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CANADA

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DUTIES OF CROP CORRESPONDENTS OF THE DOMINION BUREAU OF STATISTICS IN REPORTING ON THE FIELD CROPS OF CANADA.

1. Object of the Canadian Crop-Reporting Service.—The voluntary annual Crop-reporting Service of the Dominion Bureau of Statistics, which has been in operation since 1908, has for its object the issue of accurate, timely and independent reports on crop conditions throughout the Dominion: first, in the interests of the general body of Canadian farmers; secondly, for the information and guidance of other interests allied to and dependent upon agriculture (interests represented by statesmen, economists, bankers, grain dealers and others) and thirdly for reporting to the Institute of Agriculture at Rome (to which Canada is an adhering country) in return for reports on the production of other countries and of world totals which influence prices and consequently affect the interests of Canada.

2. Its Voluntary Character.—The work is essentially of an honorary and voluntary character, and is undertaken by Correspondents in the general interests of agriculture. No money payments are made to Crop Correspondents for the valuable services they render. At the same time, the Dominion Bureau of Statistics does all in its power to acknowledge the value of the work thus voluntarily undertaken by its Correspondents. A bound copy of the Canada Year Book is mailed annually to Correspondents desiring same, the Monthly Bulletin of Agricultural Statistics is mailed monthly free to every Correspondent, and from time to time efforts are made to place at the disposal of the Correspondents free copies of any special agricultural Government publications that are likely to be of use to them. The free publications of the Department of Agriculture are also available for their use.

3. Nature and Scope of the Work.—The Crop-Reporting season begins with the month of April with reports on the winter-killing and condition of fall wheat and of hay and clover. Thereafter, monthly reports are collected at the end of each month on the condition of field crops, whilst in May and June the reports of Crop Correspondents are used for the estimation of areas sown. Subsequently, reports are collected on average yields per acre, local values, stocks on hand, etc. Each Correspondent is expected to report for his immediate district without going too far afield to obtain special information.

4. Estimation of Areas Sown to Field Crops.—At the end of May and again at the end of June, Correspondents are asked to estimate for their respective districts the increase or decrease per cent in the areas

sown to the principal field crops as compared with the previous year. The returns received from the Correspondents are compiled by the Dominion Bureau of Statistics into averages, which when applied to the sown areas, as definitely established for the previous year, give the estimated areas sown for the current year. Hitherto, the figures obtained in this manner have been the only ones available during the intervals of the recurring censuses for estimating annually the areas and yields of the field crops of Canada; but with the year 1918 an improved system was put into operation for the collection annually in June, in co-operation with the Provincial Governments, of returns from individual farmers throughout Canada on cardboard schedules distributed as widely as possible, in most cases through the Rural School Teachers. The aim is ultimately to secure an annual return of areas sown to field crops and of the numbers of farm live stock from every farmer in the Dominion, and the present practice is to estimate the total areas and the total numbers of live stock on the basis of the replies actually received. Owing to the heavy work of compiling the large number of returns thus made, the results cannot be completed until towards the end of the season. Meanwhile, the present preliminary (May) and revised (June) estimates made by the help of Crop Correspondents serve as indications of immediate value, but to be replaced later by the results of the wider, more complete and more accurate inquiry.

5. Condition of Field Crops during Growth.—Another important part of the work of the Crop Correspondents of the Dominion Bureau of Statistics is the return during the season of growth of reports on the condition of field crops at the end of every month. These reports give a general idea of the influence of the season upon the crops and the prospects of the yield at harvest time. They are made in the form of general remarks and are also expressed numerically by a method which permits of easy comparison with previous months or years. The results of the compilation of the reports received from Correspondents are published as soon as ready, and are also cabled to the International Institute of Agriculture at Rome.

