

## A Good Time to Breed and Rear Dairy Cows.

Editor "The Farmer's Advocate":

We take it that all farmers, including dairy farmers are eager to engage in any legitimate line of work which promises financial reward for the capital invested in, and labor spent on, the particular branch undertaken. Farming is a more or less risky business, hence farmers are usually cautious about undertaking anything new.

The following extract was made from a brief paragraph in a well-known American dairy journal: "The French Government has sent an order to this country (the United States) for 5,000 dairy cows. It desires that the large number be grade cows of good milking qualities and a few head of fairly good registered animals."

We wish to call attention to the fact that similar orders are likely to come to Canada in the near future from the war-devastated dairy countries of Europe, and it will be in order for our Canadian dairymen to prepare for this by rearing all the heifer calves possible during the next two years. By the way, it might not be amiss to call the attention of our Authorities in Canada to the fact that this and similar orders should be diverted to Canada. Canadians are making great sacrifices at the present time and assuming financial burdens that, for a young country, are staggering. The money to pay must come largely from the soil, which must be made to produce human food. This will be the chief business of Canada for the next ten years. Our farmers are prepared to do their "bit" but they reasonably expect to be paid for the same at a fair rate.

### USE PURE-BRED SIRES OF DAIRY BREEDS.

Coming back to the question before us, our dairy farmers should use nothing but pure-bred dairy sires on the common cows of the country and preferably use those males which will leave distinct dairy markings on the offspring. The foreign buyer is not likely to ask about Record of Performance so much in the grade stock which he purchases but is more apt to look for individuals of the dairy type and coloring which he is accustomed to see at home. (The foregoing applies to grade stock and has no reference to pure-breds.) There will always be a number of men breeding pure-bred stock of the dairy breeds. They of necessity must give attention to Records, but the man who is breeding grade stock for a foreign market need not trouble very much about this. Size, constitution and markings are more likely to be the chief points looked for in such stock. If the heifers are from good milking families or strains, so much the better, but this need not occupy first place. We mention this because so many farmers do not keep records, although they ought to do so, and might not think it worth while to engage in this line of breeding.

We shall not assume to dictate what particular breed shall be selected for a dairy sire, as the main point is to use none but pure-bred males of one of the recognized dairy breeds and preferably of that breed most largely used in the district where the dairy farm is located. By so doing, a buyer can go into a locality and pick up a carload, or more, of animals of similar type and coloring without travelling very far. As an illustration of the advantage of such a plan, we may mention what a Government buyer of Army horses told the writer recently. He had just returned from a trip through the South-western and Middle States. He said a buyer could get, where he had been, in a few days, thousands of the type of horse wanted in a very limited area, whereas in Ontario he would have to travel hundreds of miles in order to purchase a small number of the kind of horses wanted. He offered this as an explanation of the fact that American horse markets were being preferred to the Canadian. The party referred to is one of the best judges of horses we know of and strictly honorable. Besides, he would prefer to buy Canadian horses if Canadian farmers had the goods convenient.

In this is a valuable lesson for cow-owners. The time is not far distant when buyers will come to America to purchase stock to replenish European herds. To meet this demand our dairy farmers should at once commence to lay plans and begin operations, so that when a foreign buyer lands in Canada, he may be directed to districts where he can buy in a short time one, or ten carloads of heifers one to three years old, of uniform type and breeding. The demand is sure to come. Shall we be prepared to meet this demand?

### THE PROFITS.

Naturally some one asks, how much money is there in it for me? Let us look at this question. The cost of rearing a heifer to be two years old, at which time the farmer may reasonably expect to sell, would be somewhat as follows:—

Service fee of pure-bred dairy sire, \$	2.00
Cost of rearing 1st year	25.00
Cost of rearing 2nd year	35.00
Risk and Insurance	3.00
<b>Total</b>	<b>\$65.00</b>

Such a heifer, if well-bred and well-grown, would bring at least \$80 to \$100. If a man is so situated that he can rear eight or ten such heifers each year, I know of no more profitable line of farming. This plan also maintains soil fertility.

On a farm where there is plenty of skim-milk for the first summer, together with a pasture paddock and some bran and oats, the calves can be reared quite cheaply. An expensive stable is not necessary for them in winter. In fact, they will be more tariffy if given reasonable shelter from rain and snow, and are well fed on corn silage and clover hay. An open shed protected from the north winds and water-proof, is all that is needed. The coats will be long and rough, but when they are on grass for a month, such heifers will thrive amazingly during the second summer. Similar treatment during the second winter, as given for the first, will bring the heifers to an age when they may be bred and are ready for market.

In case the foreign demand does not materialize, what then? We are reasonably sure of a good home market. Good milk cows are always in demand at fair prices. One has only to attend a few auction sales where good cows are offered, to see how eagerly buyers will "snap them up" at fairly long prices. This is particularly the case along in November and December, when there is always a brisk demand for cows to produce winter milk, of which there is a shortage every year in nearly all parts of Canada.

With these two markets opening before them there would seem to be very little risk in rearing all the heifer calves possible during the years 1915 and 1916 anyway, or for a longer time, as the increased and increasing demand for dairy products, means that more and better cows will have to be reared in order to supply milk and cream for direct consumption and for the export trade, more especially the manufacture of cheese.

