, harrow, etc., as these also cultivate the soil. The word cultivator (cultivateur) is the name of the man who cultivates the soil and not that of the instrument employed.<sup>1</sup> This agricultural implement is too little known and appreciated by farmers in general, and yet it is one of the best farm instruments. To make good work it should have moveable shares yielding to the pressure of hard bodies when driven through the soil. Its cultural qualities may be thus summarised: it opens the ground to the sun's rays, moves it, eradicates weeds, and in a word it might be called "ideal" as compared with other implements to which the same name is given.—A. DUBIEZ, Charlotte, Sask.

## AGRICULTURE IN THE NORTHWEST PROVINCES.

Census Bulletins viii, ix and x give, subject to revision, the results of the Agricultural Census of 1911 for the three Northwest provinces of Manitoba, Saskatchewan, and Alberta. In 1870 Manitoba and in 1905 Saskatchewan and Alberta were made provinces of the Dominion, and in 1906 was taken the first quinquennial census of population and agriculture for these three provinces. It is possible therefore to make census comparisons for the years 1901, 1906 and 1911.

### AREAS OF LAND AND WATER.

According to the latest measurements the land and water areas of the three provinces, as at the Census of 1911, are as follows:

| Provinces              | Land        | Water      | Total       |
|------------------------|-------------|------------|-------------|
|                        | acres       | acres      | acres       |
| Manitoba . . . . .     | 41,169,098  | 6,019,200  | 47,188,298  |
| Saskatchewan . . . . . | 155,764,480 | 5,323,520  | 161,088,000 |
| Alberta . . . . .      | 161,872,000 | 1,510,400  | 163,382,400 |
| Total . . . . .        | 358,805,578 | 12,853,120 | 371,658,698 |

NOTE.—By the Extension of Boundaries Act, 1912, the area of Manitoba was increased by 113,984,000 acres, bringing the total to 161,172,298 acres, of which 12,739,600 acres are water. The areas of Manitoba in this article relate solely however to the province as constituted before the Act of 1912.

### DISTRIBUTION OF HOLDINGS.

The total number of holdings in the three provinces was 204,214 in 1911, as compared with 55,593 in 1901. The total area of land occupied in 1911 being 58,758,067 acres, the average size per holding for the three provinces is 288 acres, which is considerably larger than in any of the provinces of

<sup>1</sup> According to a French agricultural encyclopædia the general term for these implements is "scarifiers" ("scarificateurs"); they are called "cultivators" or "extirpators" from the position or width of the knives. Etc.



eastern Canada. By provinces the average size per holding is for Manitoba 267 acres, for Saskatchewan 297 acres and for Alberta 288 acres. Table 1 shows the distribution of holdings according to size.

### I. Distribution of Holdings according to size, 1901 and 1911.

| Group                   | Manitoba |        | Saskatchewan |        | Alberta |        | Northwest provinces |         |
|-------------------------|----------|--------|--------------|--------|---------|--------|---------------------|---------|
|                         | 1901     | 1911   | 1901         | 1911   | 1901    | 1911   | 1901                | 1911    |
| Occupiers of—           | No.      | No.    | No.          | No.    | No.     | No.    | No.                 | No.     |
| Under 1 acre.....       | 243      | 1,280  | 167          | 317    | 7       | 500    | 417                 | 2,097   |
| 1 to under 5 acres..... | 440      | 1,773  | 61           | 246    | 50      | 643    | 551                 | 2,662   |
| 5 to 10 acres.....      | 257      | 791    | 54           | 214    | 41      | 384    | 352                 | 1,389   |
| 11 to 50 ".....         | 703      | 1,575  | 33           | 729    | 70      | 449    | 806                 | 2,753   |
| 51 to 100 ".....        | 1,254    | 2,103  | 72           | 941    | 154     | 942    | 1,480               | 3,986   |
| 101 to 200 ".....       | 14,394   | 18,327 | 8,041        | 48,366 | 6,577   | 34,555 | 29,012              | 101,248 |
| 201 and over.....       | 15,204   | 20,498 | 5,184        | 45,558 | 2,587   | 24,023 | 22,075              | 90,079  |
| Total.....              | 32,495   | 46,347 | 13,612       | 96,371 | 9,486   | 61,496 | 55,593              | 204,214 |

In 1906 the total number of occupied farms of five acres and over was 122,398, of which 36,141 were in Manitoba, 55,971 in Saskatchewan and 30,286 in Alberta.

### AREAS AND YIELDS OF PRINCIPAL FIELD CROPS.

Field crops in the three provinces occupied 17,676,982 acres in 1910 as compared with 3,600,121 acres in 1900. Table II shows the areas and total yields of the principal field crops for each of the three provinces, and for the Northwest provinces taken together, in the years 1900, 1905 and 1910.

### II. Areas and Yields of Principal Field Crops, 1900, 1905 and 1910.

| Crops             | 1900      | 1905      | 1910      | 1900       | 1905       | 1910       |
|-------------------|-----------|-----------|-----------|------------|------------|------------|
| Manitoba—         | acres     | acres     | acres     | bush.      | bush.      | bush.      |
| Fall wheat.....   | 120       | 617       | 4,553     | 2,036      | 12,114     | 86,176     |
| Spring wheat..... | 1,965,080 | 2,416,636 | 2,755,818 | 18,350,977 | 47,614,472 | 34,039,773 |
| All wheat.....    | 1,965,200 | 2,417,253 | 2,760,371 | 18,353,013 | 47,626,586 | 34,125,949 |
| Barley.....       | 139,672   | 249,218   | 476,016   | 2,666,803  | 7,544,150  | 6,506,634  |
| Oats.....         | 573,838   | 779,279   | 1,373,733 | 10,592,660 | 31,458,692 | 30,378,379 |
| Rye.....          | 937       | 2,543     | 38        | 7,085      | 58,767     | 29,295     |
| Flax.....         | 14,404    | 9,205     | 84        | 81,898     | 110,041    | 176,675    |
| Potatoes.....     | 16,042    | 15,924    | 210       | 1,920,794  | 2,812,085  | 2,865,839  |
| Hay.....          | —         | 80,664    | 671       | tons       | tons       | tons       |
|                   |           |           |           | 477,759    | 113,017    | 124,954    |
| Saskatchewan—     |           |           |           | bush.      | bush.      | bush.      |
| Fall wheat.....   | 306       | 468       | 230       | 3,765      | 9,653      | 14,348     |
| Spring wheat..... | 486,906   | 1,375,813 | 4,229,992 | 4,303,946  | 31,780,545 | 66,964,653 |
| All wheat.....    | 487,212   | 1,376,281 | 4,222,222 | 4,306,811  | 31,799,198 | 66,978,996 |
| Barley.....       | 11,842    | 40,732    | 12,621    | 187,617    | 1,196,419  | 3,061,007  |
| Oats.....         | 141,807   | 606,346   | 1,883,359 | 2,274,616  | 25,623,849 | 58,922,791 |
| Rye.....          | 1,296     | 1,075     | 754       | 12,633     | 19,850     | 11,639     |
| Flax.....         | 227       | 35,664    | 506,425   | 2,420      | 486,578    | 3,893,160  |
| Potatoes.....     | 6,133     | 9,981     | 24,046    | 690,332    | 1,485,800  | 2,917,340  |
| Hay.....          | —         | 8,938     | 37,694    | tons       | tons       | tons       |
|                   |           |           |           | 247,455    | 11,061     | 45,129     |

