DOMINION OF CANADA
DEPARTMENT OF AGRICULTURE
DOMINION EXPERIMENTAL FARMS

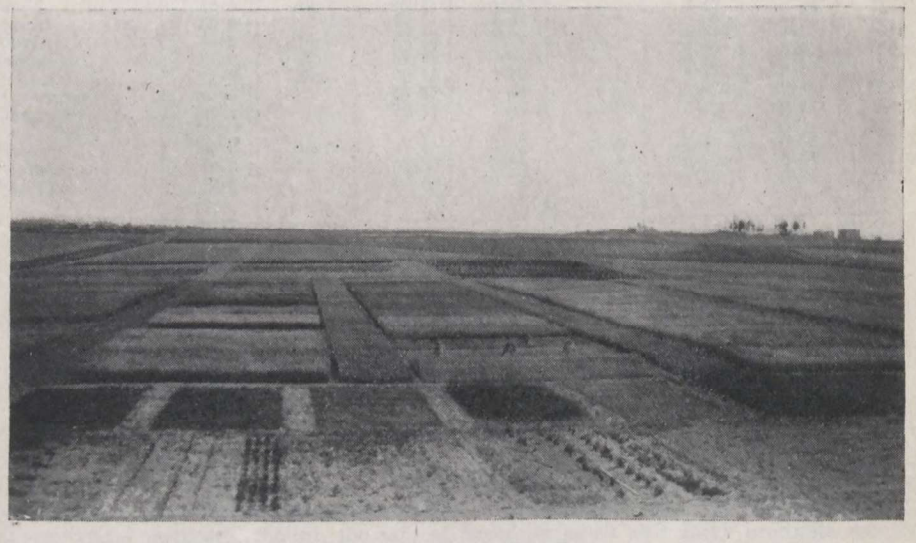
EXPERIMENTAL STATION

CAP ROUGE, QUE.

INTERIM REPORT OF THE SUPERINTENDENT

DR. G. A. LANGELIER

FOR THE YEAR ENDING MARCH 31, 1921



Variety Tests of Cereals.

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EXPERIMENTAL STATION, CAP ROUGE, QUE.

G. A. LANGELIER, SUPERINTENDENT

CHARACTER OF SEASON

The six months during which plants grow in central Quebec were warmer, dryer and brighter than the average of the last nine years, the mean temperature being respectively 59·20 and 56·73 degrees F., the precipitation 23·22 and 25·58 inches, the number of hours of sunshine 1,185·4 and 1,095·3. The frost-free season lasted 138 days, from May 6 to September 21, which is exactly the average length since 1912. The following crops were very good at the Station: spring wheat, oats, field peas, potatoes, hay, celery, pumpkins, whilst silage corn, mangels, pasture, table corn, garden beets, cucumbers, squash, plums, grapes, annual and perennial flowering plants were good, field carrots, swede turnips, garden carrots, cabbage, cauliflower, tomatoes, apples were medium, and egg plants, also muskmelons, were practically a failure.

METEOROLOGICAL RECORDS, 1920-1921

Month	Temperature F.			Precipitation—Inches				Sunshine
	Highest	Lowest	Mean	Rainfall	Snowfall	Total	Heaviest in 24 hours	Total Hours
1920								
April	61·0	17·2	35·9	6·58	3·40	6·92	1·27	139·7
May	82·0	26·2	52·98	2·03	.....	2·03	0·98	246·9
June	85·0	40·2	62·2	4·76	.....	4·76	1·10	225·0
July	85·0	43·2	64·7	5·05	.....	5·05	1·04	202·8
August	89·0	44·2	67·23	3·31	.....	3·31	1·74	254·8
September	81·0	32·2	57·95	3·37	.....	3·37	0·81	121·8
October	67·0	30·2	50·15	4·70	.....	4·70	1·40	134·1
November	47·0	3·2	27·12	1·13	9·40	2·07	0·54	61·2
December	38·0	-18·9	19·14	1·23	21·00	3·33	0·63	38·1
1921								
January	39·0	-16·9	17·4	0·50	19·60	2·46	0·50	71·0
February	40·0	-13·9	13·43	0·10	7·00	0·80	0·03	81·7
March	52·0	- 2·1	28·05	3·78	7·50	4·53	0·80	127·5
Total	.....	.....	.....	36·54	67·90	43·33	.....	1,704·6

LIVE STOCK

All live stock generally kept in very good condition during the year.

DAIRY CATTLE

The herd numbered 67 head on March 31, 1921, which is an increase of 7 over last year and of 20 over two years ago. These French Canadians were kept mainly for experimental purposes, though the sale of breeding stock and dairy products received the attention which it should on any well conducted farm.

EXPERIMENTAL WORK

Breeding Dairy Cattle

Project 135.—*Comparing methods of breeding dairy cattle.*—The object is to compare close breeding, line breeding, and outcrossing, the latter between unrelated

families. This was commenced in 1915 and as the same cow should be used and should produce a heifer on each of the three occasions, also as these heifers should milk at least during two lactation periods to be compared, it stands to reason that a great deal of time must elapse before there are enough data to be worth while reporting upon. In one case a cow (Finette) produced, to the service of an unrelated bull, which was outcrossing, a heifer (Brunette) which gave 5,867 pounds of milk during her first period of lactation which lasted 365 days and had commenced when she was 2 years and 220 days old, whilst the same cow, the following season, dropped to the service of her own son, which was close or in-breeding, a heifer (Gougou) which gave the same quantity of milk during 259 days of her first period of lactation which had commenced when she was only 2 years and 71 days old. This last-named heifer will surely beat 7,000 pounds and will give about 2,500 more than required to qualify for Record of Performance. This may be an isolated case, but it certainly speaks in favour of close breeding when both parents are vigorous and of a good producing strain.

Project 1.—*The use of pure bred sires on grade herds of dairy cattle.*—This project was started in 1911 with eleven cows which, to all outward appearances, were French Canadian grades. Out of fifteen calves, twelve were weeded out, including the grade males and the off-coloured females. The three remaining heifers, after two periods of lactation, were sent to the butcher because poor milkers and, compared with their dams, they produced less. This shows that a farmer who wishes to improve his dairy herd by the use of a registered sire should look into the merit of at least the dam of the animal which he gets, if he does not wish to make a "blind swap" when exchanging his grade bull for one with a pedigree.

Project 134.—*The improvement of dairy herds with sires of known productive ancestry.*—Buying a sire, simply because he is registered, will not bring anybody anywhere unless the bull is of known productive ancestry. One of the best looking French-Canadian bulls which ever existed was used at Cap Rouge, and not one of his heifers, over twenty-five in number, was good enough as a milch cow to be kept in the herd. From the service of this bull, Princesse du Sable dropped Corneille, which only gave 3,039 pounds of milk during her first lactation period and was sent to the butcher, whilst to the service of a Cap Rouge bull whose dam was a good producer, she dropped Fortune, which gave 6,509 pounds of milk during her first lactation period and easily qualified for Record of Performance. The care and feed were practically similar in both instances, and the same herdsman was in charge of the herd.

