

and when brought safely through the first winter yields a bountiful crop for years. It is best adapted to well-drained, rich loams, inclining to a sandy texture. It is not relished by the stock so highly as clover.

5. Timothy and Mammoth clover make an excellent green food, the combination being complementary to each other in their constituents, and ripening at the same time.

6. Alsike clover and timothy grown together answer equally well. By commencing to cut when the first blossoms appear, this crop may be fed for three or four weeks.

7. Oats and peas, oats and vetches or tares, or oats, peas and vetches, come next, sown mixed, at the rate of say $1\frac{1}{2}$ bushel oats, $\frac{1}{2}$ bushel peas, and $\frac{1}{2}$ bushel vetches to the acre, and at successive intervals of say 10 days apart. They make the best ration when the grain is in the milk, but feeding may commence when they first head out.

8. Common millet, Hungarian grass and Italian millet are all useful as green fodders. They may be sown from May 1st to 1st July, $\frac{1}{2}$ to 1 bushel seed per acre, and should be cut before early blossom for soiling.

9. Corn is the most valuable of all green crops for soiling purposes. It should be planted in drills for summer soiling at the rate of from $\frac{1}{2}$ to 1 bushel of seed to the acre, from 24th May to 10th June. It may be sown with the grain drill, from 30 to 36 in. apart, and suitable harrowing after planting and thorough cultivating are of much importance. Feeding may commence when the corn is formed in the ear.

10. Rape is valuable for fattening sheep and cattle, and may be sown in drills profitably on land handled in the first part of the season as a summer fallow on the same plan and with the same after-management as in turnip-culture; it is eaten on the land.—*Bulletin 38 Ontario Agricultural College.*

The Dairy.

TAKING for granted that a cow gives 3,000 lbs. of milk in a season of six months, on good pasture, and that the milk is sold off the farm, there will be sent with it the mineral substances contained in 20 lbs. of ordinary bones. These mineral constituents cannot be replaced otherwise than by direct application. Every calf raised takes off also in the near neighborhood of 10 lbs. per annum, so that it can be easily seen that to keep up the fertility of pastures so depleted it requires an application of about 40 lbs. of bone dust to cover well the deficit. It would take one ton of good farmyard manure to supply this mineral matter; but it must be remembered that the farmyard manure, while not only supplying the mineral constituents deficient, also adds considerably to the nitrogenous matter in the soil, and further produces a beneficial mechanical effect such as no special fertilizer will.

Do not compel your cows to eat the filthy urine-steeped straw of the horse-manure pile to satisfy their normal cravings for an alkali, but give it to them in a cheap as well as cleanly form by means of pure and clean salt, either as rock salt or the ordinary form of commerce. Some prefer the former because it is easier to feed and requires less attention, while others, with equal confidence advise the use of the latter, claiming that the cattle satisfy their appetites easily, which they do not always do in the other case, as their tongues become tired before their wants are satisfied. The real function of salt in the animal economy is not known further than that it serves somewhat in the capacity of a stimulant as well as an appetizer. From the avidity with which animals will lick spots of soil having a little alkaline substance in it clearly shows that it has a work to perform in their systems, and even if it only tickles their palates it is surely advisable to do so if it shows itself in the milk pail, as experience testifies, or at the scales.

THE great art of making a sweet-smelling and good-keeping quality of butter, lies in the fact that the more successful you are in getting out all the substances other than the pure fat, the nearer you come to the desired result. This cannot be achieved by the old dash-churn, for though the principle of the latter is good, yet it does not permit of a thorough cleansing of the buttermilk out of the butter, only partly so by way of the mashing and texture spoiling system, followed in a number of our farm dairies. The butter milk should be washed out, not worked out, for beside the latter method failing in its object, it also injures the keeping qualities by breaking the natural grain, a feature possessed by all good butter, thereby making it like grease in its structure. Pure fat will keep almost indefinitely, but the casein or milk-sugar are easily decomposed, and the skill of the buttermaker shows itself in the degree to which he can get rid of the latter substances found in milk. A small box churn, somewhat after the style of the ordinary creamery box churn, facilitates the thorough washing of the butter while in the granular form, and this is one of its most excellent features.

FOR THE CANADIAN LIVE-STOCK AND FARM JOURNAL.

Butter Dairying in Peel County.

Among the many counties that are noted for their dairy production that of Peel stands well to the fore. This is given strength by the many prizes for butter captured by this county at the Toronto Industrial fair for a number of years past.

Years ago the attention of almost every farmer in the county was devoted to the raising of grain, which was converted into cash as soon as threshed, and Peel can boast of many farmers who have become wealthy by selling wheat and barley.