**II. Areas and Yields of Principal Field Crops, 1900, 1905 and 1910.—con.**

| Crops                | 1900      | 1905      | 1910      | 1900       | 1905       | 1910        |
|----------------------|-----------|-----------|-----------|------------|------------|-------------|
| Alberta—             | acres     | acres     | acres     | bush.      | bush.      | bush.       |
| Fall wheat.....      | 521       | 51,584    | 204,636   | 14,704     | 1,088,300  | 2,328,530   |
| Spring wheat.....    | 42,541    | 86,251    | 674,665   | 782,457    | 1,947,543  | 6,736,680   |
| All wheat.....       | 43,062    | 137,835   | 879,301   | 797,161    | 3,035,843  | 9,060,210   |
| Barley.....          | 11,055    | 80,900    | 121,435   | 286,937    | 2,231,186  | 2,480,165   |
| Oats.....            | 117,745   | 311,545   | 783,072   | 3,787,046  | 11,728,314 | 16,099,223  |
| Rye.....             | 1,043     | 4,090     | 6,672     | 17,499     | 84,982     | 109,006     |
| Flax.....            | 100       | 943       | 31,076    | 693        | 11,623     | 78,480      |
| Potatoes.....        | 3,792     | 8,234     | 20,086    | 587,461    | 1,271,728  | 2,339,901   |
|                      |           |           |           | tons       | tons       | tons        |
| Hay.....             | —         | 30,756    | 149,973   | 183,702    | 50,611     | 125,662     |
| Northwest provinces— |           |           |           | bush.      | bush.      | bush.       |
| Fall wheat.....      | 947       | 52,669    | 210,419   | 20,505     | 1,110,067  | 2,424,049   |
| Spring wheat.....    | 2,494,527 | 3,888,700 | 7,657,475 | 23,436,180 | 81,351,560 | 107,741,106 |
| All wheat.....       | 2,495,474 | 3,941,369 | 7,867,894 | 23,456,985 | 82,461,627 | 110,165,155 |
| Barley.....          | 162,569   | 370,850   | 667,072   | 3,141,357  | 10,971,755 | 12,047,806  |
| Oats.....            | 833,410   | 1,697,170 | 3,880,604 | 16,654,322 | 68,810,855 | 165,400,393 |
| Rye.....             | 3,276     | 7,708     | 10,164    | 37,217     | 163,599    | 149,850     |
| Flax.....            | 14,731    | 45,812    | 572,185   | 85,011     | 608,242    | 4,148,315   |
| Potatoes.....        | 25,967    | 34,139    | 70,342    | 3,198,587  | 5,569,613  | 8,123,080   |
|                      |           |           |           | tons       | tons       | tons        |
| Hay.....             | —         | 129,358   | 325,338   | 908,916    | 174,689    | 295,745     |

In Table III are given the average yields per acre of the principal field crops for the three years 1900, 1905 and 1910. It will be noticed that the yields in 1905 were superior to those of either of the other two years. The lower yields in 1900 and 1910 were due to drouth in both cases, whilst the midyear was of more normal character. In 1900 however the effects of the drouth were not so marked in northern Alberta, which accounts for the higher yields of that province as compared with the other provinces.

**III. Average yields per acre of Principal Field Crops, 1900, 1905 and 1910.**

| Crops             | 1900   | 1905   | 1910   | Crops             | 1900   | 1905   | 1910   |
|-------------------|--------|--------|--------|-------------------|--------|--------|--------|
| Manitoba—         | bush.  | bush.  | bush.  | Alberta—          | bush.  | bush.  | bush.  |
| Fall wheat.....   | 16·96  | 19·63  | 18·92  | Fall wheat.....   | 28·22  | 21·10  | 11·35  |
| Spring wheat..... | 9·33   | 19·70  | 12·35  | Spring wheat..... | 18·39  | 22·58  | 9·98   |
| All wheat.....    | 9·33   | 19·70  | 12·36  | All wheat.....    | 18·51  | 22·03  | 10·30  |
| Barley.....       | 19·09  | 30·27  | 15·64  | Barley.....       | 25·95  | 27·58  | 20·42  |
| Oats.....         | 18·45  | 40·36  | 25·12  | Oats.....         | 32·16  | 37·64  | 20·56  |
| Rye.....          | 7·56   | 23·10  | 10·66  | Rye.....          | 16·77  | 20·77  | 16·33  |
| Flax.....         | 5·68   | 11·95  | 5·09   | Flax.....         | 6·93   | 12·32  | 2·53   |
| Potatoes.....     | 119·73 | 183·78 | 109·34 | Potatoes.....     | 154·91 | 116·39 | 116·49 |
|                   | ton    | ton    | ton    |                   | ton    | ton    | ton    |
| Hay.....          | —      | 1·40   | 0·91   | Hay.....          | —      | 1·27   | 0·84   |
| Saskatchewan—     | bush.  | bush.  | bush.  | N.W. provinces—   | bush.  | bush.  | bush.  |
| Fall wheat.....   | 12·30  | 20·63  | 11·66  | Fall wheat.....   | 21·65  | 21·08  | 11·52  |
| Spring wheat..... | 8·83   | 23·11  | 15·84  | Spring wheat..... | 9·40   | 20·91  | 14·07  |
| All wheat.....    | 8·83   | 23·11  | 15·84  | All wheat.....    | 9·40   | 20·98  | 14·00  |
| Barley.....       | 15·84  | 29·37  | 23·61  | Barley.....       | 19·32  | 29·58  | 18·61  |
| Oats.....         | 16·04  | 42·25  | 31·20  | Oats.....         | 19·98  | 40·54  | 27·11  |
| Rye.....          | 9·74   | 18·40  | 15·43  | Rye.....          | 11·36  | 21·22  | 14·74  |
| Flax.....         | 10·66  | 13·64  | 7·68   | Flax.....         | 5·77   | 13·27  | 7·25   |
| Potatoes.....     | 112·56 | 179·98 | 121·32 | Potatoes.....     | 123·18 | 161·07 | 115·48 |
|                   | ton    | ton    | ton    |                   | ton    | ton    | ton    |
| Hay.....          | —      | 1·23   | 1·19   | Hay.....          | —      | 1·35   | 0·91   |

## NUMBERS AND VALUES OF FARM LIVE STOCK.

In Table IV are given the numbers for 1901, 1906 and 1911 and the values for 1901 and 1911 of the principal descriptions of farm live stock in each province, with totals for the three provinces. For 1901 and 1911 the numbers and values are also given of the different descriptions of poultry.

