

DAIRY.

Dairy Cows and How to Feed Them.

As the time of winter feeding again draws near, it will be interesting and instructive to know how other authorities from another country view the manner of feeding in order to obtain results in butter production. How the different breeds are looked upon from an English standpoint is also discussed in a pamphlet recently issued for the benefit of English buttermakers. It says:—

"Shorthorns are good dairy cattle, giving a plentiful supply of milk, besides fattening well. They are, perhaps, the best dairy cows for the ordinary farmer, especially in the north of England, where swedes are grown. When their milk begins to fail they can be easily fattened and sold to the butcher.

"The Jersey may be regarded as the type of a butter cow. Bulk for bulk, its milk is the richest in butterfat, having a greater proportion of large fat globules than the milk of any other breed, and their large, uniform globules enhance the value of the milk for buttermaking in three ways:—1. By separating more quickly and thoroughly with the cream. 2. Churning more readily and completely. 3. Producing more and a better quality of butter.

"Guernseys are very similar to the last named breed, but are larger, longer in body, hardier, and not so graceful. They are better for beef, and almost as good for dairy purposes.

"Ayrshires give a large amount of milk for their size. The milk is rich in casein, and the fat globules are of small size, consequently the Ayrshires are much used in cheesemaking districts.

"Red Polls are very fine milk and beef producers, and may be said to be a typical dairy breed. They retain their flow of milk longer than most other cattle.

"Cattle should be brought in from pastures in October, and before this the stables should be well cleaned out and whitewashed. Cows may run out a little each day through the winter. Some of the back end calves will be coming to the pail now, and will get full rations. Others that are drying off will have the quality of their food somewhat reduced. Everything should be done to make them as comfortable as possible. The stables should be cleaned out daily and fresh litter added. The feeding must be done at regular hours. Therations for different cows will vary somewhat, but the following are good examples:—(1) Decorticated cotton cake, 2 lb.; bean meal, 3 lb.; crushed oats, 1 lb.; hay chaff, 8 lb.; oat straw (chaffed), 10 lb.; mangels, 40 lb. (2) Linseed cake, 1 lb.; crushed oats, 2 lb.; bean meal, 3 lb.; bran, 1 lb.; rice meal, 3 lb.; clover hay, 10 lb.; straw, 6 lb.; swedes, 30 lb. (3) Cotton cake, 3 lb.; oat meal, 2 lb.; clover hay, 10 lb.; straw, 10 lb.; swedes, 33 lb. (4) Decorticated cotton cake, 1 lb.; palm-nut meal, 1 lb.; crushed oats, 2 lb.; bran, 1 lb.; meadow silage, 25 lb.; brewer's grains, 20 lb.; oat straw, 4 lb.; meadow hay, 7 lb.

"Cows that are dry (previous to calving) may receive (1) Decorticated cotton cake, 2 lb.; straw, 15 lb.; silage, 35 lb. (2) Linseed cake, 2 lb.; bean meal, 1 lb.; straw, 14 lb.; hay, 5 lb.; turnips, 40 lb.

"The different roots are fed to cattle in the order in which they arrive at maturity, thus—(1) White turnips, used first in autumn; (2) yellow turnips; (3) swedes, used in winter; (4) mangels; (5) carrots, used last in spring.

"About 6 a.m. give half the mixture of concentrated foods with a little straw. After milking, say at 8 o'clock, give one-third of the roots. If these have been steamed they may be mixed up with some of the straw chaff. At 12 o'clock the cattle get another third of the roots and some hay, or silage or brewer's grains may be given instead of the roots. At 4 p.m. the rest of the cake and meal is put into the troughs. At 7.30 p.m. give the remaining roots and some straw or hay.

"Water should be provided. It is often advisable to let the animals out into a yard for this purpose. They then get a little exercise.

"A piece of rock salt should be placed in every manger for the cattle to lick. This is better than putting a certain quantity in the food, as the animals get as much as they want. Sodium chloride is contained in large amounts in the blood. Rock salt should only be sparingly used with cows approaching their period of parturition.

"Milking will begin from 5 to 7 a.m., and 4.30 or 5.30 p.m. On some farms the cattle are milked at mid-day; but the small increase in yield does not often repay the extra labor.

