The Purpose and Plan of the Canadian Experimental Farm System.

"It is henceforth indispensable that agriculture, which, in our country, has been hitherto a science of observation, should become at the same time an experimental science."—Report of Mr. L. Grandeau to French Minister of Agriculture in 1868."

"In Canada, agriculture may be said to lie at the foundation of the nation's prosperity, and involves interests of such magnitude and importance that any reasonable expenditure might well be incurred, providing the results were likely either to add directly to the profits of the tiller of the soil, by enabling him to increase the products of his land, or to save him from some of the losses incident to want of knowledge or experience."—Report of Mr. Wm. Saunders to the Canadian Minister of Agriculture, in February, 1886.

It was in November of 1885 that Mr. Wm. Saunders, then of London, Ont., received authority from the Dominion Government to make a report upon the Agricultural Colleges and Experimental Farms of the United States and other countries, pursuant to the recommendation of a select committee of the House of Commons in 1884, favoring the establishment of an experimental farm. In Feb., 1886, Mr. Saunders laid the results of his investigations before the then Minister of Agriculture, Mr. Carling, recommending in outline a proposed plan for organization and management. The extensive system, as it exists to-day, consisting of the large Central and four branch provincial farms, embracing about 2,500 acres of land; buildings, and other improvements, stock, staff, etc., may be said to be the embodiment of the conception formed by Mr. Saunders ten years ago, and whose careful directorship during that period has left its unmistakable impress.

At the Central Farm at Ottawa, Ont., the experiments conducted cover nearly all departments of agriculture, horticulture and arboriculture, and the information which is being disseminated from year to year in reports, the agricultural press and bulletins, giving particulars of the results obtained at all the experimental farms, have done much to awaken a more intelligent interest in this most important of all our national industries, and in conjunction with other agencies, is fast leading to the adoption of improved methods, and to the selection and cultivation of more profitable varieties. The annual distribution of samples of grain for test has also placed in the hands of a large number of farmers the material which is enabling them to determine for themselves the varieties of grain and other products most useful for growth in their districts, and in this way all the different climates of the Dominion are rapidly being supplied with those sorts most suitable and most profitable for cultivation in each locality. The scientific branches of work carried on at the Central Farm in connection with the destruction of injurious insects, the subjugation of pernicious weeds, together with the important chemical work constantly in progress relating to the solution of agricultural problems, are also proving of value.

On the branch Experimental Farm at Nappan, N.S., established for the benefit of the Maritime Provinces, special attention has been given to experiments with grain, especially oats and barley, also with roots, fodder plants and grasses, with the main object of furthering the dairy industry. A large number of different varieties of fruits are being tested. Experiments are being conducted with different breeds of cattle, swine and poultry, and much attention has been given to the draining and general improvement of the land.

On the Northwestern Farms at Brandon, Man., and Indian Head, N.W.T., the best methods of growing wheat and other varieties of grain, with best methods of treatment of soil, have naturally claimed a large share of attention. Experiments have also been conducted along all promising lines of agriculture and horticulture, and much attention has been paid to the growing of trees for shelter and other economic purposes. Useful work has also been done with stock and fodder crops, looking towards a greater development of the cattle and swine industries, and an enlarged output of dairy products.

At the Experimental Farm for British Columbia, which has been located at Agassiz, B.C., a large share of attention has been given to the testing of varieties of fruit. Much useful work has also been done with fodder plants, roots, grasses, and clovers, also in testing different breeds of cattle, swine and poultry. In addition to the extensive orchards and plantations of fruit, which now include more than 1,800 varieties in all, large plantations have been made of useful hardwood timber trees, of which that section of the Dominion, with all its forest wealth, is very deficient. These special lines of work, on which reliable information is much needed, have awakened great interest in the Experimental Farm there, and the results obtained from year to year are carefully watched by a large number of intelligent settlers.

Being *experimental* in their purpose, such farms are not to be regarded merely as direct money-making enterprises. Their design is to attain helpful knowledge and stimulate others to its application. A public farm, too, let it be remembered, is not exempt from many of the difficulties that meet those under private management, and is subject to many of the same natural conditions that make for success or otherwise in its varied operations.

It would be impossible in a brief sketch to mention all the different lines of work in progress at each farm, but they have been so arranged as to cover all those departments believed to be of benefit to the district, the greater attention in every instance being given to those branches which are deemed to be of paramount importance in each case. Further points of interest will be noticed in our references elsewhere to the annual report.

Australian Prospects.

(BY AN OCCASIONAL CONTRIBUTOR.)

Australia has passed through a very fiery ordeal of late. The collapse of more that half of their banks proved the ruin of thousands of families. Some that had been paying interest as high as 20 per cent. on their original capital for nearly a quarter of a century came to grief; a few managed to stand the crisis; but many have closed their doors never to be opened again. Some are struggling on, and hope to recover; but it is an uphill game, as they have promised to pay their creditors, or depositors, at the rate of five per cent. on their money invested; and at present, in consequence of the low rate of interest ruling, it is found a very difficult job to pay this amount, and they are endeavoring to induce them to take less.

One of the great questions of the day is the federation of the various colonies, and the time is near when this will be brought about; and one great Southern nation, having the same laws and the same customs-house duties, and probably one governor and one parliament, instead of five of each, will save a great amount of expense and much trouble and annoyance that now exists. Southern Britain might, perhaps, be suggested in preference to a commonwealth;—a rose will smell as sweet by any other name. The feeling is gaining ground that the time has come for a union of the several small states; and one united nation, like the Dominion of Canada, would be a grand thing for Australia, and is necessary for her own protection now that the Japs have come to the fore.