## IV. Numbers of Farm Live Stock, 1901, 1906 and 1911, and Values 1901 and 1911.

| Description              | 1901      | 1906      | 1911      | 1901       | 1911        |
|--------------------------|-----------|-----------|-----------|------------|-------------|
|                          | No.       | No.       | No.       | \$         | \$          |
| Manitoba—                |           |           |           |            |             |
| Horses.....              | 163,867   | 215,819   | 280,374   | 15,763,463 | 47,199,063  |
| Milch cows.....          | 141,481   | 170,143   | 155,337   | 4,754,974  | 6,253,129   |
| Other horned cattle..... | 208,405   | 350,969   | 279,776   | 3,944,406  | 6,311,318   |
| Sheep.....               | 29,464    | 28,975    | 37,322    | 144,018    | 223,974     |
| Swine.....               | 126,459   | 200,509   | 188,416   | 871,627    | 1,604,277   |
| Turkeys.....             | 28,450    | —         | 79,639    |            |             |
| Geese.....               | 10,297    | —         | 28,472    |            |             |
| Ducks.....               | 24,381    | —         | 35,411    | 417,586    | 1,116,096   |
| Hens and chickens.....   | 1,098,920 | —         | 2,441,655 |            |             |
| Saskatchewan—            |           |           |           |            |             |
| Horses.....              | 83,891    | 240,566   | 507,400   | 6,406,665  | 88,813,811  |
| Milch cows.....          | 56,634    | 112,618   | 181,146   | 1,841,440  | 7,834,670   |
| Other horned cattle..... | 212,145   | 360,236   | 452,466   | 3,699,187  | 13,997,355  |
| Sheep.....               | 66,048    | 121,290   | 114,216   | 273,063    | 621,409     |
| Swine.....               | 27,847    | 123,916   | 286,295   | 183,807    | 2,512,540   |
| Turkeys.....             | 7,155     | —         | 72,616    |            |             |
| Geese.....               | 3,023     | —         | 22,999    |            |             |
| Ducks.....               | 8,181     | —         | 54,968    | 116,582    | 1,987,975   |
| Hens and chickens.....   | 277,085   | —         | 3,242,820 |            |             |
| Alberta—                 |           |           |           |            |             |
| Horses.....              | 92,661    | 226,534   | 407,153   | 4,609,332  | 56,438,516  |
| Milch cows.....          | 46,101    | 101,246   | 147,687   | 1,734,942  | 6,368,371   |
| Other horned cattle..... | 276,839   | 849,387   | 592,163   | 8,730,895  | 16,313,100  |
| Sheep.....               | 87,104    | 154,266   | 133,592   | 333,210    | 768,154     |
| Swine.....               | 46,069    | 114,623   | 237,510   | 255,562    | 1,996,628   |
| Turkeys.....             | 6,369     | —         | 67,151    |            |             |
| Geese.....               | 1,590     | —         | 19,653    |            |             |
| Ducks.....               | 4,147     | —         | 26,092    | 109,794    | 1,358,012   |
| Hens and chickens.....   | 238,040   | —         | 2,340,221 |            |             |
| Northwest provinces—     |           |           |           |            |             |
| Horses.....              | 340,329   | 682,919   | 1,194,927 | 26,779,460 | 192,451,390 |
| Milch cows.....          | 244,216   | 384,006   | 484,170   | 8,331,356  | 20,456,170  |
| Other horned cattle..... | 698,409   | 1,560,592 | 1,324,405 | 16,374,488 | 36,621,773  |
| Sheep.....               | 182,616   | 304,531   | 285,130   | 750,291    | 1,603,537   |
| Swine.....               | 200,373   | 439,048   | 712,221   | 1,310,986  | 6,112,446   |
| Turkeys.....             | 41,974    | —         | 219,406   |            |             |
| Geese.....               | 14,910    | —         | 71,124    |            |             |
| Ducks.....               | 36,709    | —         | 116,471   | 643,962    | 4,462,083   |
| Hens and chickens.....   | 1,614,045 | —         | 8,024,696 |            |             |

## GENERAL RESULTS.

From these tables may be obtained a fairly clear idea of the agricultural progress of the Northwest provinces during the last decade and during the last five years. Two crops especially have come into prominence during the decade. Fall wheat, the area of which was negligible in 1900, occupied in

Alberta 204,636 acres in 1910. Flaxseed, of which only 227 acres were sown in Saskatchewan in 1900, occupied 506,425 acres in 1910. And this acreage does not represent the actual area now annually sown, because, as shown in Bulletin ix, the area sown in 1911 was more than double this figure, or 1,136,157 acres. The total area under wheat in the three provinces, which was 2,495,474 acres in 1900 and 3,941,369 acres in 1905, has increased to 7,867,894 acres in 1910, an area more than three times in excess of 1900 and nearly double that of five years ago. The increase has been principally in Saskatchewan, which, with 4,228,222 acres, has become by far the largest wheat producer of the nine provinces. The bulk of the flax crop is also grown in this province. The increase in the wheat acreage of Manitoba is relatively small, and it will be noticed also that the total production of 1910 is smaller than that of 1905. This was owing to the poor yield of the season of 1910, caused by drouth, which accounts for the low yields per acre for that year as shown in Table III.

With regard to live stock, whilst the numbers in 1911 show for all descriptions great increases over 1901, it is only with regard to horses and swine that any similar increase is shown as compared with 1906. The increase in cattle is smaller than other figures would lead one to expect, and in the case of sheep there is actually a decline in numbers from 304,531 in 1906 to 285,130 in 1911. A large decrease is shown in the numbers of "other horned cattle" in Alberta during the last five years. This is attributable to the steady settlement of ranching areas, which is now in progress. The development of the poultry industry is remarkable, the total value having increased from \$643,962 in 1901 to \$4,462,083 in 1911.

As in all the other provinces there has been a considerable increase in the values of farm animals. For the three provinces the average value per head is for horses \$161.05 in 1911 against \$78.69 in 1901, for milch cows \$42.25 against \$34.11, for other horned cattle \$27.65 against \$23.47, for sheep \$5.62 against \$4.11, and for swine \$8.58 against \$6.54.

