

and should be located near the dairy barns, preferably about twenty feet distant, and on the opposite side of the barn from the barnyard or where the cows are turned out. The dairy barn should have plenty of light, as sunlight is the great germ destroyer, and plenty of room should be left in front of the cows for feeding, and also behind for cleaning out. The average stable containing two rows of cows is usually 36 feet wide, some are 38 or 40 feet. The wider the stable, the lower the ceiling required. In this cold climate about 576 cubic feet of air space is sufficient for each cow.

After the buildings are arranged the farm should be laid out, and in the farm plan the pasture should be located as near the stable as is consistent with good farming. The dairy cow manufacturing a large amount of milk every day should not travel very far, and if compelled to do so will pay the owner back by a corresponding shrinkage in the milk pail.

In the laying out of the farm and dairy buildings, comfort and convenience should be the two great factors. In order to have the animals do well they must be comfortable, and by having the buildings convenient there is a great saving of labor which will reduce the cost of production.

Close Selection to Meet High Cost of Production.

In selecting the cows for the dairy, quality rather than numbers should be considered, especially in these times when dairy feeds are so high in price and labor is so scarce. There never was a time when the scales and Babcock test were so badly needed in the dairy stables; never a time when the herd should be culled so closely. No one can afford to feed oat chop and bran to a low producer at present prices.

No doubt a great many people, attracted by the high prices, are selling these expensive grains and leaving the cows to rustle around straw stacks. This is a great mistake, for, if dairy cows are poorly fed they soon deteriorate, and it would be a national calamity to neglect our dairy herds. As soon as the war is over and conditions are normal again, dairy farming will become as profitable as it formerly was. And now is the time for the dairyman to remain steadfast and look to the future rather than the present and start to improve the herd by culling out inferior cows and buying first-class sires. High-class bulls can be bought cheaper to-day than for several years past, and I think it would be advisable to start now and build up a first-class herd and be prepared for after war conditions.

The Call for Bacon.

There is a call from the Allies for a great supply of bacon to feed their armies in the field. Dairy and hog raising go well together. The skim-milk mixed with a little shorts or oat chop with the hulls sifted out, makes a feed for young pigs which cannot be improved upon, so that with present prices of butter and skim-milk utilized in this way, and with the poor cows culled from the herd and the rest well fed, a profit can be derived from the business without taking into account the improved condition of the soil on the dairy farm compared with the grain farm.

Conserving Fertility.

Dairy farming takes but little from the soil. Wheat at \$1.00 per bushel, the normal price, is worth \$33.22 per ton, and it carries with it elements of fertility worth \$9.59 per ton. This value is calculated on a basis of 20 cents per pound nitrogen and 6 cents per pound potash. A ton of milk at \$1.50 per cwt. is worth \$30.00 per ton, and the elements of fertility are only worth \$2.56 per ton calculated on the same basis, but the manure put back on the farm soil will more than offset the \$2.56. In the older parts of the country and in the older European countries where the land has become depleted in fertility by continued grain growing, the farmers who have engaged in dairying have brought their farms back to their former state of fertility.

This has been done not only by applying the manure on the soil, but also by growing luxuriant fodder crops. In Ontario and the Eastern States these crops comprise chiefly the clovers and corn. In some parts of this province these crops have not as yet been grown successfully. The one hope of profitable farming in the future in this country is in the growing of some kind or kinds of fodder crops, preferably of the legumes, such as clovers and peas, as these crops leave the soil in excellent shape for the small grains to follow next season.

Succulent Feed the Year Round.

The most common fodder crop in Alberta is oats cut green and known as green feed. This feed can be greatly improved by sowing one bushel of peas with the oats. This makes a better-balanced ration than green oats alone, as peas are rich in nitrogen, and it leaves the soil in better condition for the crops that follow, as a certain amount of nitrogen is stored up in the roots. Oats and peas not only make good dry fodder, but if run through a blower and put in a silo, make excellent silage. In the irrigated districts alfalfa is the great fodder crop, and needless to say there is none better, especially for the dairy cow; but in a great many districts of the central and northern parts of the province it has not proved a success. Rape is a splendid fodder crop and is being used by a larger number of farmers every year, its great value being as pasture for sheep and hogs. It is used only to a limited extent for dairy cattle on account of the objectionable flavor imparted to the milk, but if the cows are turned into the rape directly after milking for an hour or so the flavor has not been detected. Turnips can be successfully grown in any part of the province and are a good asset in supplying succulent feed through the winter months.