"All through winter the management is very much the same. No rapid change of food should ever be made, as the cattle may be thrown off their feed for a day or two, and do not let down their milk so well for the time being.

Many United States dairymen are reporting good results from feeding their cows corn ensilage in the summer when pastures have failed. The ADVOCATE for Sept. 15th contained some Canadian testimony of value on this point.

Having tried almost every available sort of grain food for milch cows, Mr. Joseph McLeod, one of the most successful dairy farmers in the vicinity of London, Ont., states that he gets the best results, quality of milk always considered, from a mixture, half-and-half, of ground oats and wheat bran, fed dry.

Winter Dairying.

BY J. W. WHEATON, SECRETARY OF THE DAIRYMEN'S ASSOCIATION OF WESTERN ONTARIO.

One of the most interesting topics discussed at many of our dairy meetings last winter was "Winter Dairying." Farmers and dairymen are anxious to get information concerning this feature of dairying. They are beginning to realize the importance of giving more attention to dairying as a branch of farming that will return a handsome profit, if carried out intelligently and systematically. Hence any feature that will make their business more remunerative will be received with interest.

The Dominion Government, under the direction of the Dairy Commissioner, established two experimental dairy stations in 1891-92, at Mt. Elgin and Woodstock. At these stations butter was made during the winter months from milk supplied by the farmers in the neighborhood. These farmers had been supplying milk to the cheese factory during the summer, and continued to milk their cows during the winter and have it made into butter. The experiment was a very successful one; the farmers were well satisfied with the results, and the stations were continued during last winter and will be continued during the coming winter. Last winter also a few of the larger cheese factories put in apparatus for making butter, and kept their factories running all winter. These factories also gave satisfaction, and were able to make the business a profitable one. The business of winter dairying is therefore an established fact in Canada, and the sooner our farmers and dairymen understand its workings, and prepare themselves to operate it, the sooner will they place themselves in a position to realize the highest possible profit out of dairying, and be able to make money out of their cows all the year round.

The larger number of the patrons of our cheese factories, who are generally looked upon as making a specialty of dairying, milk their cows on an average seven or at most eight months of the year. It will cost about \$28.00 or \$30.00 to keep a cow properly per year, and there are few cows kept by the dairymen of this country which will give more than enough milk during a milking season of seven or eight months than will pay off this \$30.00. This being the case, the larger number of our farmers are keeping cows just for the fun of taking care of them, as they are not returning a profit, while a great many of them are keeping cows at a loss. It may seem strange that such a condition of things exists in a country where dairying is made a specialty, but nevertheless the fact remains. The chief reason is that farmers do not keep an accurate account of the cost of keeping a cow, or the cost of producing a certain quantity of milk. If they did they would only keep cows that would return a profit. A prominent dairyman has well said that the cow is a boarder, and should pay for her board week by week the year round. If our farmers would go into winter dairying, butter could be made when it commands the highest price, and cheese during the summer.

By this plan the dairyman will be able to raise his calves during the winter months. To do this his cows should come in during October. The skim milk may be returned from the creamery the same day that it is taken in perfectly sweet condition. By heating this skim milk to the normal temperature of milk (about 98 deg.), and supplying a little linseed or oil cake to take the place of the butterfat, an excellent food for calves is secured. Thus better calves can be raised during the winter months by this method than are usually raised during summer. During the winter the farmer has more time to look after his stock, and consequently the calves receive more attention and are not allowed to fish for themselves, as is frequently the case when raised during the busy summer season. A calf that is born in the autumn and fed properly during the winter will be able to forage for itself when grass appears. Then if the heifer is properly looked after during the first three years of her life, the well-developed cow is assured.

By adopting winter dairying farmers will be able to give employment to more men during the winter. An advantage to be gained by winter dairying is that the cows will be kept in better condition, and consequently will be in better trim when the spring opens up to give milk during the summer months. In proof of this, one of the leading patrons of the Mount Elgin Creamery states that during the summer of 1892 his cows gave more milk than in the summer of 1891, when his cows had been put dry quite early in the winter.

It is claimed that the returns from winter dairying will not pay for the extra food and extra care expended upon the cows. We have only to refer to the experience of those who have tried it. The butter made in the winter dairies last season brought, on an average, from twenty-three to twenty-five cents per pound. Deducting the cost of manufacturing there would be left to the patron about twenty cents per pound, and he would receive from eighty-five to ninety cents per one hundred pounds for milk, and have the skim milk to the good.