The cost of farm help has also greatly increased. In Manitoba the average wage for hired labour on farms was \$8.95 per week in 1910 compared with \$6.23 in 1900, an increase of 43 p.c.; in Saskatchewan the comparative figures are \$10.47 in 1910 and \$6.12 in 1900, an increase of nearly 72 p.c.; and in Alberta they are \$10.79 in 1910 and \$8.02 in 1900, an increase of 34.5 p.c.

## INSPECTION AND SHIPMENTS OF GRAIN, 1913.

According to the Weekly Report of December 22, 1913, of the Department of Trade and Commerce, the number of cars and total quantities in bushels of grain inspected at Winnipeg and other points in the western division for the three months ended November 30, 1913, compared with the corresponding period of each of the two previous years were as follows:



| Grain            | Three months ended<br>Nov. 30, 1911 |            | Three months ended<br>Nov. 30, 1912 |            | Three months ended<br>Nov. 30, 1913 |             |
|------------------|-------------------------------------|------------|-------------------------------------|------------|-------------------------------------|-------------|
|                  | cars                                | bush.      | cars                                | bush.      | cars                                | bush.       |
| Wheat .....      | 51,329                              | 55,178,675 | 56,690                              | 60,941,750 | 86,121                              | 96,886,125  |
| Oats .....       | 5,866                               | 11,145,400 | 8,745                               | 16,615,500 | 16,672                              | 32,510,400  |
| Barley .....     | 2,300                               | 2,760,000  | 4,703                               | 5,643,600  | 7,267                               | 9,447,100   |
| Flaxseed .....   | 1,367                               | 1,367,000  | 5,105                               | 5,105,000  | 6,196                               | 6,505,800   |
| Rye .....        | 2                                   | 2,400      | 2                                   | 2,400      | 22                                  | 22,000      |
| Screenings. .... | -                                   | -          | 1                                   | 1,200      | 107                                 | 107,000     |
| Total grain ..   | 60,864                              | 70,453,075 | 75,246                              | 88,309,450 | 116,385                             | 145,478,425 |

The shipments of grain from Fort William and Port Arthur for the three months ended November 30, 1913, were in bushels as follows, the figures within parentheses being those of the corresponding periods of 1912: Wheat 70,190,910 (45,258,283), oats 16,882,741 (9,083,798), barley 4,699,816 (2,725,679), flaxseed 4,660,653 (3,433,252), total 96,434,120 (60,501,012).

The above figures show that the large western grain crop of 1913 has been moved with extraordinary speed. The grain inspected during the three months amounted to 145,478,425 bushels, as compared with 88,309,450 bushels during the same period of 1912, whilst the shipments from Fort William and Port Arthur were 96,434,120 bushels, as compared with 60,501,012. Never in the history of the Canadian grain trade have the inspection and shipments during the three months ended November 30 been so large or so rapidly effected.

## THE NEW CUSTOMS TARIFF OF THE UNITED STATES. AGRICULTURAL PRODUCTS.

On October 3, 1913, the new Tariff Act of the United States passed and next day came into force. It makes great reductions in the rates of duties of numerous articles imported into the United States from foreign countries, and is likely to have important effects upon the future trading relations between Canada and the United States. The Act provides for a dutiable list in 14 schedules (A to N) and for a general free list.

The most important changes in respect of agricultural products are the placing upon the free list of the following items: cattle, sheep, swine, beef, veal, mutton, lamb, pork, bacon, hams, milk, cream, wool and agricultural implements. Wheat and potatoes are also made free to countries that admit these products free from the United States; otherwise the duties are 10 cents per bushel for wheat, and 10 per cent ad valorem for potatoes. The Canadian general tariff duties being 12 cents per bushel for wheat and 20 cents per bushel for potatoes, the United States duties consequently apply to these products when imported from Canada. For horses and mules the duty is fixed at 10 per cent ad valorem instead of \$30 per head for animals valued at \$150 or less, and 25 per cent ad valorem for animals valued at over \$150 per head.

In the following statements a selection is given of the chief Canadian agricultural products with the present United States duties, as compared with those of the old tariff, and of articles now placed on the United States free list with the duties previously imposed:

## I. ARTICLES SUBJECT TO DUTIES.

| Items   | New Tariff               | Old Tariff   |
|---|--------------------------|--|
| Horses and mules.....   | 10 p.c. ad valorem.....  | \$30 per head for animals valued at \$150 or less; 25 p.c. ad valorem for animals valued at over \$150 per head. |
| Wheat, wheat flour and semolina.....                                    | " ".....                 | 25 cents per bushel.   |
| Barley.....   | 15 cents per bushel..... | 30 " "   |
| Barley malt.....  | 25 " " of 34 lb.....     | 45 " of 34 lb.   |
| Oats.....   | 6 " ".....               | 15 " "   |
| Oatmeal and rolled oats.....  | 30 cents per 100 lb..... | \$1 per 100 lb.  |
| Oat hulls.....  | 8 " ".....               | 10 cents per 100 lb.   |
| Hay.....  | \$2 per ton.....         | \$4 per ton.   |
| Straw.....  | 50 cents per ton.....    | \$1.50 per ton.  |
| Beans.....  | 25 cents per bushel..... | 45 cents per bushel.   |
| Peas.....   | 10 " ".....              | 25 " "   |
| Potatoes.....   | 10 p.c. ad valorem.....  | 25 " "   |
| Vegetables in their natural state.....                                  | 15 p.c. ad valorem.....  | 25 p.c. ad valorem.  |
| Apples, peaches, quinces, cherries, plums and pears, green or ripe..... | 10 cents per bushel..... | 25 cents per bushel.   |
| Flaxseed.....   | 20 " ".....              | 25 " "   |
| Poultry, live.....  | 1 cent per lb.....       | 3 cents per lb.  |
| " dead.....   | 2 cents per lb.....      | 5 " "  |
| Butter.....   | 2½ cents per lb.....     | 6 " "  |
| Cheese.....   | 20 p.c. ad valorem.....  | 6 " "  |
| Honey.....  | 10 cents per gallon..... | 20 cents per gallon.   |
| Seeds, not specially provided for.....                                  | 5 cents per lb.....      | 10 cents per lb.   |
| Venison and other game.....   | 1½ cent per lb.....      | 1½ cent per lb.  |
| Game birds dressed.....   | 30 p.c. ad valorem.....  | Not specified.   |

