

KEEP MORE SHEEP

The constant demand and high market prices at present and for some time past prevailing for lambs and mutton, certainly makes the raising and feeding of sheep one of the most profitable branches of farming in Canada, taking into consideration comparative cost of production in labor, food and cash outlay, a statement which, judging from the scarcity of sheep in this country, few farmers appear to accept, though it challenges successful contradiction. Sheep will thrive and grow wool and mutton on pasturage on which cattle or other stock would fail or starve. Sheep help to keep the farm clean by eating weeds that other stock will not. In summer, sheep require practically no attendance, and in winter, an average of an hour each day of a man's time is sufficient to supply the wants of a flock of fifty sheep to keep them in thrifty condition, while, if fed for the meat market, weight may be added at considerably less cost of food and labor than in the case of any other class of stock, and the product, as a rule, sells for a higher price per pound than any other meat, while the fleece—an annual crop which no other stock produces—generally sells for nearly enough to pay for the winter's keep of the animal. The winter quarters of a sheep, as a rule, require cleaning out not more than twice during the winter, and, with occasional fresh bedding, the manure accumulated is of first-class value as a soil fertilizer. There is room on the farms of this country for many times the number of sheep now kept, without seriously lessening the crop acreage or the number of other stock maintained. There is no country in which sheep are less liable to disease of any sort than in Canada, and the complaint that dogs are a menace to sheep-raising, applies with no more force here than in other countries. Even in England, where sheep are many times more numerous to the square mile than here, dogs are in evidence in the same relation, and do damage in proportion, but farmers there do not abandon sheep-raising on that account. There are many flockmasters in this country who have kept large flocks for twenty to forty years without any serious loss from dogs, and, with reasonable caution, there is comparatively little danger of loss from that source.

Owing to the present temporary quarantine of thirty days imposed by the United States against sheep from Canada, trade with that country, which has been our best market for breeding stock, is being checked for a time, but there is every reason to believe that it will be only for a comparatively short time, as our sheep are needed for that market, and are popular with breeders and feeders in that country on account of their healthfulness and thrift, and the present is an uncommonly favorable opportunity for Canadian farmers to found a flock or add to existing flocks, as most of the breeders of pure-bred sheep are heavily stocked, and are prepared to dispose of surplus stock at moderate prices, as our advertising columns indicate. Those who buy early in the season will have the advantage of first choice, which may mean a good deal in some cases. Farmers who have grade flocks will have a good chance this fall to secure a good pure-bred ram to mate with their ewes, and may add a few pure-bred ewes to form the foundation of a pedigree flock which will in a few years replace the grades and prove a profitable investment.

THE FARM.

THE WHEAT FIELDS OF THE PRESENT AND FUTURE.

The wheat-growing country on this continent is extending northward. In 1890, the United States was producing eighteen bushels of wheat to Canada's one. Now the ratio is six to one. Within the next quarter of a century, the available wheat-growing land of the Canadian Northwest will be taken up—not occupied, perhaps, but no longer a part of the public domain. We have vast wheat-growing areas in this country yet, and the next twenty-five years will not witness their entire appropriation; but within that time, at the present rate of increase in acreage, as much land as can be safely put to the crop will be growing wheat. This continent is approaching the maximum, so far as acreage is concerned.

In South America, the wheat-growing areas lie between the 30th and 40th degrees of South latitude, chiefly in the Argentine Republic, though Uruguay, and, to some small extent, Brazil and Chili, are exporters of wheat. The Argentine came into world prominence in 1890, by producing a thirty-million-bushel wheat crop. Previous to that year flour had been imported from the States. In 1900 the crop was estimated at 105,000,000 bushels. Since that year it has fluctuated somewhat with, however, a good increase on the whole. In 1901 the crop produced amounted to 156,000,000 bushels. Wheat growing is in a backward condition in the country. Little time is spent in preparing the land, and, as a result, acre yields are low and decreasing. Some improvements in

farming methods are being introduced, but it will take a good long time before new ideas can be worked into general adoption. The Argentine may increase her wheat-producing acreage to some considerable extent still, and has plenty of scope for increasing the acre yield and quality of the product.