There are a few requisites that are necessary to the successful working of winter dairying. An abundant supply of good, succulent food is necessary, and the cheapest and best way to get it is through the silo. By feeding a little chopped grain with ensilage, a complete food for cows is

secured, and cows can be fed just as cheaply during the winter as during the summer on the grass. Good, warm, comfortable stables need to be provided. A cow kept in a cold stable requires more food to keep up her vitality than one kept in comfortable quarters.

The serious drought of the past few months in Ontario will doubtless prove a serious drawback to winter dairying this season. The dearth of good pasturage during August and September caused the cows to lessen their flow of milk very early in the season, making it difficult to keep up to their usual amount at this time of the year, and consequently many of the farmers will not have the milk to supply for making butter this winter. It is difficult also, though good food is supplied, to get cows back to their usual flow of milk if they have shrunk considerably for any length of time.

However, the winter creamery is of considerable interest to the dairymen, and when it is possible to secure sufficient milk arrangements will be made in many localities for manufacturing butter during the winter months. Thorough preparation is necessary for every new line of work, and until the farmer has provided himself with the proper cows, and has the right kind of food for them, the highest measure of success cannot be obtained in operating the winter dairy.

Foul Foot.

When a cow or other cloven-footed animal is seen to lift its foot, stretch it out and endeavor to lick it, the foot should be examined without delay. When the cow stands at times in manure, this lodges between the hoof, or some other matter may get there; and either acts as an irritant to the tender skin there. Vesicular eruption may then occur, with inflammation, and the skin peels off, with the result of suppuration and often ulceration. This disease is called "foot or hoof-ail," and is apt to cause trouble if neglected. In time the inflammation penetrates the foot, and the hoof may be loosened or drop off. The disease is more apt to occur with cattle that are out of condition and whose blood is thin and poor. Attention should be given at once. The feet should be washed and carefully cleaned between the hoofs. The sores should be dressed with some stimulating oleaginous mixture to excite healing and protect the raw surfaces from the air. A very good ointment, says the Agriculturalist, is made of four parts of clean lard, one part of each Venice turpentine and spirits of turpentine, and one-half part of acetate of copper (verdigris). This may be spread upon a rag or lint, and put between the hoofs, which are then bound with a soft bandage passed between the hoofs and around them, and fastened above.—[Dr. C. D. Smead.

APIARY.

Preparing Bees for Winter.

BY G. G. GUNN, GONOR.

The time of the year has arrived when we must see about preparing the tiny workers for their winter's rest. Bees should be fed by the twentieth of September, as it is hard to get them to take in the feed when the weather begins to get colder, as I generally does after that date. Now I want to say a word about the next step in the preparation, that of packing them in chaff for the winter, and I think that this should be done not later than the tenth of October, for by this date the nights are beginning to get cold. The plan which I follow is not the one of using cushions made out of canvas and stuffed with chaff, but a method which I think started in my apiary. I will try to explain it as well as it is possible. First, I take a long strip of tin about one inch in width and cut it in bits about four inches in length. I then fasten one of these pieces by one end to the bottom of the division board in such a way that it is extending backward along the bottom of the hive. I then fasten the other end to the bottom of the hive with a tack; then take two inch wire nails and put one in each side of the top of the division board, so that it will not press forward against the combs; then take dry chaff and pack it firmly behind the division board. This done, I next take a piece of canvas and cut it to the size of the outside of the bottom of the supers, or second story as some call it, and fasten it to the bottom with tacks. I then fill it with chaff, and the hive is ready for winter. After they are all ready for winter I leave them out on their summer stands until the winter sets in. I have left them out as late as the third of January, and they wintered in fine shape. Still, I think it is better to have them in by the last week in November.

A good ration for egg production can be formed by mixing 25 per cent, each of ground oats, wheat and bran, together with ten each of corn and linseed, and five of meat scraps, then cooking vegetables or steaming chopped clover hay and adding perhaps three quarts of this mixture to the bucketful. The whole grain ration must be governed by circumstances, but the best results will be obtained when the amount of corn is small, save, perhaps, in the very coldest weather.