I think that things have taken a turn for the better now that wheat, wool and silver are looking up.

The discovery of very extensive gold mines in Western Australia has lent a great stimulus to gold mining; and the richness of some of them, and the vast extent of their fields, will take ages to exhaust. Some of the reefs in the Murchison district have been tested in depth to hundreds of feet, and have proved themselves to be of a permanent character. This will go far to the making of the colony, and will prove profitable to the other colonies in relieving the congested state of the labor market.

The farmers in Australia, as well as in all parts of the world, have suffered greatly from the extreme low rate of the price of wheat; but the silver lining to the cloud is showing, and good times and prices may be nearer at hand than many expect.

Our Premium Wheat.

We have received from Mr. C. A. Zavitz, Experimentalist at the O. A. C., Guelph, a copy of his winter wheat report for this season, based on reports of successfully-conducted experiments in thirty Ontario counties. The Dawson Golden Chaff again heads the list, with a yield of 32.9 bushels per acre; Early Genesee Giant ranking next, with 30.8; then Early Red Clawson, 28.9; Jones' Winter Fyfe, 28.8; Pride of Genesee, 28.8; American Bronze, 28.6; Surprise, 28.1; Early Ripe, 27.8; Early White Leader, 27.4. In the summary of results we note the following:—

"Dawson's Golden Chaff was decidedly the most popular variety with the experiments in each of the past three years; and during the present season it was chosen by over 60 per cent. of the farmers who sent in full reports, as being the best among the varieties tested."

As we chose this sort as our leading wheat premium for obtaining new subscribers for the ADVOCATE, and have sent out a large quantity of it, we are pleased to find that this season's threshing has proved so satisfactory. The experimental lots sent out by Mr. Zavitz this season are as follows:—

Set 1—Dawson's Golden Chaff, Early Red Clawson, Jones' Winter Fyfe, Surprise, and American Bronze.

Set 2—Dawson's Golden Chaff, Early Genesee Giant, Pride of Genesee, Bulgarian, and Jones' Square Head.

Editorial Notes.

It is gratifying to note that the British sheep sales are proving most successful this season.

"FINEST CANADIAN HAY" stands out conspicuously in the advertisement of an Aberdeen firm in one of our Old Country exchanges.

A general revival of trade and industrial activity throughout the United States is reported by the Massachusetts Ploughman.

The Farmer and Stock Breeder (of London, Eng.) notes that, after a lapse of some years, the foreign trade in pure-bred stock is showing signs of improvement.

Our readers will note with satisfaction the growing popularity of Canadian bacon in England, as stated by Hodgson Bros., the well-known Liverpool importers, in our market department.

Mr. John Lowe, who for many years has so efficiently filled the post of Deputy Minister of Agriculture at Ottawa, has been superannuated, being succeeded by Mr. H. H. Smith, Land Commissioner at Winnipeg.

There is said to be room for an increased wheat production in Russia by two distinct processes: Agricultural methods may be improved, and fresh areas may be brought under cultivation; but, according to a recent consular report, progress in either direction will be extremely slow.

In view of the light hay yield, corn fodder, of which there is a large crop, and straw are by far too valuable to be carelessly handled this fall. (The prudent man will never waste either.) Suggestions, therefore, as to the best plans of caring for—and feeding them also—are in order. We commend the concise and practical suggestions of Mr. Thos. Baty, in another column, giving his method of handling and preserving corn fodder.

A fresh canard, calculated to be of service to those who desire to check the incoming tide of Canadian food supplies, has been started in England, to the effect that "filled-cheese" from Canada has been received there. As is very well known, this abomination is absolutely prohibited in Canada, under a penalty amounting to as high as $500 fine. Canada has found it more profitable to devote her attention exclusively to the production of pure, high-class dairy goods, that are now crowding hard the home-made article.

The Manitoba Crops.

From reliable reports and from personal inspection, we have no hesitation in pronouncing the crop of 1895 the record-breaker.

We believe the last Government estimate of 25.5 bushels per acre will prove to be below the mark. Yields of 40 bushels per acre are by no means uncommon, and some limited areas are reported to have gone as high as 45 and even 50. Putting it at 30 bushels, the wheat area of 1,140,276 acres would yield a total wheat crop of 34,208,280 bushels. Other grains are in proportion. Of course the harvesting of these phenomenal crops costs more than ordinary ones; it takes much more time to reap them; double the amount of twine is required—hundreds of acres requiring as much as five pounds of twine per acre; then the great bulk of stuff to be stooked, stacked and threshed greatly increases the cost of production. Frost has, to some extent, in a few districts, left its mark on the wheat kernel, but the average of the crop will not be materially affected thereby.

Prices are, however, very disappointing, the high values reached during the summer months, when practically all the wheat was out of the farmers' hands, and, the corresponding increase in the price of flour, raised people's hopes that at least a fair price would be obtained this fall; but before a single load of new wheat was put on the market, prices all went to smash, and buyers seemed afraid to risk a bid, finally opening the market at 40 cents or a little better.

The big millers seem to be masters of the situation; for the past year they have played their cards well, and it seems as though there was nothing to prevent them manipulating the prices again this year to suit their own ends; for the great majority of the farmers will have to sell almost immediately and take what they can get for it. Only those least in need will be able to hold any quantity for a better market.