In Europe, the largest wheat-producer, of course, is Russia. Russia, in 1907, produced a crop of 455,000,000 bushels. This was less than the average yield, the crop for several years previous standing over 550,000,000 bushels. France comes second, with a crop, for the same year, of 375,000,000 bushels; Austria-Hungary third, with 185,000,000; Italy fourth, with 178,000,000, and Germany a modest fifth with 128,000,000 bushels. Then Spain drops in with an even 100,000,000, and Great Britain heads the list of smaller wheat-producers with a total of about 53,000,000 bushels.

Coming to Asia, the British Indian Empire, with a yield running annually well over the 300,000,000 mark, heads the list. Asiatic Russia, in 1907, produced 56,000,000 bushels of wheat. Turkey and Japan supply the remainder required to bring the wheat produced on the Continent of Asia in 1907 up to 447,518,000 bushels. Japan, it is interesting to note, has more than doubled her wheat output since 1903.

Algeria, Egypt, and Tunis, in the order named, are the chief African wheat-growing states. The Egyptian output for years has stood at 12,000,000 bushels per annum. Algeria produces something like 30,000,000. The British colonies in the south produce a bare 2,000,000; Natal less than is produced on a large Western farm, viz., 6,000 to 8,000 bushels.

The Australasian Continent is a rather indifferent wheat-producer. Drouth sometimes cuts down the yield almost to nothing. In 1903, barely 12,000,000 bushels were grown in the six states of Australia. The next year, 76,488,000 bushels were grown. The yield has been fairly average ever since, running to 68,185,000 bushels in 1907. Including New Zealand, where the crop last year was about twenty per cent. off, Australasia produced 73,967,000 bushels of wheat.

The world's total wheat yield in 1907, by continents, was:

North America	740,693,000
South America	178,636,000
Europe	1,616,086,000
Asia	447,518,000
Africa	51,626,000
Australasia	73,967,000
Grand total	3,108,526,000

This total is just 326,875,000 bushels less than the total of 1906, and the lowest for quite a number of years previously.

Ever since the world began, wheat has been steadily discovering and conquering new worlds. Time and again in the ages past, men have made up their minds that such and such a point marked the limit of wheat-growing; that henceforth the king of cereals would mark time only, and bread-eaters would be obliged to look about them for a substitute for their favorite grain. We have had croakers in our own age prophesying the same kind of thing, and, while thinking men must admit that the wild land of the world available for increased wheat production is becoming circumscribed, it is difficult yet to foresee where the limit on our own continent is to be reached, or how large the areas are in other parts of the world where wheat-growing may be profitably carried on.

A large area of agricultural land, yet untouched, lies in Northern Asia, or Siberia, as the Russian Empire there is called. The wheat-growing possibilities of the vast area lying between the Ural Mountains and the Pacific Ocean, are as yet unknown. Immigration for some years has been pouring into the country from the West, and the agricultural exports from it are steadily increasing.

It is estimated that the world, taking it all over, could just about double its present annual wheat yield if all the land available for use in growing this cereal were called into use—that is, the land already producing wheat—and the uncultivated lands that might be brought under cultivation. It is estimated that the yield from every acre of that land could be doubled, in some cases trebled, by proper methods of cropping and cultivation, and that there is opportunity in sight for the increasing by fourfold the annual supply of the king of cereals. Against this increased supply there must be charged up a possible doubling, trebling, or increasing by fourfold, the army of wheat-bread-eaters. Figure the matter out along whatever line you will, and it comes back to about the same thing. The world, for as far back as history records, was producing, except in famine years, about as much meat as was required for human consumption, and generally a little over to spare. There are no indications at present to show that it will not go on doing it indefinitely, or for so long, at least, as most of us now alive need bother ourselves about.—[Farmer's Advocate and Home Journal.