## II. ARTICLES ON FREE LIST.

| New Tariff Free List  | Old Tariff   |
|---|--|
| Cattle.....   | \$2 per head if less than one year old; other cattle \$3.75 per head if valued at not more than \$14, 27½ p.c. ad valorem if valued at more than \$14.         |
| Sheep.....  | One year old and over \$1.50, less than one year old 75 cents per head.  |
| Swine.....  | 20 p.c. ad valorem.  |
| Agricultural implements.....  | 15 p.c. ad valorem for certain implements named, except when imported from a country imposing no tax or duty on U. S. implements, when they are admitted free. |
| Broom corn.....   | \$3 per ton.   |
| Buckwheat.....  | 15 cents per bushel.   |
| Buckwheat flour.....  | 25 p.c. ad valorem.  |
| Corn.....   | 15 cents per bushel.   |
| Cornmeal.....   | 40 cents per 100 lb.   |
| Eggs.....   | Free.  |
| Flax straw.....   | \$5 per ton.   |
| Meats: Fresh beef, veal, mutton, lamb.....  | 1½ cent per lb.  |
| Bacon and hams.....   | 4 cents per lb.  |
| Meats prepared or preserved: admitted subject to U. S. regulations as to wholesome character..... | 25 p.c. ad valorem.  |
| Milk.....   | 2 cents per gallon.  |
| Cream.....  | 5 " "  |
| Rye.....  | 10 cents per bushel.   |
| Rye flour.....  | ½ cent per lb.   |
| Wool.....   | From 4 to 12 cents per lb., according to class.  |
| Wool wastes.....  | " 10 to 30 " "   |

The abolition of the duties on cattle has already resulted in large purchases of Canadian animals by United States buyers, and the consequent depletion of promising young stock in Canada, so far as effected by this export trade, is generally looked upon with apprehension. On the other hand the placing of wool upon the United States free list appears to be giving a desirable impetus to the sheep breeding industry in Canada. A large increase in the number of Canadian flocks on western farms and in British Columbia is looked for in the near future.

Section 11 of the Act provides for the imposition of graduated income taxes, which may be regarded as a new departure in United States fiscal practice, since although such taxes were imposed and collected at the time of the Civil War, and were enacted also during the Cleveland Administration, they have not hitherto been a constant source of public revenue. Indeed it was doubtful whether such taxes were constitutionally legal, and in connection with the new tariff a special amendment was made last year in the United States Federal Constitution, with a view to remove all doubt upon the subject. The new income taxes are imposed of course as an offset against the loss of revenue due to the reduction of duties on imports; consequently there is a transition in the United States from indirect to direct taxation. It is generally understood that the Act of 1913 is but a first step towards more complete adoption of the new policy, and the future will determine how far in the same direction the United States will eventually travel.

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**Vintage of Ontario, 1913.** The production of grapes, the growth of which for commercial purposes is limited to Ontario, amounted in 1913 to 36,000 short tons, an average of about  $3\frac{1}{4}$  tons per acre. In the counties of Wentworth, Wellington and Lincoln there were in 1913, according to the statistics of the Ontario Department of Agriculture, 8,889 acres of vineyard, and it is usually estimated that about one third of the product of these vineyards is made into wine.

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**Production of Canadian Beetroot Sugar, 1913.** It is estimated by the Census and Statistics Office that the total quantity of raw sugar manufactured in 1913 from Canadian grown sugar beet was 27,232,124 lb. There are three sugar beet factories in Canada, situated at Wallaceburg and Berlin in Ontario and at Raymond in Alberta.

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**Ventilation of Cow Byres.** Many of the farmers around here keep their stables too damp. Last year I secured ventilation by cutting, at the head of each animal, a hole eight inches square and covering it with a piece of cloth. The dampness then disappeared, and I have found that my cattle are much stronger and bigger, and that my cows give more milk than in the previous year.—EDOUARD LAVOIE, Mont Carmel, Kamouraska, Quebec.

## THE WEATHER DURING NOVEMBER AND DECEMBER<sup>1</sup>.

**November.** The temperature was unusually high over the larger portion of the Dominion. In the prairie provinces the mean was from 5° to 9° above normal nearly everywhere, in Ontario from 4° to 7° and in Quebec from 4° to 5°. In southwestern British Columbia, however, and in southern Vancouver Island, as well as locally in the interior of the province, temperatures were from 1° to 2° below normal. In the Maritime provinces the positive departure was nowhere much over 2°, while in northern New Brunswick and in Cape Breton a negative departure was recorded. The precipitation for the month was greatly below normal nearly everywhere in the prairie provinces, the amount being only from 5 to 30 p.c. of the usual quantity in Alberta and Saskatchewan. In eastern Manitoba there was likewise a deficiency, while in the western part of that province there was a slight excess. In Ontario there was an excess, except in parts of the St. Lawrence and Ottawa valleys, where there was a negative departure. In western Quebec about two-thirds of the normal precipitation occurred, while in eastern Quebec and the Maritime provinces the amount was only from 25 to 50 p.c. of the normal. Snow, which fell on one or two occasions in all the provinces, was quite heavy on the western slope of the peninsula of Ontario.

**December.** Exceptionally mild weather prevailed during December throughout Canada, with a resultant mean temperature above the average in all districts. In the Yukon the mean temperature was about 4° in excess of the average, and in British Columbia the departure was generally about 2°. From Alberta to Quebec the divergence was from 4° to 12° and in the Maritime provinces about 2°. Precipitation was considerably in defect over practically the whole of the Dominion during December, but in the vicinity of Dawson and Halifax the amount recorded was slightly in excess of the average. In parts of the western provinces no precipitation occurred during the month, and elsewhere the fall was a very small fraction of the usual amount. At the close of the month the amount of snow on the ground was much less than usual at that time of the year. In British Columbia the higher levels were snow-covered to a comparatively slight extent, while the lower levels were practically bare. In Manitoba the depth was generally about two inches, but elsewhere in the western provinces there was either no snow or only a trace. In northern and eastern Ontario there was a depth of from two to twelve inches, and Quebec was snow-covered to a depth of from nine to fourteen inches. In the Maritime provinces Nova Scotia was bare of snow, Prince Edward Island had a depth of about two inches and New Brunswick from two to eight inches.

In British Columbia unusually mild conditions, with a very deficient precipitation, were the features of December in this province. Exceptionally mild weather, with a very deficient precipitation, marked the weather of December in the western provinces. The snowfall was very small, and

<sup>1</sup> From the Weather Maps of the Dominion Meteorological Service.



in some districts no snow fell during the month. In Ontario mean temperatures were generally about 6° above average and precipitation was considerably in defect. The month was one of the mildest and driest Decembers on record. At the close of the month there was practically no snow on the ground in southwestern districts, and elsewhere the depth was from two to twelve inches. In Quebec mild, cloudy weather with occasional snowfalls prevailed. At the close of the month the ground was everywhere snow-covered, the depth being about ten inches in most localities. In the Maritime provinces mild weather prevailed during the greater part of the month.