Feeding Dairy Cattle

Project 3.—*Whole milk vs skim-milk and supplements for calves.*—Since 1917, three lots of calves, comprising thirty-eight different animals, French Canadians, were fed differently until twenty-four weeks of age, one bunch receiving whole milk, the second, skim-milk and commercial calf meal, and the last skim-milk and home-mixed calf meal consisting of 6 parts corn, 3 parts oats, 1½ parts flax seed, by weight, all ground together. Calculating feed at the valuations of the start, that is, whole milk at $2, skim-milk at 25 cents, home-made calf meal, also commercial calf meal at $5 per 100 pounds, bran at $40, hay at $15, silage, also roots, at $4 per ton, it cost, to bring them to 24 weeks, $49.57 for each of the calves fed whole milk, $17.76 for each of the calves fed commercial meal, $17.46 for each of the calves fed home mixed meal. The average weight was, at 24 weeks, 293 pounds for those fed whole milk, 276 pounds for those fed commercial meal, and 266 pounds for those fed home mixed meal.

Project 4.—*Feed requirements of dairy heifers until calving.*—Calculating hay at $15, green feed at $6, silage, also swedes, at $4 per ton, meal, also whole milk, at 2 cents, skim-milk at ¼ cent per pound, and pasture at $2 per month per head, it cost $93.25 for the feed of a heifer until she reached the age of 27 months and 18 days,

when she weighed 813 pounds. The above is the average for four years on eight different French Canadian heifers. This is about the age when heifers of this breed should drop their first calf, and the figures show the importance of being careful to breed only from first-class stock if money is to be made from the dairy later on.

Housing Dairy Cattle

Project 6.—*Keeping dairy cattle in single-boarded, open-front sheds.*—Interest and depreciation on costly buildings eat up a good part of the profit of dairymen and it is thought that only cows in milk, also calves until they are about six months old, need be housed in expensive constructions. From 1915, three bulls have been kept all the year round in single-boarded, open-front sheds and, since 1918, 17 heifers were wintered thus. None of these animals seemed to suffer from the cold weather, 20 below zero at times, and they all remained in fine health.

Management of Dairy Cattle

Project 5.—*Extra good vs average rearing of heifers as influencing size, type, also production of the mature cow.*—Twins were chosen for this experiment so as to minimize the chance of error due to breeding. One of them was well fed, weighed 785 pounds just previous to dropping her calf at 2 years and 22 days, and qualified for Record of Performance. During her two first periods of lactation she produced 11,392 pounds of milk testing 5·75. Her sister, who was not well fed, only produced 3,767 pounds of milk testing 4·45 during the two first periods of lactation and weighed 185 pounds less when she dropped her first calf, though she was 61 days older than the other. Both the sire and the dam of these twins have qualified for Record of Performance which shows that good breeding must be backed by good feeding and the importance of the "corn crib cross."

HIGH CLASS FRENCH CANADIAN CATTLE

Nineteen cows and heifers in the herd qualified for Record of Performance and eleven more are sure to do so during 1921 as most of them have already given more than what is required and are due to calve on time. Three out of the four world champions of the breed are at Cap Rouge and before 1922 the three herd bulls will be qualified for Record of Performance, each of them having four or more daughters, out of different dams, with this distinction. It is needless to say that breeding animals from such stock will do a lot of good wherever they go.

MILK PRODUCTION

Eleven heifers and cows, from 3 to 15 years of age, finished a lactation period of a mean of 356 days during the fiscal year ending March 31, 1921. Their average production was 6,598 pounds of milk testing 4·4, which is equivalent to about 338 pounds of butter. This is 1,470 pounds more milk and 71 pounds more butter per cow than the previous year. Two of the above cows, though bought from well known breeders, are star boarders and will be sent to the butcher. If they had not been in the herd, the average production would have been 7,080 pounds of milk instead of 6,598.

HORSES

There were 69 head on March 31, 1921, 55 of which, all pure-bred French Canadians, were on the Horse Farm established during the year at St. Joachim, Que. The other 14 head were kept at Cap Rouge to do the farm work.

EXPERIMENTAL WORK

Breeding of Horses

Project 7.—*Comparing methods of breeding horses.*—This is to compare in breeding, line breeding and out-crossing. To date, results of close breeding have been contradictory, as Hélène, bred to her son, Albert, lost three youngsters out of four, one at about twelve months, another at twenty-one months, and the third at three months, whilst Sébastienne, bred to her son, Daniel, gave, in 1920, a rugged colt which won first at the only three shows, the largest in Quebec, where he was exhibited. It is possible that Hélène herself may be in-bred, as nothing is known about her pedigree—she being a foundation mare registered on inspection. This project must be continued for a great number of years before reliable data can be furnished.

Housing of Horses

Project 12.—*Keeping horses in single-boarded, open-front sheds.*—Since 1913, thirty-six different young horses were wintered in single-boarded, open-front sheds, one, two or three years, according to the time they were sold or broken to work. Two stallions and fifteen brood mares were also kept that way, and, though the temperature went down as low as 34° F. below zero, not one of the whole lot was ever seen to shiver. One thing seems important, however, that the shed should be facing south so that the sun may shine towards, instead of away from, it.

SHEEP

The flock numbered 105 head on March 31, 1921, all pure-bred Leicesters. This is seventeen more than last year and forty-two more than two years ago.

EXPERIMENTAL WORK

Feeding Sheep

Project No. 13.—*Winter feed requirements of breeding ewes.*—Since 1917, every winter, all feed given to a lot of breeding ewes, Leicesters of a little above medium size, was weighed from the time, in autumn, when there was not enough grass, until spring when it was sufficient. The average quantities eaten, per ewe, per day, were 2·72 pounds hay, 1·4 pound swedes, 0·71 pound oats, 0·58 pound bran. Calculating the above at $10 per ton for hay, $4 for swedes, 3 cents per pound for oats and 1½ cents for bran, it has cost $8.53 to feed a ewe during 184 days.

Housing Sheep

Project No. 14.—*Raising lambs in single boarded, open-front sheds.*—The Leicester ewes are wintered in open-front, single-boarded sheds facing south and are allowed to go out every day except when it rains. They are fed hay away from the shed, when weather permits, so as to force them to take exercise. If they are due to lamb very early they are brought to the sheep barn, but a few days after the youngsters are docked and ear marked, which is always before they are two weeks old, they are sent back to the sheds with their dams. As only three lambs were lost out of seventy-three, in 1919 and in 1920, this system seems to work well.

POULTRY

PROVINCE OF QUEBEC EGG-LAYING CONTEST

This is the second year and two breeds are represented, Barred Rocks and Rhode Island Reds, with honors about equally divided on March 31, 1921.