6. Method of Numerically Expressing the Condition of Field Crops.—The method now adopted for expressing numerically the condition of field crops is that which is recommended by the International Institute of Agriculture to all adhering countries. This method consists in the use of a percentage scale in which the number 100 represents the annual average yield per acre as ascertained by the records of the previous ten years, and Correspondents are asked to judge whether the appearance of the crops at a given date indicates the promise of a yield per acre greater or less than this average. For example, if the average yield per acre of wheat in the district of the Correspondent is, say, 20 bushels, and the appearance of the crop on June 30 is so much above average as to warrant the expectation of a crop of 21 bushels to the acre, 20 bushels being represented by the number 100, 21 bushels will be represented by $105 \left(\frac{21 \times 100}{20} = 105 \right)$. Similarly, if the crop is below average and the yield is expected to be only 19 bushels, the percentage reported will be $95 \left(\frac{19 \times 100}{20} = 95 \right)$. In practice, the calculations of the Correspondent will be shorter than this. Having formed a clear idea of the average yield in his locality he will be able from the appearance of the crop to judge within reasonable limits the percentage above or below the average and will report accordingly. With a view to

enable Correspondents to judge of the average yield of each crop in their respective districts, the average yields per acre of the principal field crops for each province, calculated from the data furnished by Crop Correspondents for the ten years 1909 to 1918, is given on page 4 (Appendix I). Each Correspondent on referring to this statement will be able to judge whether the average yield in his own district is more or less than the average given for his province, and will adjust his report to the average thus arrived at.

7. Influence of the Weather upon the Wheat Crop.—By arrangements made with the Dominion Meteorological Office, Correspondents are asked to report their observations on the influence of the weather upon the wheat crop in a systematic manner, and during the growing season the schedules issued will call for reports respecting wheat on (1) the date of appearance above ground; (2) the date of first general sowing; (3) the dates of heading, flowering and reaching of milk stage and (4) the date of first cutting, the date when cutting is general and the date of completion of cutting. The replies of Correspondents to these questions will be summarized for publication in the Monthly Bulletin of Agricultural Statistics, and will also be communicated to the Dominion Meteorological Office for the purposes of special studies undertaken by the new Branch of Agricultural Meteorology. The results of these studies will be available for publication in the Monthly Bulletin of Agricultural Statistics. It is anticipated that they will throw considerable light upon the influence of the weather upon crop growth, and may also in time furnish to farmers valuable guidance of a practical character.

8. Estimation of Yields per acre of Field Crops.—An important part of the duties entrusted to Crop Correspondents consists in the annual estimation of the yields per acre of all field crops in their respective districts. These estimates are called for five times: (1) at the end of July for fall wheat, hay and clover and alfalfa; (2) at the end of August for spring sown grains (wheat, rye, oats, barley, flax); (3) at the end of September for all grain crops; (4) at the end of October for root and fodder crops and finally (5) after threshing in December for all grain crops. They are compiled into averages by provinces and for Canada, and the averages, multiplied by the areas sown, give the preliminary, provisional and final estimates of total yield as published by the Dominion Bureau of Statistics and cabled to the International Institute of Agriculture at Rome. Under the new system for the collection of areas sown, these estimates of average yields per acre lose none of their importance, and when co-ordinated with similar averages obtained by the Provincial Governments, are used for making the final estimates of total yield.

9. Agricultural Values.—In October, for root and fodder crops, in December, for grain crops, and in January, for land, farm live stock, wool and farm help, Correspondents are requested to report on local farm values. Their reports are compiled into provincial and Dominion averages, which are not only of interest and value in themselves, especially for comparative purposes, but also enable the Dominion Bureau of Statistics to calculate and publish total values of field crops and of live stock which are indispensable to agricultural, banking and commercial interests.

10. Miscellaneous.—Other reports furnished annually by the Crop Correspondents of the Bureau comprise those relating to the sowing of fall wheat, the proportion of ploughing completed in the fall and the area summer-fallowed (October); the prices and quality of grain crops (December); the stocks of field crops in farmers' hands and the propor-

tions of merchantable quality (March); winter killing and the progress of spring sowing (April) and the quantity of wheat, oats and barley in farmers' hands at the end of the crop year on August 31 (August). The general scheme of Crop-Reporting for the complete year is given on page 6 (Appendix II).

