

has demanded a considerable increase in the number of these, and has enlarged the sphere of work carried on. One great cause of the expansion, other than the need of newly-settled districts for some such institution within easy reach, has been the fact that each section of country opened to the settler has presented new problems possible of solution only by experimental work carried out in that locality. The increased complexity and number of questions studied are also to a great extent the result of the educative influence of the farms themselves and the greater interest in correct methods of farming which they have helped to arouse among the farmers of Canada.

At the request of Mr. Grisdale, Director of Dominion Experimental Farms, I had the pleasure of accompanying him on a visit of inspection to one of these, the experimental station for Central Quebec, Cape Rouge, Quebec. The farm is situated approximately in latitude 47° N., about nine miles from Quebec City. The property consists of 326 acres. It is all tillable with the exception of about 25 acres. The soil varies from a sandy to a heavy clayey loam. It is said the soil is suitable for every cereal, vegetable, or fruit which will thrive in Central Quebec. The site of the station, 150 ft. above the mighty St. Lawrence River, is admitted to be one of the most beautiful to be seen in any land.

The work and farming methods carried out on this farm are in keeping with the varied soils, agricultural requirements, and climatic conditions of Central Quebec.

The live-stock consists of horses, dairy cattle, sheep, and swine. Poultry and bees are also kept on a small scale. A stud of registered French-Canadian thoroughbred horses has been established. This breed is very popular, especially for light-harness work, in eastern Canada. The dairy herd is comprised of over fifty head of pure and grade French-Canadians, a very healthy breed of dairy cattle, black or dark-brown in colour, small in size, but with good constitutions, giving a fair average yield of milk per day, with an average of from 4½ to 5 per cent. of fat in the milk.

The field crops consist of swedes, maize, carrots, oats, and hay. Crop rotations of three, four, and six years are being conducted since 1911. It is yet too early to give definite results. A large number of variety tests are being carried out with swedes, mangels, sugar-beets, and carrots on duplicate plots of one-fiftieth of an acre each; with Indian corn, to ascertain the best yielding varieties for silage; with wheat, barley, oats, and peas, on one-sixtieth-acre duplicate plots; and with close on four hundred varieties of vegetables. Seed-growing from many varieties of beans, corn, cucumber, lettuce, musk-melon, peas, peppers, radish, squash, tomatoes, water-melon, &c., is becoming a source of profit.

Conifers, deciduous trees and shrubs, roses, perennials, annuals, and bulbs are grown for ornamental gardening.

The farm buildings are modern, well lighted and ventilated, and with many up-to-date facilities.

Growing Field, Root, Vegetable, and Flower Seeds.

The present war in Europe has disorganized the usual sources of seed production and supply (in the past principally from France and Germany), and Canada has been quick to see that the time is ripe for establishing and developing certain industries in the Dominion which were either not in existence before or were conducted on a small scale. One of these is the production of root, vegetable, and flower seeds. Now Canada is moving in the direction of making herself independent of foreign markets and producing at home what had in the past to be bought abroad. Experiments at the Dominion Central Experimental Farm have shown that when the plants and seed have been properly selected, as good or better results are obtained by using home-grown seed than imported.

Medicinal Plants.—Some attention is being given to the cultivation of these, but as the total quantity used in commerce of many of the drug plants is comparatively small, it is evident that the area devoted to their growth on a single farm will also be small, and hand labour will have to be largely used in the production of these for market.

Co-operative Demonstrations.

With the view of securing wider dissemination of agricultural knowledge the Dominion Department of Agriculture, on the advice of Mr. J. H. Grisdale, Director of Dominion Experimental Farms, has, after mature consideration, decided that the best way to achieve this object would be to secure certain areas of from 2 to 45 acres each, depending on the nature of the demonstration—small areas for lucerne, maize, &c., larger areas for cultural methods—for a term of years, having a frontage on main roads as near to towns or villages as possible. The nearer the marketing-point the more people, farmers and townspeople alike, will see it, and the better it can be supervised.

This scheme was put into operation in 1915, when twenty-nine farms were selected by the Director, and he stated at the time of my visit that forty more farmers in central situations had made application for such demonstrations. I understand that it is entirely in the hands of the Director or a representative of the Dominion Department of Agriculture to decide as to whether a farm is suitable or not. Further, a feature of these experiments is that the farmer selected should be a man who believes in the work, who is already a competent farmer, and who has the respect of the community. The idea should be not to have to educate the demonstrator more than one can help, but give the stamp of approval and prestige of the Department to work he would perhaps be doing anyway.

If the areas selected are too small the results will be subject to criticism as not being obtained under field conditions; if too large it will be hard to get good conditions and to supervise the work. It is better not to have more than two or three demonstrations under way on any one farm at one time.