EGG PRODUCTION

An average of 187 layers were kept during the year, and the total egg production was 24,865 eggs, which is 133 per bird. Two years ago, it was 80 and last year 86, so that the increase is quite considerable.

EXPERIMENTAL WORK

Project 161.—*Pedigree work with poultry.*—In the spring of 1919, only four birds were good enough, that is, had laid over 150 eggs in a year, to start pedigree work with. Their records were, respectively, 180, 175, 163, 158 eggs. In the spring of 1921, there are forty-six with records of over 150, and thirteen of these have laid from 181 to 218 eggs. These birds are mated with males out of hens which went up to the required mark in 1920.

Feeding

Project 79.—*Commercial grain vs. screenings for winter egg production.*—This experiment has now run five seasons, November to February inclusive, each year. An average of twenty-four birds were in each pen and both lots received practically the same quantities of animal and green food, of meal, grit and shells, the only difference being that one bunch got commercial grain and the other screenings. The average of five tests shows that the lot receiving screenings paid a little better than the one getting commercial grain. The value placed on the commercial grain was 50 per cent above screenings and it is interesting to note that practically the same quantity of each was consumed.

Project 80.—*Roots vs. clover leaves for winter egg production.*—This experiment was conducted during five seasons, November to February inclusive, each year. An average of 23 birds were in each pen and both lots received practically the same quantities of grain, meal, animal food, grit, shells, one bunch getting roots and the other dry clover leaves. The birds receiving dry clover leaves gave more profit, gained more weight and produced eggs at a lower cost than the ones getting roots. The dry clover leaves fed in this experiment were gathered on a barn floor and given in a box.

Project 81.—*Skim-milk vs. beef scraps for winter egg production.*—This experiment has now run five seasons, November to February, inclusive, each year. An average of twenty-five birds were in each pen and both received practically the same quantities of grain, meal, grit, shells, one pen getting skim-milk and the other beef scraps. The skim-milk bunch did better all around: it gained more weight, it produced eggs at a lower cost, and it gave much more profit. In this experiment, fourteen pounds of skim-milk were given for each pound of beef scraps.

Project 82.—*Water vs. snow for winter egg production.*—This experiment was conducted during five seasons, November to February included, each year. An average of twenty-three birds were in each pen and both received practically the same quantities of feed, one lot getting water and the other snow as soon as it was available in the autumn and then all through winter. The bunch getting snow produced eggs at a lower cost per dozen, but as the birds did not gain quite as much weight as the others, the profit was a fraction of a cent less per bird. It can thus be said that, according to this experiment, nobody need be afraid to give snow instead of water though it is admitted that the latter should be kept before the birds where possible.

Housing Poultry

Project 83.—*Winter temperature in poultry houses of different widths.*—For six years, from November to February, inclusive, the highest and the lowest temperatures

were taken daily outside, in a colony house 8 feet wide, in a laying house 12 feet wide, and in another 16 feet wide. All these buildings were of the shed roof pattern, had about twice the area of cotton as of glass, and were placed so as to be about equally sheltered from the wind and to get practically the same amount of sun. The average difference between the highest and the lowest temperature, during all that time, was 37·8 degrees outside, 25·6 in the narrow house, 24·2 in the wide house, and 23·7 in the colony.

Without Constitution Improvement is Impossible.

Egg Preservatives

Project 78.—*Comparison of different methods of preserving eggs.*—Eight different ways of preserving eggs have been tried for five years: water glass, lime water, wrapping in paper and leaving alone, wrapping in paper and turning daily, putting away in oats, also in sawdust, and two commercial preservatives. Samples were tested at the Chemistry Division, also at the Poultry Division, Central Experimental Farm, Ottawa, and at the Cap Rouge Station. To date, only the first two mentioned methods have given satisfactory results all around, with water glass at the head of them all.

BEES

PRODUCTION OF HONEY

The season of 1920 was exceedingly bad in regard to honey production at Cap Rouge as nine hives gave only 141 pounds, or not quite 17 each. Last year the average was 32 pounds. The best beekeeper of the district, who has kept accurate records for over fifteen years, gives the mean production per year as a little below 40 pounds per colony.

EXPERIMENTAL FEEDING OF BEES

Project No. 16.—*Comparison of different kinds of stores for winter feeding of bees.*—The results of three winters show an average loss in weight per hive, per year, of nine pounds for bees fed on late gathered honey, mostly from weeds; of 15 pounds for bees fed on sugar syrup only; of 16 pounds for bees fed on early gathered honey, mostly from clover; of 20 pounds for bees fed on early gathered honey and sugar syrup. For each of the different kinds of stores, but not always the same spring, the condition varied from medium to excellent, and the number of spaces in which were bees, in the spring, averaged practically the same, for three years, for each kind of stores.

FIELD HUSBANDRY

Work for this division comprises agricultural engineering, crop management, soil management.

AGRICULTURAL ENGINEERING

Practically nothing was done during 1920 at clearing land, draining, fencing and roadmaking, due to the scarcity of funds.

CROP MANAGEMENT

Project 36.—*Field crop areas and yields.*—Corn for silage, oats, barley, wheat, were not as good; clover hay and field peas were about the same; swede turnips, timothy hay and potatoes were better than usual.

FIELD CROPS—YIELD PER ACRE IN POUNDS

Crop	1920	Average	for
Longfellow corn	14,391	16,262	9 years
Good Luck swedes	27,833	24,069	9 "
Timothy hay	4,233	3,823	9 "
Clover hay	4,191	4,197	9 "
Banner oats	1,504	1,080	9 "
Manchurian barley	880	1,136	7 "
Huron wheat	1,448	1,612	6 "
Arthur peas	1,441	1,415	6 "
Common buckwheat	912	912	1 "
Green mountain potatoes	15,266	15,008	2 "

Project 35.—*Cost of production of field crops.*—For eight years, accurate records were kept on 124 acres, for the three main crops of the district, swede turnips, oats, hay, with the following results:—

Crop	1920		Average for eight years	
	Yield per acre lbs.	Cost	Yield per acre bs.	Cost
Good Luck swede turnips	27,833	$4.68 per ton..	25,071	$3.85 per ton
Banner oats	1,874	.29 per bush.	1,814	.40 per bush.
Clover and timothy hay	4,839	6.93 per ton..	4,587	6.28 per ton.

Project 43.—*Comparison of different rotations.*—The costs and values have been kept accurately during ten years for rotations of three, four, five and six years' duration. As a general proposition, and contrarily to expectations, the longer the rotation, the more profit there was. This work may not have been conducted long enough, but the results show that a three-year rotation is suitable only to certain particular kinds of farming.

Project 38.—*Comparison of different rates of sowing oats.*—Commenced in 1913, this experiment has compared thirteen different rates of sowing Banner oats, from 1 to 4 bushels per acre, going up by quarters of a bushel, and has been run on a sandy loam of better than ordinary fertility. The average, for eight years, for the five best rates, is as follows, giving the yield in pounds per acre, less the amount of seed used: 2½ bushels, 2,001 pounds; 3¼ bushels, 1,998 pounds; 3¾ bushels, 1,985 pounds; 2¾ bushels, 1,882 pounds; 3 bushels, 1,836 pounds.