Tame grasses such as timothy, Western rye grass,

brome grass, and some others, can be grown successfully over a great part of the province, and where well cured make excellent feed in conjunction with green-feed silage and roots. Corn has proved a profitable crop in the southern part of the province, and where put in the silo alone or mixed with green oats, green oats and peas, or alfalfa, makes a splendid succulent feed through the winter months.

New Brunswick Farmers' and Dairy-men's Convention.

The forty-second annual meeting of the New Brunswick Farmers' and Dairy-men's Association opened in Fredericton, March 12, and despite the stormy weather and the difficulties caused by the tie-up of railway facilities as a result of the heavy snowstorms, a large number of farmers from all parts of the province put in an appearance, and the convention may be said to have been of a thoroughly representative character. After the visitors had been formally welcomed to the city by the Mayor, the President of the Association, Isaac Baird, of Chipman, Queen's County, opened the proceedings with a very interesting and instructive address, in which he pointed out that the tiller of the soil was upon looked as the main hope of the country at the present time, and would continue to be so for several years to come, and he trusted that they would all measure up to the requirements that would be demanded of them. The progress which the agricultural industry had made in the province during the last few years showed very plainly that there was no part of the Dominion offering greater advantages to farmers than did New Brunswick, its nearness to the markets of the Old Country, and those of the United States, also, not being the least of these. The call to farmers to extend their operations and increase their output, was one they could not afford to let go by unheeded; patriotism demanded it of them, and their own interests should induce them all to their utmost. It was a matter for regret that the past season had not been as favorable as they could have wished, but he hoped that none would allow themselves to be discouraged, but that one and all would produce as much as possible in the coming year.

The Hon. J. F. Tweeddale, Minister of Agriculture, dealt with the food question, and the farmers' duty in regard to it. He admitted that it was not very much use to call on tillers of the soil to increase their output unless they could be provided with an adequate supply of help, and to this end leave of absence had been asked for, for those men who had been drafted under the Military Service Act, who had previously worked upon farms. If a farmer needed help to put his crops in and later to harvest them it would be forthcoming. The idea that any man off the street would be satisfactory as farm help, as some people seemed to think, was all nonsense; an inexperienced farm hand was almost worse than no help at all. He, the Minister, wanted to induce farmers to increase their live stock operations. Many men preferred to grow crops that would bring in quick returns, rather than look after stock. This might have been the most profitable course to take down to a few years ago, when the price of meat of all kinds was less than half what it is at the present time; but having regard to the high prices now ruling, and despite the high cost of feeds, live stock must surely pay farmers to produce. The trouble often was that the present high prices tempted farmers to sell young animals that were too good for the butcher, and should be kept for breeding purposes; and if that practice was to continue it would be idle to expect to raise the standard of the stock in the province very much, no matter how good sires they might use.

An address from the Provincial Representative of the Food Controller followed, in the course of which the great shortage of food supplies of all kinds was emphasized and the urgent need of greater production pointed out.

The raising of sheep was dealt with by T. Hetherington, one of the provincial live stock husbandmen, who pointed out that New Brunswick farmers were very much behind their brethren in several of the other provinces in this respect. The dog nuisance could not be relied upon as an excuse, as there was now a law that, properly administered, would put the dog out of business. The majority of districts in the province were ideal for sheep raising, and in view of the demand for mutton for food, and of wool for clothing, it was astonishing that so few farmers cared to go in for sheep. Now that the government had organized facilities for co-operative marketing of wool, and had established stations where it could be graded, farmers should avail themselves of these facilities, and each keep a few sheep at least. With wool at present high prices those who did not keep sheep seemed to be throwing away golden opportunities.

A. C. McCullough, the provincial poultryman, was the next speaker, and he put up to the farmers very plainly the opportunities they were missing by not keeping a reasonable number of hens. There was no reason why every farmer should not have at least a hundred hens on his farm, and no stock would give such high returns for the labor involved in looking after it as poultry. Those who did keep poultry in many cases did not take the trouble to look after them properly, and the result was that they did not get the profits they should get, and then they said poultry did not pay.