H. H. D.

## Skim-milk Calves.

Many are inclined to picture the skim-milk calf as being a small, unhealthy, stunted individual that is absolutely worthless. Many such cases can be found. However, such results should not be charged up to the skim-milk, but rather to the ignorance or carelessness of the feeder. O. E. Reed, in a circular published by the Agricultural Experiment Station of Kansas, says that it has been shown that as good calves can be raised on skim-milk as with whole milk. To demonstrate the value of skim-milk as compared with whole milk as a feed for calves, an experiment was conducted including 30 calves which were divided into three groups. One lot was fed on skim-milk, another on whole milk, and still another was nursed by their mothers. The calves nursed by their dams and those fed whole milk made slightly better gains than those fed on skim-milk, but it was at much greater expense. The skim-milk calves consumed 132 pounds of grain per 100 pounds of gain, while the whole milk calves consumed 58 pounds of grain and 31.8 pounds of butter-fat in the milk. At this rate 100 pounds of grain is equivalent in feeding value to 48 pounds of fat. After the calf-feeding experiment had closed the calves, which were steers, were put in the feed lot and fed for a period of seven months. The calves in the skim-milk lot made the best gains. Those that were fed on whole milk ranked second, while the lot raised by their dams stood last.

Skim-milk calves will not look quite so thrifty, the writer says, for the first few months as calves fed on whole milk or allowed to run with their mothers, but at the end of the year there will not be much difference in size. If any difference the skim-milk calves will be better, provided they have been properly fed. The skim-milk calf becomes accustomed to eating grain and hay early in life, consequently when it is weaned the change of feed is not so noticeable as it is with the whole-milk calf, and it does not suffer a setback at this time. The calf that has been fed on whole milk has not been accustomed to getting very much of its nutrients from grain and hay, and invariably does not gain as rapidly as does the skim-milk calf for the first two or three weeks after it is weaned.

The period at which calves should be weaned depends very much upon the strength of the calf and the condition of the cow's udder. In case the calf is taken from its mother immediately it should by all means receive her first milk. The milk at this time contains a high percentage of protein and ash, which act as a laxative and tonic, and are very effective in cleaning out the

digestive track and stimulating the digestive organs. The quantity of milk to feed the calf during the first few days is very important. Under natural conditions the calf gets its milk often and in small quantities, and the more closely nature is imitated the greater the success. The calf of average size should receive about 8 pounds of whole milk a day at first. Large calves should have more than this amount. The best guide of the amount which should be fed is the calf's appetite. It should be fed sufficiently but never over-fed, and it is a good practice to always keep a calf a little hungry. It should take the last milk from the pail with the same relish that it took the first. It is furthermore recommended for the first 100 pounds live weight to feed 10 pounds milk per day. For the second 100 pounds add 5 pounds of milk per day, and for the third 100 pounds add 2½ pounds of milk per day.

The change from whole to skim-milk should be brought about gradually by substituting a small quantity of skim-milk for whole milk in the daily ration. About a week or ten days should be taken for this change.

The temperature of the milk fed should be at blood-heat or 100 degrees F. The milk should be as nearly this temperature as it is possible to get it. There is no way by which the digestive systems of the young calf can be upset more easily than by feeding cold milk at one meal and warm milk at another. The thermometer should be used, for milk at 90 degrees F. will feel warmer on a cold morning than it will on a warm morning, and the calf's digestive system is very sensitive to any change. Sweet milk should be fed. One feed of sour milk may upset the digestive system of the young calf for months. The length of time to feed skim-milk will depend upon the growth of the calf and upon the amount of skim-milk available. Some feeders wean their calves at four months of age, but it is a better practice to feed skim-milk until the calves are six months old. The bulletin furthermore recommends that if an abundance of skim-milk is to hand that it is a profitable practice to feed heifers until they are eight months or a year old. This will insure a better growth and better development.

When the calf once begins to eat grain readily only such an amount should be given as will be cleaned up at each meal. Here again the appetite of the calf is the best guide as to the amount of grain to feed. Usually the calf will not eat over half a pound of grain per day for the first two months. From this time until it is six months old a pound of grain per day will be sufficient.

Owing to the low percentage of fat in skim-milk it is necessary to substitute the milk with some grain containing fat. Corn contains a fairly high percentage of this substance, and on account of the reasonable price compared with other grains it makes a suitable feed. Linseed meal is valuable in that it contains a large amount of protein which assists development, but the writer claims that the oil of the meal will not replace the fat that has been taken out of the milk. Oil meal may be fed in connection with corn meal, but this is not entirely necessary. When teaching the calf to eat grain it is better to use chop. Clean, fresh hay and plenty of water should always be kept before the calves. Many feeders assume that the calf does not need water on account of drinking milk, but the writer asserts that it will consume a large amount of water even after drinking 15 or 20 lbs. of skim-milk per day.

## POULTRY.

It takes from 65 to 75 lbs. of grain to feed one hen a year. This usually constitutes about four-fifths of the cost of their ration.

Buttermilk is the safest and usually the cheapest animal food to use. With free access to it the health of the flock is not endangered, nor is the hatching power of the eggs seriously affected.

A well-cultivated corn field is the ideal range for late-hatched chickens. On such range three to three and one-half pounds of grain will produce one pound of gain.

From four to six square feet floor space, and from eight to ten inches perch room should be allowed to each hen,—the amount varying with the breed.

Chickens of from three and one-half to four and one-half pounds are the most profitable to put in the fattening crates. Two parts oats, one part buckwheat and one part corn, all finely ground, mixed with sufficient buttermilk to make a batter makes an excellent ration for crate feeding. With suitable birds an increase of one pound may be expected from three to five pounds of meal fed.