Project 39.—*Comparison of different rates of seeding timothy, red clover and alsike mixed.*—Since 1912, inclusive, 160 plots of one-sixtieth acre each were used for this project. On half of this number of plots, 8 pounds timothy, 12 pounds red clover and 2 pounds alsike were sown per acre, with Banner oats as a nurse crop, whilst the others only received half of these quantities. The thick seeding gave an increase of 8 per cent which was not sufficient to pay the extra quantity of seed. This would show that on manured and well tilled soil, it is not as necessary to sow as large quantities of grass and clover seed as on a piece of poor, badly worked land.

Project 40.—*Yield of clover hay after different kinds of nurse crops.*—Since 1912, inclusive, all the trial plots of grain, 440 in number and of one-sixtieth acre each, were seeded down with timothy, red clover and alsike, at the respective rates of 8, 12 and 2 pounds per acre. The crop of clover hay averaged 2 tons 1,377 pounds after barley, 2 tons 1,232 pounds after wheat, 2 tons 994 pounds after oats, 2 tons 95 pounds after peas.

Project 41.—*Yield of clover hay after different rates of sowing oats.*—For eight years, Banner oats was sown at different rates from 1 to 4 bushels per acre, going up by quarters of a bushel, to find out after which density could be had the largest quantity of hay. Contrarily to expectations, the rates above 3 bushels have been followed, on an average, by a larger crop of hay than those below.

SOIL MANAGEMENT

Project 42.—*Spring vs. autumn ploughing for silage corn.*—For four years, all the corn was weighed and a record kept of the labour, manual, horse and tractor, for 34½ acres of corn. About half of the land, each year, was ploughed in the autumn and the other half in the spring. The yield was about 4 per cent more on the spring ploughed piece; and calculating men's labour at 35 cents, boy's at 20 cents, horses at 14 cents, tractor's at $1 per hour, it cost 29 cents more per ton to grow corn on the spring-ploughed piece, probably due to more weeds to keep in check.

CEREALS

BARLEY

Project 19.—*Improvement of barley by selection.*—This project was started in 1914 with the result that for 1918, 1919, 1920, the Cap Rouge selection of Manchurian stood at the head of all varieties in the trial plots and it will be used for field work from 1921. Its average production per acre for three years is 2,040 pounds and it matured in 85 days.

Project 23.—*Variety and strain tests of barley.*—Since 1911, inclusive, seventeen varieties and strains of two and six-rowed barley were tried and eight of them were dropped because they did not yield enough. Of those tested for nine years, Early Chevalier, a two-rowed variety, is at the top with an average of 1,495 pounds of grain, or over 31 bushels per acre, coming to maturity in 86 days, whilst Manchurian, a six-rowed variety, is next with an average of 1,329 pounds, or nearly 28 bushels per acre, maturing in 87 days. Until the former shows decided superiority over Manchurian, the latter is recommended to farmers of the district, as the one most likely to give satisfaction.

FIELD BEANS

Project 140.—*Variety and strain tests of field beans.*—This project was only started in 1919. The variety which did the best is Norwegian, with an average of 1,716 pounds per acre and maturing in 106 days, whilst Yellow Eye only produced 1,115 pounds and took 115 days to ripen. The difference in yield appeared to be mainly due to the freeness from disease of the first mentioned.

FLAX

Project 25.—*Variety and strain tests of flax.*—The average of six years shows that Longstem produced at the rate of 601 pounds of seed per acre and matured in 104 days, whilst Novelty yielded 880 pounds and ripened in 107 days. The former is nearly 50 per cent longer than the latter and, as it is best adapted for fibre, it will be replaced, in the trial plots, by varieties to be used for seed production.

OATS

Project 21.—*Improvement of oats by selection.*—Work was started in 1918 with ninety plants, thirty of which were used in 1919, and ten in 1920. There was a wide difference between these, as the yields of grain from each strain were as follows: 10, 10, 14, 20, 26, 27, 29, 30, 34, 38 ounces.

Project 26.—*Variety and strain tests of oats.*—Since 1911 inclusive, fifteen varieties and strains of oats have been tried and nine of them were discarded because they did not yield enough. Gold Rain has given a little more than Banner, but it is not liked on account of its colour, and unless it shows itself a great deal more productive, in years to come, it will be better to stick to Banner as the variety best adapted to Central Quebec. For an average of nine years, the latter produced at the rate of 2,255 pounds, or over 66 bushels, per acre, and matured in 99 days.

FIELD PEAS

Project 24.—*Variety and strain tests of field peas.*—Since 1911 inclusive, fourteen varieties and strains of field peas have been tested and eight of them were dropped because they did not yield enough. Of the varieties tried each year, Arthur is the heaviest producer, with an average of 1,947 pounds or over 32 bushels per acre, whilst of the varieties tried for six years, Solo gave at the rate of 2,070 pounds. Both of these matured in 98 days on an average. Until Solo has decidedly proven its superiority for a greater number of years, Arthur is recommended as the field pea best suitable for Central Quebec.

Project 34.—*What influences the cooking qualities of field peas.*—The results of four years show that peas from land which was in grain the previous year became soft before those grown on land which had been in hoed crop the previous year, which came next in rank, and those grown on land which had been in hay the previous year, which came last. This may help to solve the question though it must be admitted that no reason can be offered regarding the results.

SPRING WHEAT

Project 22.—*Improvement of spring wheat by selection.*—This project was started with Huron in 1913 and the Cap Rouge selection went into the trial plots in 1918. For the three years during which it has been tested, it has out-yielded all the other varieties and strains by a fair margin, producing at the rate of 1,440 pounds per acre and coming to maturity in 100 days.

Project 27.—*Variety and strain tests of spring wheat.*—Since 1911, inclusive, twenty varieties and strains of spring wheat were tried and eleven left aside because they were poor yielders. Of those tested for ten years, Huron is at head with an average of 1,363 pounds, or nearly 23 bushels per acre, whilst Chelsea is at the top of the ones tested for six years with 1,358, Huron having given 1,291 for the same period. Chelsea took, on an average, 96 days to come to maturity and Huron 99. Before the first-mentioned proves its superiority, for a longer number of years, over Huron, the latter is recommended as the one most suitable for central Quebec. The biggest yielder in 1920 was Cap Rouge selection of Huron, which is also ahead of all others for an average of three years during which it was tested.