There have been a few good stock-breeders, prominent among whom we must mention the names of John Snell & Sons, of Edmonton; A. Frank & Sons, The Grange, and many others who have done and are yet doing a grand work in the improvement of the various kinds of live-stock in the county; but her success in butter-dairying must be credited, to a great extent, to the advent of the little Jersey cow in her midst.

We think Mr. Hugh Clark, now of Brampton, was the first to introduce this breed of dairy cattle in the county, by purchasing on the other side a pure-bred bull and cow. From these and future importations Mr. Clark worked up a grand herd, and was very successful in his work for many years, but losing his partner in life, Mr. Clark sold his farm and Jersey herd to his brother, James Clark. These Jerseys, although not in the A. J. C. C., were a grand lot, and did much to improve butter cows. Mr. Clark has since added to these some A. J. C. C. animals, and is carrying on the work so well started by his brother. A few years later Mr. Robert McClure, of Brampton, purchased a pure bred female, and has since worked up a valuable herd of dairy cows. He has been very successful in the show-ring, but more so in taking prizes for Jersey butter, both at Toronto Industrial and at our county show.

But since then many valuable herds of grade Jersey cows have sprung up, among the most noted of which is the herd of Mr. John McClure, of Mount Pleasant (near Brampton), who owns one of the best, if not the best herd of grade Jerseys in the county. After many years of good care and hard work Mr. McClure has built up a good-paying and a very fine working herd. The first grade cow he raised was a grand cow. She was sired by the first bull Mr. Clark imported. This cow has tested 18 lbs. of butter in 7 days, and

is still living, although 17 years of age, and is making 20 cts. worth of butter per day after milking steady for 360 days. This cow has left some fine young cows. None of her daughters has tested less than 9 lbs. in 7 days at two years of age. One of them tested at four years of age 14 lbs. 4 oz. in 7 days in 1 lb. rolls, and at five years old she tested 19 lbs. 12 oz. of salted butter in 7 days. Another daughter tested 14 lbs. in 7 days on grass alone, and was capable of making a test of at least 18 lbs. She died of milk fever while quite a young cow. She left a grand young cow to take her place, which was sold for \$100 cash on account of individual merit and beauty while quite young, which is a good price for a grade. Mr. McClure is satisfied that the Jersey cow is *the cow* for his purpose, butter dairying.

There are several other fine herds of grade Jerseys among which we may mention that of Mr. Hugh Clark and Mr. John Pulfer, who have both been successful in taking prizes for butter, and who have both good dairy herds.

Going further north, near Edmonton, we notice the herd of Mr. R. McCulloch, who is also working up a fine herd of Jersey grades, and is making a specialty of butter-making. Mr. McCulloch has lately added to his herd a pair of A. J. C. C. females. They are of St. Lambert and Signal stock. They were chosen by Mr. J. C. Snell at the sale of G. M. Beeman, of Napanee, along with two others, which Mr. Snell still owns. Mr. Snell knows a good animal and good pedigree in almost all kinds of farm stock. We expect to hear good things from this dairy herd in future.

But since we have headed this article "Butter-dairying," we cannot forget our veteran butter-maker, and prize-winner, Mrs. Wm. Dolson, of Alton, who has scarcely ever been beaten, and has taken many first prizes for butter at Toronto, Hamilton, Brampton and other fairs. She has found that butter pays if it is carried on in the right way, so as to command good prices.

Wishing the JOURNAL success, and that it may long live to work in the interest of Canadian farmers.
PEEL FARMER.

Canadian Cheese-making.

BY PROF. JAS. W. ROBERTSON, GUELPH, ONT.

[An address delivered before a convention of dairymen in the United States.]

I address you to-day, happy in the knowledge that reciprocity of thought is always mutually beneficial to us as men, and to Canadians and Americans as dairymen. Said a dairyman to me some time ago, "When you have discovered the best system of making uniformly fine cheese, see that you keep it to yourself, and you can make a good thing out of it."

To their own loss dairymen in both countries have acted too much on such advice, forgetting that every poor, impalatable cheese, made anywhere, inflicts a measure of loss on everyone financially interested in the business. The making of any quantity of inferior cheese, ultimately by stopping consumption, lessens the possible demand to the extent of at least three times its own quantity and six times its own value. The offering of inferior goods by importers in Great Britain at attractively low prices, tempts the retailer to buy in hope of a larger profit, and tempts the consumer to buy in hope of obtaining a cheaper food. When a piece of such cheese reaches the consumer's table its extra keeping qualities keep him from again investing in cheese for a while, to the loss of every producer.

Mere statistics of the cheese trade of Canada would be of little interest and of still less service to you. I shall confine myself to a presentation and explanation of the principles and methods that have helped us to rapidly and profitably extend our cheese-manufacturing industry.