## PRICES OF COLONIAL AND FOREIGN PRODUCE IN BRITISH MARKETS, 1913.

WHEAT (per bushel of 60 lb.)

| Description                 | Nov. 3 |        | Nov. 10 |        | Nov. 17 |        | Nov. 24 |        |
|-----------------------------|--------|--------|---------|--------|---------|--------|---------|--------|
|                             | \$ c.  | § c.   | \$ c.   | § c.   | \$ c.   | § c.   | \$ c.   | § c.   |
| Canadian, 1913, No. 1       | 1 01½  | -1 04½ | 1 03½   | -1 05½ | 1 03½   | -1 05½ | 1 06    | -1 08½ |
| " No. 2                     | 0 98½  | -1 01½ | 1 00½   | -1 03  | 1 00½   | -1 03  | 1 03    | -1 06  |
| " No. 3                     | 0 95½  | -0 98½ | 0 97½   | -1 00½ | 0 97½   | -1 00½ | 1 00½   | -1 03  |
| " No. 4                     | 0 92½  | -0 95½ | 0 94    | -0 97½ | 0 94    | -0 97½ | 0 97½   | -1 00½ |
| American, 1913, best spring | 1 01½  | -1 03½ | 1 03    | -1 06  | 1 03    | -1 06  | 1 04½   | -1 07½ |
| " ordinary spring           | 0 98½  | -1 00  | 0 97½   | -1 00½ | 0 97½   | -1 00½ | 0 97½   | -1 01½ |
| " red winter                | 1 00½  | -1 03  | 1 00½   | -1 03  | 1 00½   | -1 03  | 1 01½   | -1 04½ |
| " hard winter               | 0 97½  | -1 00½ | 0 97½   | -1 00½ | 0 97½   | -1 00½ | 0 98½   | -1 01½ |
| New Zealand                 | 1 06   | -1 08½ | 1 06    | -1 08½ | -       | -      | -       | -      |
| Australian                  | 1 08½  | -1 10½ | 1 08½   | -1 10½ | 1 08½   | -1 10½ | 1 09½   | -1 11½ |
| Russian, fine               | 1 01½  | -1 04½ | 1 00½   | -1 03  | 1 00½   | -1 03  | 1 00½   | -1 03  |
| " good                      | 0 95½  | -0 98½ | 0 94    | -0 97½ | 0 94    | -0 97½ | 0 94    | -0 97½ |
| " common                    | 0 92½  | -0 95½ | 0 91½   | -0 94  | 0 91½   | -0 94  | 0 91½   | -0 94  |
| Californian                 | 1 09½  | -1 12½ | 1 09½   | -1 12½ | 1 09½   | -1 12½ | 1 09½   | -1 12½ |
| Blue Stem                   | 1 08½  | -1 11½ | 1 08½   | -1 11½ | 1 08½   | -1 11½ | 1 08½   | -1 11½ |
| White Walla                 | 1 08½  | -1 09½ | 1 08½   | -1 09½ | 1 08½   | -1 09½ | 1 08½   | -1 09½ |
| Red Walla                   | 1 06½  | -1 08½ | 1 06½   | -1 08½ | 1 06½   | -1 08½ | 1 06½   | -1 08½ |
| White Bombay                | 1 06   | -1 06½ | 1 07½   | -1 08½ | 1 08½   | -1 09½ | 1 10½   | -1 11½ |
| " Calcutta                  | 1 03½  | -1 05½ | 1 05½   | -1 06½ | 1 06½   | -1 09½ | 1 07½   | -1 08½ |
| " Karachi                   | 1 03½  | -1 05½ | 1 05½   | -1 06½ | 1 06½   | -1 09½ | 1 07½   | -1 08½ |
| Red Karachi                 | 1 03½  | -1 04½ | 1 05½   | -1 06  | 1 06½   | -1 09½ | 1 07½   | -1 08½ |
| Argentine                   | 1 03   | -1 04½ | 1 03    | -1 04½ | 1 03    | -1 09½ | 1 06    | -1 07½ |
| Chilian                     | 1 06   | -1 08½ | 1 06    | -1 08½ | -       | -      | -       | -      |

OATS (per bushel of 34 lb.)

| Description  | Nov. 3 |        | Nov. 10 |        | Nov. 17 |        | Nov. 24 |        |
|--------------|--------|--------|---------|--------|---------|--------|---------|--------|
|              | \$ c.  | § c.   | \$ c.   | § c.   | \$ c.   | § c.   | \$ c.   | § c.   |
| Canadian     | 0 47½  | -0 50½ | 0 47½   | -0 50½ | 0 47½   | -0 50½ | 0 49½   | -0 51½ |
| Patia Blanca | 0 43½  | -0 44½ | 0 45½   | -0 46½ | 0 45½   | -0 46½ | 0 47    | -0 47½ |
| Buenos Aires | 0 42   | -0 42½ | 0 42½   | -0 43½ | 0 43½   | -0 45½ | 0 44½   | -0 47  |
| German       | 0 53   | -0 55½ | 0 53    | -0 55½ | 0 53    | -0 55½ | 0 54½   | -0 56½ |
| Russian      | 0 53   | -0 55½ | 0 53    | -0 55½ | 0 53    | -0 55½ | 0 54½   | -0 56½ |