CEREALS FOR HAY PRODUCTION

Project 17.—*Cereals for hay production.*—The average of four years shows that when mixed hay from old meadows produced 4,797 pounds per acre, timothy, 4,476, clover, 4,884; hay from Banner oats gave 5,910, from Ligowo oats, 6,495, from Gold Rain oats 7,335, from Victory oats, 7,605, from Banner oats and Arthur peas, 5,865, from Banner oats and vetches 6,705 pounds. Oats alone of varieties yielding much hay, such as Victory and Gold Rain, give the largest quantity of digestible dry matter per acre, but vetches and oats, closely followed by the old mixture of peas and oats, furnish the most protein, which makes it fine hay to feed to dairy cattle, sheep and all young stock.

MIXTURES FOR GRAIN PRODUCTION

Project 18.—*Mixtures of cereal for grain production.*—Since 1912, twelve different mixtures were tried for grain production, but seven were dropped because they did not yield enough. In general, these mixtures have not produced as much grain per acre as one of the cereals forming part of them did the same year. Another disadvantage is that a farmer generally feeds the mixture as harvested, when the proportion of each kind of grain is not what it should be for the purpose. And still more trouble is experienced at seeding when the mixture cannot be used because the amount of each sort is not always what it should be to give the best results. Of all those tried, the old-time mixture of peas and oats has been the heaviest yielder and is recommended to those who wish to try such combinations.

FORAGE CROPS

RED CLOVER

Project 56.—*Variety and strain tests of red clover.*—Three varieties or strains are on test: the ordinary commercial red, a late one from Sweden, and a Central Experimental Farm strain which is said to be perennial. The number of plants

living from each lot, was taken in the autumn of 1920, and the same thing will be done in the spring of 1921 to see how they stand the winter. A careful record will be kept of the date of cutting, the yield, and the percentage living the second, third, and fourth years.

FIELD CORN

Project 44.—*Variety and strain tests of corn for silage.*—Since 1913, twenty-six varieties and strains of corn have been tested for silage production. Of these, sixteen did not yield enough and were dropped, leaving Bailey, Compton Early, Golden Glow, Leaming, Longfellow, North Western Dent, Salzer North Dakota, Stowell Evergreen, white Cap Yellow Dent, and Wisconsin No. 7 as the heaviest producers, Longfellow was beaten by Golden Glow, Wisconsin No. 7, Stowell Evergreen, Leaming, Bailey, but by such small margins that it is safe to recommend it to farmers of the district until another variety shows a decided superiority over it.

Variety Tests of Roots.

FIELD CARROTS

Project 46.—*Variety and strain tests of mangels.*—Since 1911 inclusive, twenty varieties and strains of field carrots were tried. Mammoth White Intermediate, of those tested for at least nine years, stands at the head with an average production at the rate of 17,213 pounds per acre.

MANGELS

Project 46.—*Variety and strain tests of mangels.* Since 1911 inclusive, twenty varieties and strains of mangels were tried and fifteen were left aside because they did not yield enough. Of those tested for four years or more, Giant Half Sugar

White is at the head with an average production at the rate of 17,999 pounds per acre followed by Giant Yellow Intermediate with 16,778 pounds. This average is low compared to the crop of 1920 when the figures for the above two mentioned varieties were respectively 31,100 and 31,900 pounds per acre.

Project 55.—*Comparison of methods of helping the germination of mangel seed.*—The results of fifteen tests made during five different winters, in the greenhouse, show that, for each hundred seeds sown, the check produced 157 plants; soaking seed in water for fifteen hours, 165; soaking seed in a mixture of liquid manure and water for fifteen hours, 162; packing the soil, 156; watering every day, 153; packing the soil and watering, 147; mixing a complete fertilizer with the soil as in harrowing, 130; applying a complete fertilizer in the row with the seed, 90; mixing salt with the soil as in harrowing, 77; applying salt in the row with the seed, 23. This shows that soaking in water is the method which gave the best results.

SWEDE TURNIPS

Project 53.—*Variety and strain tests of swede turnips.*—For ten years, sixty-five varieties and strains of swede turnips have been tried and only ten of them deserve further consideration, as the others did not yield enough. The highest producer is Good Luck, at the rate of 34,971 pounds per acre.

HORTICULTURE

FRUITS

Project 91.—*Comparison of different cover crops for an apple orchard.*—The following cover crops are compared for an orchard of Wealthy and McIntosh planted in 1913: red clover sown each year, vetches sown each year, rape sown each year, clover followed by rape in a two year rotation, permanent sod with the hay used as a mulch around foot of trees, permanent sod with the hay taken away. To date, it is easy to see that the growth is much weaker where the permanent sod is.

Project 92.—*Cost of establishing an orchard of Wealthy and of McIntosh trees.*—An orchard of 399 Wealthy and McIntosh trees was planted in 1913 and 1914. In 1919, 21 trees were pulled out, to put in a shelter belt of spruce and poplar, leaving 378 fruit trees in the orchard. During that time 2,459 hours of one man and 795 hours of one horse, or their equivalent, were put in this orchard, besides the following material: 653 apple trees, 180 spruce trees, 76 poplars, 34,200 pounds strawy manure, 500 pounds building paper, 462 pounds vetches, 194 pounds red clover, 91 pounds rape, 16 pounds timothy, 41 pounds sulphate of copper, 41 pounds lime, 15 pounds aresenate of lead. The revenue consisted of 28¼ bushels apples and 1,050 pounds of hay.

Project 87.—*Variety and strain tests of apples.*—There are 160 varieties, consisting of 910 trees, under test. Amongst the commercial ones, the following are recommended for this district: Yellow Transparent and Lowland Raspberry for summer; Duchess, Okabena, Montreal Peach and Dudley for autumn; Wealthy, Fameuse, McIntosh Red, Wolf River and Milwaukee for winter. Of the varieties originated at the Central Experimental Farm, Ottawa, Rupert is very good for summer, Petrel and Galetta for autumn, Walton and Rocket for winter.

Project 86.—*Variety tests of cherries.*—None of the sweet cherries is hardy enough for this district. There are 15 varieties, consisting of 55 trees, under test. Those which seem to do the best are Montmorency Large, Early Richmond, Griotte Morello, Vladimir and Fouche Morello.

Project No. 93.—*Variety tests of pears.*—There are 6 varieties, consisting of 23 trees, under test. Though planted in 1913, they have not yet given any edible fruit and it looks as though this is too far north for them. In 1920, two varieties of dwarfs were put in to see if they will do better.

Project 76.—*Variety tests of plums.*—There are 28 varieties, consisting of 130 trees, under test. Contrary to expectations, a larger percentage of the European varieties have lived than of the American varieties whose wood breaks very easily. Of the former, the ones which have done best are Montmornecy, Bonne Sainte Anne, Shipper Pride, Quackenboss and Mount Royal, whilst amongst the latter may be named Bixby and Mankato. Brackett yields well but its thick skin makes it very hard to sell.

Project 122.—*Variety tests of grapes.*—There are 26 varieties, comprising 100 vines, under test. Those which are the most promising for this district, in regard to maturing fruit, are Early Daisy and Champion amongst the blacks, Wyoming, Delaware and Moyer amongst the reds, and Winchell (Green Mountain) amongst the greens.