THE DAIRY.

A trio of Massachusetts buttermakers have formed a company for the manufacture of glue. A number of kinds of glue and pastes of different consistency, and applicable in a number of useful ways, may be manufactured as a milk product.

The United States Agricultural Department reports that there are 19,000,000 cows in the United States, and that they produce nearly 68,000,000,000 pounds of milk annually. From this milk is manufactured 1,650,000,000 pounds of butter and 300,000,000 pounds of cheese.

More creameries fail through lack of proper management than from any other cause. Dairying has grown to such dimensions in these days, competition among creameries has become so keen, that only well-informed men can succeed in it. Indifference to the changes that are constantly taking place, unprogressiveness, getting behind in method or equipment, will sooner or later affect a creamery's business disastrously. The dairy science is developing. A man nowadays who makes butter, or manages a creamery, has to know a lot more about his business than the operator of twenty years ago knew; has to be informed in matters which the maker of that period never dreamed of.

COMPARISON OF FEEDS IN DAIRY STABLE.

The twentieth annual report of the Vermont Agricultural Experiment Station shows the experts in dairying to have acquired a habit of figuring out the cost of operations to the exact cent. The shrewd Yankee farmers of this small State, where good land is somewhat scarce, speaking comparatively, have studied the profit and loss side of dairying, perhaps, better than it has been done in any other section of America. As dairying is the main agricultural feature of the State, we are not surprised to see such a large part of the Annual Report dealing with cows and cow-products. The dairy features are divided into two parts, "Stock-feeding" and "Dairy Husbandry."

FEEDING DAIRY COWS.

Rations containing the same amount of digestible nutrients do not, as a result of three years' trial, produce the same amount of milk and butter. That is to say, if two rations are compared, containing the same amounts of digestible fat, carbohydrates and protein, and having approximately the same nutritive ratios, but the nutrients being obtained from different sources, it does not follow that the same results in milk flow or butter production will be obtained. This emphasizes the common-sense view of balanced rations, which is, that they are to be taken as guides in the practical feeding of cows, but they need to be mixed with a liberal amount of common or cow sense.

"Medium" and "narrow" rations gave an increase of from 2 to 11 per cent. in milk production, as compared with "wide" rations, though the quality of the milk was unchanged. The "wide" rations were 1:9 and 10; the "narrow," 1:5.8 and 6. For the benefit of those not familiar with these terms, we may say that a "narrow" ration is one in which the heat-producers (fat and carbohydrates) are not in too great excess of the muscle-formers (protein, etc.). For instance, a ration in which there is but 4 or 5 pounds heat-formers to 1 pound of muscle-formers is called "narrow," and is written 1:4 or 1:5. On the other hand, when we have 8, 9 or 10 pounds heat-formers for 1 pounds of muscle-formers, the ration is called "wide," and is written 1:8, 1:9, or 1:10. A ration of 1:6 or 1:6.5 would be classed "medium."

There was no connection, so far as could be ascertained, between protein content of the food and casein in the milk produced.

So far as could be observed, gluten meal containing 29 per cent. protein, made as much and as good milk as did gluten meal containing 36 per cent. protein. It would seem that the chemist has not yet got his digestion methods "tracking" exactly with cow methods of digestion.

Buckwheat middlings made cheaper milk and butter than did cottonseed, linseed, or corn-and-bran rations. The quality of the butter seemed somewhat impaired when they (buckwheat middlings) were fed in large quantities.

When comparing light meal, such as bran, with heavy meal, like linseed, the conclusion reached was that the light meal is often as good, according to weight, as the heavy meal, but the milk from bran-fed cows was more difficult to cream by deep-setting methods.

Comparing six of the station herd of cows fed on meal while at pasture, with cows in twenty herds owned by farmers in the State, and to which no meal was fed when on grass, the results indicated a larger flow of milk in the spring and one better maintained in the fall, where cows received meal during the pasture season.

The Station set about to answer the question,