## FLOUR (per sack of 280 lb.)

| Description                     | Nov. 3 |        | Nov. 10 |        | Nov. 17 |        | Nov. 24 |        |
|---------------------------------|--------|--------|---------|--------|---------|--------|---------|--------|
|                                 | \$ c.  | \$ c.  | \$ c.   | \$ c.  | \$ c.   | \$ c.  | \$ c.   | \$ c.  |
| Canadian patents.....           | 6 57   | - 6 63 | 6 57    | - 6 63 | 6 57    | - 6 63 | 6 63    | - 6 69 |
| " straights.....                | 6 33   | - 6 39 | 6 33    | - 6 39 | 6 33    | - 6 39 | 6 39    | - 6 45 |
| " first bakers'.....            | 6 08   | - 6 14 | 6 08    | - 6 14 | 6 08    | - 6 14 | 6 14    | - 6 20 |
| " second ".....                 | 5 59   | - 5 65 | 5 59    | - 5 65 | 5 59    | - 5 65 | 5 65    | - 5 72 |
| American: Pillsbury's Best..... | 6 75   | - 6 81 | 6 75    | - 6 81 | 6 75    | - 6 81 | 6 81    | - 6 87 |
| Iron Duke.....                  | 6 08   | - 6 20 | 6 08    | - 6 20 | 6 08    | - 6 20 | 6 14    | - 6 27 |
| Minnesota firsts....            | 6 75   | - 6 87 | 6 75    | - 6 87 | 6 75    | - 6 87 | 6 63    | - 6 87 |
| Straights.....                  | 6 33   | - 6 45 | 6 33    | - 6 45 | 6 33    | - 6 45 | 6 39    | - 6 51 |
| Minneapolis firsts.....         | 6 57   | - 6 63 | 6 57    | - 6 63 | 6 57    | - 6 63 | 6 63    | - 6 87 |
| Duluth firsts.....              | 6 51   | - 6 69 | 6 51    | - 6 69 | 6 51    | - 6 69 | 6 57    | - 6 75 |
| First patents spring.....       | 6 81   | - 6 93 | 6 81    | - 6 93 | 6 81    | - 6 93 | 6 83    | - 7 00 |
| Second ".....                   | 6 57   | - 6 69 | 6 67    | - 6 69 | 6 57    | - 6 69 | 6 63    | - 6 75 |
| First bakers' spring.....       | 6 08   | - 6 20 | 6 08    | - 6 20 | 6 08    | - 6 20 | 6 20    | - 6 27 |
| Second ".....                   | 5 59   | - 5 72 | 5 59    | - 5 72 | 5 59    | - 5 72 | 5 65    | - 5 78 |
| Top grade winter.....           | 6 57   | - 6 69 | 6 57    | - 6 69 | 6 57    | - 6 69 | 6 63    | - 6 75 |
| Good patents ".....             | 6 33   | - 6 45 | 6 33    | - 6 45 | 6 33    | - 6 45 | 6 39    | - 6 51 |
| Ordinary " ".....               | 6 20   | - 6 33 | 6 20    | - 6 33 | 6 20    | - 6 33 | 6 27    | - 6 39 |
| First bakers' ".....            | 6 08   | - 6 20 | 6 08    | - 6 20 | 6 08    | - 6 20 | 6 14    | - 6 27 |
| Common ".....                   | 5 59   | - 5 84 | 5 59    | - 5 84 | 5 59    | - 5 84 | 5 65    | - 5 90 |
| Californian.....                | 7 30   | - 7 79 | 7 30    | - 7 79 | 7 30    | - 7 79 | 7 30    | - 7 79 |
| Hungarian.....                  | 9 00   | - 9 25 | 9 00    | - 9 25 | 9 00    | - 9 25 | 9 00    | - 9 25 |
| Australian.....                 | 6 57   | - 6 69 | 6 57    | - 6 69 | 6 57    | - 6 69 | 6 57    | - 6 69 |
| French.....                     | 7 54   | - 7 97 | 7 30    | - 7 54 | 7 30    | - 7 54 | 7 30    | - 7 54 |
| Belgian.....                    | 7 91   | - 8 03 | 7 06    | - 7 54 | 7 06    | - 7 54 | 7 06    | - 7 54 |
| Galatz.....                     | 8 27   | - 8 76 | 8 27    | - 8 52 | 8 27    | - 8 52 | 8 37    | - 8 52 |

## CHEESE (per cwt. of 100 lb.)

| Description and market | Nov. 5 |         | Nov. 12 |         | Nov. 19 |         | Nov. 26 |         |
|------------------------|--------|---------|---------|---------|---------|---------|---------|---------|
|                        | \$ c.  | \$ c.   | \$ c.   | \$ c.   | \$ c.   | \$ c.   | \$ c.   | \$ c.   |
| Canadian—              |        |         |         |         |         |         |         |         |
| Bristol.....           | 14 12  | - 13 69 | 14 23   | - 13 69 | 14 34   | - 13 80 | 14 34   | - 13 80 |
| Liverpool.....         | 14 12  | - 13 58 | 14 23   | - 13 80 | 14 34   | - 13 80 | 14 34   | - 13 80 |
| London.....            | 14 34  | - 14 12 | 14 34   | - 14 12 | 14 56   | - 14 34 | 14 56   | - 14 34 |
| Glasgow.....           | 14 34  | -       | 14 34   | -       | 14 34   | -       | 14 56   | -       |
| New Zealand—           |        |         |         |         |         |         |         |         |
| London.....            | -      | -       | 13 90   | - 13 69 | 13 90   | - 13 69 | 14 12   | - 13 90 |

NOTE.—The prices of grain are from The Market Supplements to the Mark Lane Express. The prices of meat and dairy produce are from the British official returns. Rate of conversion from English currency: £1=84.86.