Project 68.—*Variety tests of black currants.*—Sixteen varieties of black currants have been tested since 1912 and two were left aside because they did not yield enough. Of the fourteen others, Climax leads with an average production at the rate of 8,117 pounds per acre. It has been at the head since 1914, inclusive, and it is recommended to farmers of the district.

Project 69.—*Variety tests of red currants.*—Eleven varieties of red currants have been on test for nine years. Fay leads with an average production of 10,081 pounds per acre, but Cherry has the largest fruit of all those tried.

Project 70.—*Variety and strain tests of white currents.*—Three varieties of white currants have been on test for nine years and have given the following average yield per acre: White Cherry, 5,163 pounds; White Grape, 4,905 pounds; Large White, 4,450 pounds. For production, White Cherry is at the head, but White Grape is of better quality.

Project 71.—*Variety and strain tests of gooseberries.*—Thirteen varieties and strains of gooseberries have been on test since 1912. Houghton leads with a production at the rate of 21,299 pounds per acre, but the fruit is too small for ordinary markets. The varieties recommended for the district are Silvia (15,125 pounds per acre) on account of the size and quality of its fruit, also Queen Anne (15,201 pounds per acre) because it is firm and a good shipper.

Project 73.—*Variety and strain tests of strawberries.*—The highest yielder is Cassandra, a seedling from the Central Experimental Farm, Ottawa, and it is a variety which may be recommended as good in every respect. Of the commercial ones, Excelsior, for an early sort, and Dunlap, for general purposes, are a very good combination, yielding respectively at the rate of 5,052 and 7,362 pounds per acre.

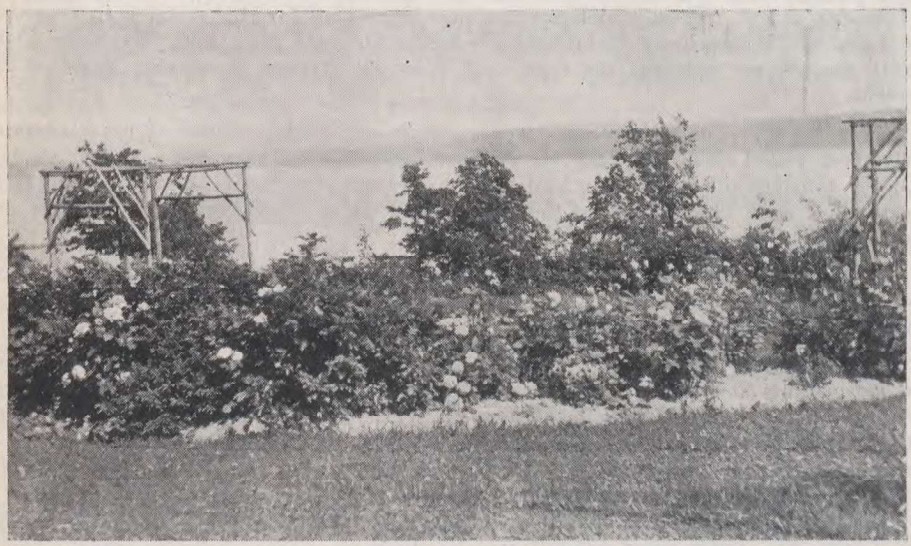
Project 72.—*Variety and strain tests of raspberries.*—Leaving aside Columbian, which is not a red raspberry and is of poor quality, Herbert has been the most productive, followed by Brighton and King. The first mentioned, for main crop, with the last, for an early kind, are a good combination. The average, for eight years, is around 2,000 pounds per acre.

ORNAMENTAL PLANTS

Project 163.—*Variety tests of annual flowering plants.*—Amongst the 375 varieties and strains of annuals on test, the most beautiful which are suitable for central Quebec are china asters, clarkias, coreopsis, cosmos, gladioli, salpiglossis, snapdragons, stocks, sweet peas, zinnias.

Project 165.—*Variety and train tests of perennial flowering plants.*—Of the 175 varieties and strains of perennials on test, the ones which do well and are liked are aquilegias, bleeding heart, gaillardias, hesperis, irises, lupines, paeonies, hardy phlox, rudbeckia, sweet william.

Project 90.—*Variety and strain tests of ornamental shrubs and trees.*—In 1920, there were about 150 varieties and strains of ornamental shrubs and trees on test. Those which are hardy and can be recommended for the district are honeysuckle (Tartarian), hydrangea (paniculata grandiflora), lilac (Charles X and Michel Buckner), snowball, spirea (Van Houttei), weeping birch, horse chestnut, Norway maple, Weir cut-leaved maple, Carolina poplar.



Roses.

VEGETABLES

ASPARAGUS

Project 49.—*Variety and strain tests of asparagus.*—The seed of eleven varieties and strains of asparagus was sown in 1913, the plant put in the next year and the first crop cut in 1916. Donald Elmira, from Dreer seed, is the highest yielder, for an average of five years, with a production of 1,597 pounds per acre.

Project 50.—*Yield of asparagus when plants are set at different distances.*—Conover Colossal is used for this experiment, which has now run four years. The average for the above number of seasons shows that if the crop from plants set eighteen inches apart in all directions is taken as 100, that from plants thirty-six inches apart in all directions would be 104, and that from plants twenty-four inches apart in all directions would be 147.

GARDEN BEANS

Project 95.—*Variety and strain tests of garden beans.*—Sixty-six varieties or strains of garden beans were tried since 1911 inclusive, but most of them were discarded because they were not attractive enough for market, they were poor yielders, they were too late, or too subject to disease. In green-podded sorts, Stringless Green Pod for early and Refugee for late are good ones, whilst in wax podded sorts, Pencil Pod for early and Hodson Wax for late are all right. The choice of them all, for earliness, for yield and for attractiveness, at Cap Rouge, is Pencil Pod.

GARDEN BEETS

Project 97.—*Variety and strain tests of garden beets.*—For ten years, twenty-seven varieties or strains of garden beets have been tried and twenty were dropped because they did not yield enough, were too light coloured or of a shape not suitable to market requirements. Eclipse stands at the head both for yield and earliness, having produced at the rate of 46,933 pounds per acre and being ready for use in seventy-five days, for an average of nine years. Black Red Ball is the thing for a fancy market but it yielded only slightly more than half of what Eclipse did.

Project 52.—*Comparison of some distances at which to thin garden beets.*—In rows thirty inches apart, on a good sandy loam, garden beets thinned at two inches between plants, averaged, for four years, 37,109 pounds per acre, whilst those thinned at 3 inches gave 37,926 pounds and thoes thinned at four inches produced 31,182 pounds.

CABBAGE

Project 99.—*Variety and strain tests of cabbage.*—Forty-eight varieties and strains of cabbage were tried since 1911, inclusive and a large number discarded because they were not early enough or were too low yielders. A good combination is either Jersey Wakefield (conical) or Copenhagen Market (round) for early use, followed by Succession for autumn and Danish Roundhead (the best keeper of them all) for winter. In the Savoy varieties, Drumhead is very good and so is Dark Dutch amongst the Reds.