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APPENDIX I.

Annual Average Yields per acre of Field Crops, for Canada and by Provinces, for the ten years 1909-1918.

Crops.	Ten-year average 1909-18.	Crops.	Ten-year average 1909-18.
	bush. per acre.		bush. per acre.
Canada—		New Brunswick—	
Fall wheat.....	22.50	Spring wheat.....	18.25
Spring wheat.....	17.75	Oats.....	28.75
All wheat.....	18.25	Barley.....	25.75
Oats.....	34.50	Peas.....	19.00
Barley.....	26.75	Beans.....	22.00
Rye.....	17.50	Buckwheat.....	24.00
Peas.....	16.25	Mixed grains.....	31.00
Beans.....	16.75	Potatoes.....	186.00
Buckwheat.....	22.00	Turnips, etc.....	346.00
Mixed grains.....	33.75		tons.
Flax.....	10.00	Hay and clover.....	1.50
Corn for husking.....	52.75	Fodder corn.....	7.00
Potatoes.....	149.50	Quebec—	bush.
Turnips, etc.....	362.25	Spring wheat.....	16.50
	tons.	Oats.....	26.75
Hay and clover.....	1.50	Barley.....	23.25
Fodder corn.....	9.00	Rye.....	16.00
Sugar beets.....	9.00	Peas.....	12.25
Alfalfa.....	2.50	Beans.....	17.00
Prince Edward Island—	bush.	Buckwheat.....	22.00
Spring wheat.....	19.00	Mixed grains.....	26.25
Oats.....	34.75	Flax.....	10.25 ¹
Barley.....	28.00	Corn for husking.....	23.50
Peas.....	21.00	Potatoes.....	143.50
Buckwheat.....	26.50	Turnips, etc.....	289.00
Mixed grains.....	40.75		tons.
Potatoes.....	190.00	Hay and clover.....	1.50
Turnips, etc.....	483.50	Fodder corn.....	8.25
	tons.	Alfalfa.....	2.50 ¹
Hay and clover.....	1.50	Ontario—	bush.
Fodder corn.....	10.25	Fall wheat.....	22.75
Nova Scotia—	bush.	Spring wheat.....	19.75
Spring wheat.....	21.25	All wheat.....	22.25
Oats.....	32.00	Oats.....	35.25
Barley.....	26.50	Barley.....	30.25
Rye.....	18.00	Rye.....	17.50
Peas.....	25.75	Peas.....	16.75
Beans.....	19.75	Beans.....	16.50
Buckwheat.....	23.75	Buckwheat.....	21.25
Mixed grains.....	33.75	Mixed grains.....	36.00
Potatoes.....	190.25	Flax.....	14.00 ¹
Turnips, etc.....	413.75	Corn for husking.....	56.25
	tons.	Potatoes.....	122.25
Hay and clover.....	1.75	Turnips, etc.....	287.50
Fodder corn.....	8.25		tons.
Alfalfa.....	3.25	Hay and clover.....	1.50