## FRESH MEATS (per cwt. of 100 lb.)

| Description and market           | Nov. 5  | Nov. 12 | Nov. 19 | Nov. 26 |
|----------------------------------|---------|---------|---------|---------|
|                                  | \$ cts. | \$ cts. | \$ cts. | \$ cts. |
| Argentine, frozen—               |         |         |         |         |
| Birmingham. { hind qrs. ....     | 9 38    | 9 38    | 9 38    | 9 63    |
| { fore qrs. ....                 | 7 35    | 7 86    | 7 86    | 8 11    |
| Leeds. .... { hind qrs. ....     | 9 63    | 9 63    | 9 63    | 9 63    |
| { fore qrs. ....                 | 7 35    | 7 86    | 7 86    | 8 11    |
| Liverpool. .... { hind qrs. .... | 9 63    | 9 63    | 9 63    | 9 63    |
| { fore qrs. ....                 | 7 60    | 7 60    | 7 60    | 8 11    |
| London. .... { hind qrs. ....    | 9 12    | 9 12    | 9 12    | 9 12    |
| { fore qrs. ....                 | 6 84    | 6 84    | 7 60    | 7 86    |
| Manchester.. { hind qrs. ....    | 9 63    | 9 63    | 9 63    | 9 63    |
| { fore qrs. ....                 | 7 60    | 7 60    | 7 60    | 8 11    |
| Dundee. .... { hind qrs. ....    | 9 18    | 9 64    | 9 64    | 9 64    |
| { fore qrs. ....                 | 7 35    | 7 85    | 7 85    | 7 85    |
| Edinburgh... { hind qrs. ....    | 9 12    | 9 64    | 9 18    | 9 64    |
| { fore qrs. ....                 | 7 10    | 7 60    | 7 85    | 8 11    |
| Glasgow. .... { hind qrs. ....   | 8 87    | 8 87    | 8 87    | 8 87    |
| { fore qrs. ....                 | 6 85    | 7 10    | 7 10    | 7 60    |
| Argentine, chilled—              |         |         |         |         |
| Birmingham. { hind qrs. ....     | 11 40   | 11 15   | 10 14   | 10 39   |
| { fore qrs. ....                 | 7 60    | 7 35    | 7 86    | 8 11    |
| Leeds. .... { hind qrs. ....     | 11 15   | 10 39   | 10 14   | 10 14   |
| { fore qrs. ....                 | 7 35    | 7 35    | 7 35    | 8 11    |
| Liverpool. .... { hind qrs. .... | 11 15   | 10 14   | 10 65   | 10 14   |
| { fore qrs. ....                 | 7 60    | 7 04    | 7 60    | 8 11    |
| London. .... { hind qrs. ....    | 11 65   | 10 65   | 10 65   | 10 65   |
| { fore qrs. ....                 | 7 85    | 7 60    | 8 11    | 8 37    |
| Manchester.. { hind qrs. ....    | 11 15   | 10 14   | 10 65   | 10 14   |
| { fore qrs. ....                 | 7 00    | 7 04    | 7 60    | 8 11    |
| Dundee. .... { hind qrs. ....    | 11 66   | 11 66   | 10 65   | 10 65   |
| { fore qrs. ....                 | 7 60    | 7 60    | 8 11    | 8 62    |
| Edinburgh... { hind qrs. ....    | 11 66   | 11 42   | 10 41   | 10 14   |
| { fore qrs. ....                 | 7 60    | 7 60    | 7 85    | 8 11    |
| Glasgow. .... { hind qrs. ....   | 11 66   | 10 65   | 10 65   | 10 65   |
| { fore qrs. ....                 | 7 60    | 7 60    | 8 11    | 8 62    |
| Australian, frozen—              |         |         |         |         |
| Birmingham. { hind qrs. ....     | 9 12    | 9 12    | 9 12    | 9 12    |
| { fore qrs. ....                 | 7 35    | 7 60    | 7 86    | 8 11    |
| Leeds. .... { hind qrs. ....     | 8 62    | 9 12    | 9 12    | 8 87    |
| { fore qrs. ....                 | 6 84    | 7 86    | 7 60    | 8 11    |
| Liverpool. .... { hind qrs. .... | 8 62    | 8 62    | 8 62    | 8 62    |
| { fore qrs. ....                 | 7 04    | 7 60    | 7 60    | 7 60    |
| London. .... { hind qrs. ....    | 9 12    | 9 12    | 9 12    | 9 12    |
| { fore qrs. ....                 | 6 84    | 6 84    | 7 60    | 7 86    |
| Manchester.. { hind qrs. ....    | 9 12    | 8 62    | 8 62    | 8 62    |
| { fore qrs. ....                 | 6 84    | 7 60    | 7 60    | 7 60    |
| Glasgow. .... { hind qrs. ....   | 8 62    | 8 62    | 8 62    | 8 62    |
| { fore qrs. ....                 | 7 10    | 7 10    | 7 60    | 7 60    |

## GREEN BACON (per cwt. of 100 lb.)

| Description and market   | Nov. 5 |       | Nov. 12 |       | Nov. 19 |       | Nov. 26 |       |
|--------------------------|--------|-------|---------|-------|---------|-------|---------|-------|
|                          | \$ c.  | \$ c. | \$ c.   | \$ c. | \$ c.   | \$ c. | \$ c.   | \$ c. |
| Canadian sides—          |        |       |         |       |         |       |         |       |
| Bristol.....             | 15 64  | 15 21 | 14 99   | 14 56 | 15 43   | 14 99 | 15 21   | 14 77 |
| Liverpool.....           | 14 77  | 14 34 | 14 77   | 14 34 | 14 99   | 14 26 | 14 99   | 14 56 |
| London.....              | 14 99  | 14 34 | 14 77   | 14 34 | 14 99   | 14 34 | 15 43   | 14 99 |
| Glasgow.....             | 14 77  | 14 56 | 14 77   | 14 56 | 15 43   | 15 21 | 15 43   | 15 21 |
| Canadian Cumberland cut— |        |       |         |       |         |       |         |       |
| Liverpool.....           | 16 51  | 15 86 | 16 51   | 15 86 | 16 95   | 16 29 | 16 95   | 16 29 |
| Glasgow.....             | 16 51  | 16 08 | 16 51   | 16 08 | 16 51   | 16 08 | 16 51   | 16 08 |
| Danish sides—            |        |       |         |       |         |       |         |       |
| Bristol.....             | 16 08  | 15 64 | 15 43   | 14 77 | 15 86   | 15 21 | 16 08   | 15 43 |
| Liverpool.....           | 15 21  | 14 56 | 15 43   | 14 77 | 15 86   | 15 21 | 15 64   | 14 99 |
| London.....              | 15 43  | 14 56 | 15 43   | 14 99 | 16 29   | 15 21 | 16 29   | 15 86 |

## GREEN HAMS (per cwt. of 100 lb.)

|                     |       |       |       |       |       |       |       |       |
|---------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Canadian long cut—  |       |       |       |       |       |       |       |       |
| Bristol.....        | 17 38 | 16 95 | 17 38 | 16 95 | 17 38 | 16 95 | 17 38 | 16 95 |
| Liverpool.....      | 16 73 | 15 21 | 16 73 | 15 21 | 16 73 | 15 21 | 17 17 | 15 21 |
| London.....         | 17 81 | 17 38 | 17 38 | 16 95 | 17 38 | 16 95 | 17 38 | 16 95 |
| Glasgow.....        | 16 51 | 16 08 | 16 51 | 16 08 | 16 51 | 16 08 | 16 51 | 16 08 |
| American long cut—  |       |       |       |       |       |       |       |       |
| Bristol.....        | 16 08 | 15 21 | 16 08 | 14 99 | 16 51 | 15 43 | 16 08 | 15 43 |
| Liverpool.....      | 15 21 | 14 67 | 15 21 | 14 67 | 15 21 | 14 67 | 15 21 | 14 12 |
| London.....         | -     | 16 08 | -     | 16 08 | -     | 16 08 | -     | 16 08 |
| Glasgow.....        | 14 99 | -     | 14 77 | -     | 14 77 | -     | 14 77 | -     |
| American short cut— |       |       |       |       |       |       |       |       |
| Bristol.....        | 15 64 | 15 21 | 15 64 | 14 99 | 15 64 | 14 99 | 15 64 | 14 77 |
| Liverpool.....      | 15 32 | 14 67 | 15 32 | 14 67 | 15 32 | 14 45 | 15 32 | 14 23 |
| London.....         | 15 64 | 14 77 | 15 64 | 14 77 | 16 29 | 15 64 | 16 08 | 15 64 |
| Glasgow.....        | 14 99 | -     | 14 77 | -     | 14 77 | -     | 14 77 | -     |

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