Project 98.—*Comparison of methods of protecting cabbage against root maggots.*—The object of the experiment is to compare different methods of protecting cabbage plants against root maggots. At the end of 1920, after seven tests covering five seasons, cheesecloth covers were found so much superior to tar paper discs that the latter were discontinued. The results of eight tests covering six seasons show that 71 per cent of the unprotected plants lived and produced at the rate of 24,547 pounds per acre whilst 69 per cent of the ones protected with tar paper discs lived and produced at the rate of 28,677 pounds. The protection would thus seem to have been useless.

GARDEN CARROTS

Project 100.—*Variety and strain tests of garden carrots.*—For ten years, twenty-five varieties or strains of garden carrots have been tried and twenty were dropped because they were low yielders or were not of such a shape as the market demanded. The most productive is Chantenay which, for an average of nine years, yielded at the rate of 31,337 pounds per acre and took seventy-three days to be ready for use. For a fancy market, Amsterdam is recommended, and for earliness, Oxheart is the right one.

Project 77.—*Comparison of some distances at which to thin garden carrots.*—For an average of four years, carrots sown in rows thirty inches apart averaged 27,113 pounds per acre when plants were thinned at one inch, 25,782 when thinned at two inches, and 24,720 when thinned at three inches.

CAULIFLOWER

Project 138.—*Variety and strain tests of cauliflower.*—Ten varieties and strains of cauliflower have been tried since 1911, inclusive, and it has been found that, to produce good marketable heads, they must be either very early or late, so as to escape the heat of midsummer. Snowball and Erfurt are two fine early varieties whilst Algies and Monarch are good late ones producing quite a bit more than the former.

Project 155.—*Comparison of some methods of protecting cauliflower heads.*—The object of the experiment is to compare different methods of protecting heads of cauliflower and the preliminary work was to see what influence on yield these methods would have. The results of three years show that, with Early Snowball, not protecting the head gave a crop at the rate of 25,894 pounds of marketable cauliflower per acre, breaking leaves over the head 24,200 pounds, holding the leaves over the head with toothpicks 21,344 pounds, tying the leaves over the head with twine 16,795 pounds. The percentage of marketable heads was respectively 53, 53, 47 and 43 for each method of protection.

Variety Tests of Vegetables.

CELERY

Project 103.—*Variety and strain tests of celery.*—Thirteen varieties and strains of celery have been tested since 1911, inclusive. Winter varieties, such as Giant Pascal, have been the heaviest yielders and also the best keepers but, though really of very good quality, they do not seem to be popular on account of their greenish colour. In this district, White Plume is the best seller, followed by Golden Self Blanching, but the latter, possibly due to seed from wrong sources, has shown itself to be very subject to disease.

Project 102.—*Comparison of some methods of blanching celery.*—The object of the experiment is to compare different methods of blanching celery, and the preliminary work was to see what influence on yield these methods would have. The results of six years show that, with Golden Self Blanching, banking with soil gave a crop at the rate of 17,091 pounds per acre, with boards 16,562 pounds, with paper 15,125 pounds. During the next few years samples of each kind will be sent to three or four of the best retailers in Quebec to find out which method of blanching turns out the best product.

SWEET CORN

Project 104.—*Variety and strain tests of garden corn.*—Since 1911 inclusive, seventy-one different varieties and strains of garden corn were tried and sixty-two were dropped because they were either too late, low yielders or of poor quality. Early Malcolm, a selection of Early Malakoff made at the Central Experimental Farm, Ottawa, has not only shown itself the most productive but also the earliest of all those tested for any reasonable length of time. For an average of eight years, it has yielded at the rate of 22,506 ears per acre and was ready to use in ninety days after it was sown.

CUCUMBER

Project 142.—*Variety and strain tests of cucumbers.*—Since ten years, thirty-three varieties or strains of cucumbers have been tried and twenty-nine were left aside because they were low producers, not attractive or turned yellow too soon. Davis Perfect, for main crop, and Chicago Pickling, for pickling, are a good combination. For an average of six years, the first mentioned produced at the rate of 16,940 small and 29,443 large cucumbers per acre.

MUSKMELONS

Project 143.—*Variety and strain tests of muskmelons.*—It is practically impossible to grow melons outside, without protection during the spring, in this district. Good results may be had, however, by using small hotbeds, about three feet square, in which three or four seeds are sown at the beginning of May. Hackensack is the variety which has given best satisfaction, to date.

ONIONS

Project 148.—*Comparison of different sizes of onion sets.*—The object is to find which size of set gives the largest crop of merchantable onions. Contrary to expectations, the average of five years shows a yield at the rate of 14,274 pounds per acre for sets one inch in diameter, 12,758 for three-quarter inch, and 9,324 for one-half inch. The trouble with sets over one-half inch in diameter is that the onions run to seed, but this was prevented, for this experiment, by cutting the top of the plants.

Project 149.—*Sowing, transplanting, or sets for early and large crop of onions.*—The object is to find out which will give the earliest and largest yield of merchantable onions, sowing, transplanting or sets. The latter, unmistakably, for an average of five years, gave by far the earliest crop. For the same length of time, the yield was at the rate of 13,270 pounds per acre for the sets, 25,483 pounds for what was sown, and 50,734 pounds for what was transplanted.

Project 106.—*Comparison of some distances at which to thin onions.*—For an average of five years, the crop of onions was at the rate of 25,983 pounds per acre when the plants were thinned to two inches, 25,677 to one inch, and 23,330 to three inches.

PARSNIPS

Project 75.—*Comparison of some distances at which to thin parsnips.*—The object of the experiment is to compare some distances at which to thin parsnips. The results of four years show that the crop was at the rate of 31,414 pounds per acre when plants were thinned to two inches, 30,560 at three inches and 30,965 at four inches.

GARDEN PEAS

Project 109.—*Variety and strain tests of garden peas.*—Since ten years, sixty-two varieties or strains of garden peas have been tried and fifty-five were discarded because

they were low yielders or of poor quality. Of all those tested for a reasonable length of time, a Cap Rouge selection of Juno is the most productive, at the rate of 1,936 quarts of green shelled peas per acre, and a Cap Rouge selection of Gregory Surprise is the earliest, with sixty-three days to be ready for use.

POTATOES

Project 111.—*Variety and strain tests of potatoes.*—Since 1911, inclusive, sixty-seven varieties or strains of potatoes have been tried and sixty were dropped because they were either too subject to disease or not productive enough. Irish Cobbler for early and Green Mountain for main crop are as good a combination as any.

Project 113.—*Effect on yield of potatoes of plastering the seed.*—The results of five years show an average yield of 12,493 pounds without plaster and 12,071 pounds with it.