Crops.	Ten-year average 1909-18.	Crops.	Ten-year average 1909-18.
	tons. per acre.		tons. per acre.
Ontario—con.		Saskatchewan—con.	
Fodder corn.....	9.50	Alfalfa.....	1.75 ¹
Sugar beets.....	9.00	Alberta—	bush.
Alfalfa.....	2.50	Fall wheat.....	21.00
Manitoba—	bush.	Spring wheat.....	19.00
Fall wheat.....	21.00 ¹	All wheat.....	19.00
Spring wheat.....	17.75	Oats.....	36.50
All wheat.....	17.75	Barley.....	26.00
Oats.....	35.25	Rye.....	21.50
Barley.....	25.75	Peas.....	17.75 ¹
Rye.....	17.00	Mixed grains.....	25.75 ¹
Mixed grains.....	29.00 ¹	Flax.....	9.75
Flax.....	12.00	Potatoes.....	147.75
Potatoes.....	156.75	Turnips, etc.....	234.00
Turnips, etc.....	271.75		tons.
	tons.	Hay and clover.....	1.50
Hay and clover.....	1.25	Fodder corn.....	2.00 ¹
Fodder corn.....	5.50 ¹	Alfalfa.....	2.25 ¹
Alfalfa.....	2.25 ¹	British Columbia—	bush.
Saskatchewan—	bush.	Fall wheat.....	30.00 ¹
Spring wheat.....	17.50	Spring wheat.....	26.75 ¹
Oats.....	35.75	All wheat.....	27.75 ¹
Barley.....	24.75	Oats.....	55.00 ¹
Rye.....	15.75	Barley.....	34.50 ¹
Peas.....	21.00 ¹	Peas.....	28.00 ¹
Mixed grains.....	29.25 ¹	Mixed grains.....	40.75 ¹
Flax.....	10.00	Potatoes.....	208.75 ¹
Potatoes.....	148.25	Turnips, etc.....	451.00 ¹
Turnips, etc.....	251.25		tons.
	tons.	Hay and clover.....	2.25 ¹
Hay and clover.....	1.50	Fodder corn.....	8.50 ¹
Fodder corn.....	3.50 ¹	Alfalfa.....	3.50 ¹

¹Average of nine years 1910-1918.
²Average of eight years 1911-1918.

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GENERAL SCHEME OF ANNUAL CROP-REPORTING.

(Subject to revision.)

January.—Farm values, including values of farm land, wages of farm help and values of farm live stock.

March.—Farm products on hand and percentage of merchantable quality. 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). Dates of sowing and of appearance of wheat above ground.

May.—Preliminary estimate of areas sown to spring wheat, oats, barley, rye, peas, mixed grains, hay and clover, alfalfa and pastures. Condition of these crops and also of fall wheat. Dates of sowing and of appearance of wheat above ground.

June.—Revised estimate of areas sown to spring wheat, oats, barley, rye, peas, mixed grains, hay and clover, alfalfa and pastures. Condition of these crops and of fall wheat. Areas of late-sown cereals and hoed crops, including buckwheat, flax, corn for husking, beans, potatoes, turnips, sugar beets, mangolds, carrots, etc., and corn for fodder. Dates of sowing and of appearance above ground of wheat. Dates of heading, flowering and milk-stage of wheat.

July.—Preliminary estimate of the yield per acre of fall wheat, hay and clover and alfalfa. Condition of spring wheat, oats, barley, rye, peas, beans, buckwheat, mixed grains, flaxseed, corn for husking, potatoes, turnips, mangolds, carrots, etc., hay and clover, alfalfa, corn for fodder, sugar beets and pasture. Dates of heading, flowering, milk-stage and cutting of wheat.

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, beans, buckwheat, mixed grains, flaxseed, corn for husking, potatoes, turnips, mangolds, carrots, etc., hay and clover, alfalfa, corn for fodder, sugar beets and pasture. Dates of heading, flowering, milk stage and cutting of wheat. Stocks of wheat, oats and barley in hand on August 31.

September.—Estimate of the yield per acre of fall wheat, spring wheat, oats, barley, rye, peas, beans, buckwheat, mixed grains, flaxseed and corn for husking. Quality of these crops when harvested. Condition of potatoes, turnips, mangolds, carrots, etc., sugar beets, corn for fodder and alfalfa. Date of cutting of wheat.

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. Percentage of fall ploughing completed. Acreage summer-fallowed in percentage of previous year.

December.—Final estimates of yields per acre based upon reports of threshing results. Average market prices and weight per measured bushel of cereals.



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