Prof. Enslie of Ottawa, addressed the members on the fertilizer question, more particularly on the value of lime, and urged them all to make as much use as possible of that mineral, as there were few soils that would not be considerably improved, and their pro-

ducing power augmented by the use of it. He was followed by Prof. Brownlee of the Dominion Experimental Farm at Fredericton, who gave an instructive account of the experiments he had been carrying on with potatoes at the Farm. Many strain tests had been conducted, and the results fully noted. Similar tests had been carried out by farmers in different parts of the province, and the results compared with those obtained at the Farm, and in several cases the results obtained by the individual farmers were much better than his own. For instance the highest yield of Irish Cobblers obtained at the Farm was 220 bushels per acre, whereas the highest yield obtained by farmers with the same variety was 474 bushels, and the lowest 371 bushels. Better results had been obtained by some farmers with Green Mountains than he had been able to get, the best he could do being 291 bushels, while others had got as much as 350 bushels. The Experimental Farm at Ottawa had been trying Fredericton grown seed in comparison with some of their own, and the results obtained showed the great superiority of the former. For instance, Irish Cobbler, Fredericton seed, yielded 360 bushels to the acre; the Ottawa seed yielded 68 bushels; a difference of 292 bushels. In the case of the Green Mountain potatoes the seed from the Experimental Farm at Fredericton yielded 345 bushels, while the Ottawa seed yielded 99 bushels, a difference of 246 bushels. In the case of Gold Coin potatoes the Fredericton seed yield was 356 bushels, as against 22 bushels from Ottawa seed.

Prof. Trueman of the Truro College, gave some sound and practical advice on breeding and feeding dairy cattle, and illustrated his remarks by some tables of statistics. He pointed out that farmers should not be disappointed if the offspring of a particularly good cow were not such heavy producers as their dam, for she might be a better producer than the average of her ancestors, and her offspring would simply follow the average. By continually using bulls from heavy producing dams, however, it was possible to raise this average with each generation.

Co-operation was the theme of a stirring address by J. D. McKenna of the Maritime Farmer, Sussex. He told his audience that they had already had some experience of the benefits of co-operative purchasing in the way of fertilizers through their societies, which had, by buying in quantities, been able to supply farmers direct at cost price. They were anxious to extend their operations and increase their efforts and get cheaper feed, but the millers refused to sell feed to the agricultural societies, unless the latter would take flour also, which the farmers did not want. In view of the fact that flour was so badly wanted overseas, it seemed strange that the millers should try to force it on the societies who did not want it, so that they might be able to get feed as well, and he had taken the matter up with the Food Controller, who told him he would "scarily" every miller in the country if they refused to change their tactics. As soon as the millers got at the Food Controller, however, that official climbed down, and said the millers were correct in their attitude and he should not interfere. The result was that millfeed could only be bought through the retailer, and the full retail price had to be paid for it.

Prof. Grisdale gave New Brunswick agriculturists some sound advice when he recommended that they go in for growing flax. Some of the best specimens of fibre he had seen he said were grown in this province, and it would certainly pay farmers to put some of their land under that crop. A factory had been established at Ottawa, so farmers were sure of a market for all they can produce. Referring to tractors, he said they were all right for the prairies where the fields were a mile long, but for Eastern Canada, money laid out on them was more or less wasted. A heavy team of three horses and a double-furrow plough would give the farmers of Eastern Canada far more satisfactory results than any tractor, at less than half the cost. He also advocated larger fields, as the time wasted in turning about the small fields resulted in serious loss. The milking machine he said was an appliance that could be very profitably used by a man having a dozen cows, as it saved a large amount of labor, and proved more of a success on some kinds of cows than hand milking. He also urged the need of increasing the supply of pork, not only on account of the very remunerative price it is now bringing, but on account, more particularly, of the demand from overseas.

Reports from the several county vice-presidents indicated that the past season had been anything but a satisfactory one as a rule. The cold, late spring, with the excess of wet weather that accompanied it, interfered very seriously with seeding operations, and as a rule the crops obtained were inferior in quality and much below the average in yield. Hay was about the only crop that was plentiful but the scarcity of help prevented many farmers from getting in all they had and a considerable amount was left standing in the fields and was later ploughed under. The area seeded to wheat was larger than for many years, and had the crops been better, would have given very satisfactory results. Oats were a fair crop, a good crop, in fact, on dry and well-drained land; buckwheat almost a total failure. Barley was less grown than formerly, and few farmers seemed to care whether they grew it or not. Potatoes were not up to the average owing to the wet season; turnips were also less than usual, and in some districts owing to the lack of farm help, had to be left in the ground to freeze. In some parts of the province many fields were not seeded to anything on account of the land not being in workable condition through the wet; and in many others the crop sown failed to come up and everything—time, fertilizer, and seed, was wasted.

A visit was as usual paid to the Experimental Farm, three miles below the city, and Superintendent Hubbard,