Project 159.—*Comparison of different insecticides for the Colorado beetle.*—The of five years show that sets cut to three eyes gave a crop at the rate of 14,783 pounds per acre; cut to two eyes, 13,313 pounds; small potatoes about two inches in diameter, 12,639 pounds; cut to one eye, 11,996 pounds; peelings, 9,931 pounds.

Project 159.—*Comparison of different insecticides for the Colorado beetle.*—The results of one season, by far too short a period to be looked upon with any certainty of being correct, show that the crop of merchantable potatoes was at the rate of 15,141 pounds per acre for Bordeaux mixture, Paris green, and arsenate of lead, 15,135 for Bordeaux mixture and Paris green, 14,836 for "Pyrox," 14,250 for Bordeaux mixture and arsenate of lime, 12,912 for Bordeaux mixture and white arsenic. After two applications, the number of bugs on potato plants was the greatest on the Pyrox lot, followed by Bordeaux, Paris green and arsenate of lead, Bordeaux and Paris green, Bordeaux and white arsenic, Bordeaux and arsenate of lime, on which last lot there was the smallest number of bugs.

PUMPKINS

Project 144.—*Variety and strain tests of pumpkins.*—Since 1914, inclusive, five varieties or strains of pumpkins were tested. Large Field proved to be the heaviest yielder, producing at the rate of 61,554 pounds per acre, but it is found too big, and Sweet Sugar sells when the other goes begging for purchasers. Though the latter yielded at the rate of 49,117 pounds per acre it produced a greater number of fruit and as pumpkins, in this district, are sold at so much apiece, it would bring more money than Large Field.

RHUBARB

Project 124.—*Variety and strain tests of rhubarb.*—Since 1915 inclusive, St. Martin, Hobday Giant, Victoria, Prima Donna, Linnaeus and Monarque have been compared, with the result that the three latter were dropped because they did not produce enough. St. Martin is by far the heaviest yielder, at the rate of 42,502 pounds per acre.

SQUASH

Project 145.—*Variety and strain tests of squash.*—For ten years, thirty-two varieties or strains of squash were tested and twenty-seven dropped because they did not yield enough or produced an article which was not marketable. The heaviest yielder was Long Vegetable Marrow, at the rate of 33,783 pounds per acre, for an average of six years. For persons having limited garden space, the Long White Bush Marrow is recommended, but its average production for nine years is only 19,098

pounds. The best paying are the Hubbards, which find a ready sale on discriminating markets when the Marrows go a-begging for buyers. Their production is about the same as the last mentioned. The Crooknecks are very odd but this is practically all which can be said in their favour.

TOMATOES

Project 120.—*Variety and strain tests of tomatoes.*—For ten years, seventy-six varieties or strains of tomatoes have been tried and sixty-nine were left aside because they were not early enough. Strains of Earliana have shown themselves to be best adapted to this part of the country. Amongst these, Alacrity, developed at Ottawa, and one Cap Rouge selection are at the top when yield of ripe fruit early in the season is the main consideration.

Project 117.—*Comparison of some methods of starting tomato plants.*—The object is to compare different methods of starting tomato plants. The average of five years shows that the lot not pricked out yielded at the rate of 27,569 pounds of ripe fruit and 23,298 of green fruit, forming a total of 50,867 pounds per acre; pricked out once, 24,328 pounds ripe, 26,497 green, or a total of 50,825 pounds; pricked out twice, 27,629 pounds ripe, 25,695 green, or a total of 53,324 pounds; pricked out three times, 27,259 pounds ripe, 27,978 green, or a total of 55,237 pounds. This would seem to show that transplanting increases the total crop but has not much effect on the quantity of ripe fruit.

Project 115.—*Comparison of some methods of training tomato plants.*—The results of six years show that plants of a strain of Earliana, tied to stakes, produced ripe fruit at the rate of 8,859 pounds per acre, whilst those tied to horizontal wires held by posts put in every fifteen feet gave 9,095 pounds.

Project 116.—*Comparison of some methods of pruning tomato plants.*—The object of the experiment is to find out if removing part of the tomato plant will increase or decrease the crop of ripe fruit. The results of six years show that, with a strain of Earliana, the yield of ripe fruit was at the rate of 21,156 pounds per acre when no pruning was done, 9,841 pounds when pruned to two stems, and 7,580 pounds when pruned to one stem. In the lot pruned to two stems, the crop was at the rate of 10,691 when the foliage was left intact, and 8,992 when part of it was removed, whilst for the lot pruned to one stem the figures were respectively 8,780 and 6,380 pounds.

GARDEN TURNIPS

Project 146.—*Variety and strain tests of turnips.*—For ten years, twenty-six varieties of turnips have been tried and twenty left aside because they were either too late, too poor in quality or too low yielders. For early use, Early Purple Top Milan can be recommended; for an average of seven years, it produced at the rate of 33,986 pounds per acre and was ready for use in fifty-three days. Amongst the Swedes, Ditmars is probably the best, when quality is taken into consideration.

Project 85.—*Comparison of some distances at which to thin garden turnips.*—The results of two years show that the crop of garden turnips was at the rate of 41,116 pounds per acre when plants were thinned to three inches, 27,955 to two inches, and 27,376 to four inches.

WATERMELONS

Project 147.—*Variety and strain tests of watermelons.*—Since 1911 inclusive, seventeen varieties or strains of watermelons were tested and fifteen were left aside because they were too late. The culture of watermelons should not be encouraged in this district, with its rather short season. Even when fruit can be had, it comes so late, when the weather is turning cold, that it is hard to sell.

EXTENSION AND PUBLICITY

EXHIBITIONS

Instead of making extensive and costly displays at the provincial exhibitions, it was decided, in 1920, to have small exhibits at some of the county shows where a larger percentage of really interested persons can be reached. Besides these exhibits of an educational nature, entries were made at three of the largest exhibitions of the province, in the ordinary classes, with the understanding that prize cards or ribbons would be awarded to the Station but that the money would go to the exhibitor next in rank. One hundred and thirty-nine prizes, representing a sum of over $500, were won on horses, poultry, grain, forage plants, fruits, vegetables, flowers.

PUBLICITY

At the county fairs where the Station exhibited, and from Cap Rouge, over 5,000 circulars, and bulletins were distributed during the year, besides adding a certain number of names to the mailing list of the Publications Branch.

MISCELLANEOUS

CORRESPONDENCE

During the twelve months, 6,136 letters were received and 6,486 were sent. The correspondence is getting heavier every year, but it is attended to promptly. Besides the above, a very great quantity of mail matter was received and sent. For the laying contest alone, over 650 reports were despatched.

DISTRIBUTIONS

The free distribution of seeds, plants, trees was getting so costly that it had to be stopped at the beginning of 1920.

VISITORS

Three thousand two hundred and sixty-six visitors came to the Station during the year, besides the large numbers who drive or motor to Cap Rouge on Sundays and on holidays.