

undertake maternal duties while still a filly—which a common, underfed one is not." He adds a caution, however, to see that a three-year-old filly learns to work before she gets heavy with her first foal, for fear she might grow up to be a non-worker, or at least difficult to manage. This he applies to light as well as heavy fillies. The point seems overdrawn, but probably carries a suggestion of value. Fillies of the light-legged breeds, also, he claims, should be capable of rearing foals at three or four years old, and still be available for the purpose for which intended at five years of age. He concludes with the statement that "registration and showing have resulted in early maturity in most breeds of stock, and matronly duties have to be undertaken by most pedigree females at a very early age, in return for the sumptuous fare which the majority of them get."

LIVE STOCK.

Rearing the Dairy Calf.

Editor "The Farmer's Advocate":

While cow-testing associations in districts, and the scales and test, where employed in individual herds, are doing much towards the elimination of the poor or scrub cow, such testing alone cannot reach the fundamental weaknesses of our dairy industry. The practice of weighing the production regularly is an excellent guide in feeding, as well as ascertaining the production of the several individuals of the herd, but the feeding of first importance is the feeding of the young calf during the first year or two of its life, in which such testing cannot be employed as an aid. The negligence on the part of many in rearing their dairy calves properly has been a serious handicap to our dairy industry. If the successful results of the public sales of high-class dairy cattle, being held occasionally, may be accepted as a criterion, the fact is surely evident that dairy farmers realize the need of good dairy cows, and want them badly.

Those who have had experience in rearing high-class dairy stock will agree that there is no economy so false as underfeeding the calf during its first year, if we would have it develop into the most profitable dairy cow. In sections where dairying is carried on extensively, and the milk disposed of through the medium of the cheese factory, the question of rearing the calves properly is a complex one to many who look upon the price paid for milk at the factory as making it almost prohibitive for calf-feeding, and, accordingly, their calves are turned to pasture the latter part of May to shift for themselves, where they almost invariably develop into the pot-bellied, runty specimens so often seen in autumn, no matter how well they were started in the stable. There is nothing about the dairy business that interferes so seriously with the proper rearing of the young stock as this practice of disposing of the whole milk from the farm, while practically nothing that is of use in feeding the young calves is returned.

This phase of dairying, as practiced to-day, is very materially retarding our progress towards better cows and greater financial returns from the industry. Improvement of our dairy stock must come first through breeding, but, when given this vantage ground in our young calves, they being from our best cows and a superior sire, it is very easily and often sacrificed through failure on the part of the owner to properly rear the calf, by liberal feeding and judicious care, into the matured animal, for if the calf be not properly reared, its future usefulness is seriously impaired, let the care and feeding provided later be ever so generous.

If, then, we are to rear them properly, I think the one point that must be borne in mind, regardless of the tempting prices of same, is that the calf must be provided during the earlier stages of its growth with the food nature provided for it, viz., milk—whole at first, and later skimmed, or, if we are not in a position to take the cream off, we may add water to the whole milk as the calf gets older. We have yet to find a satisfactory substitute for skim milk in calf-feeding operations. I do not wish to be understood as claiming everything for skim milk alone, for with calves so fed we would not get best results; it must be supplemented by other feeds as the calf grows older and develops tastes for other feeds, but until the calf is six months old, at least—better older—skim milk in quantity should form the basis of the calf's ration.

I am speaking solely from the standpoint of the dairy farmer, whose object should be to so rear his calves that they will give best results later as dairy cows.

This being so, his object in calf-rearing is

somewhat different from that of the beef-raiser who always seeks to develop considerable flesh on the calf, while the dairyman's object should be rather the development of frame, capacity for rough feeds, bone and muscle, along with moderate fleshing, rather than fat, on the dairy calf. Our feeds, then, should be such as will produce such growth—very largely nitrogenous—which class would include skim milk, wheat bran, oil cake of flaxseed, chopped oats, and clover hay, or green feed of alfalfa or red clover, with a liberal allowance of roots or silage, or both in season.

If the calf we are attempting to rear is not worthy of liberal feeding of proper feeds, it is not worth rearing. We should select for rearing only such calves as we can feed profitably. I am convinced that the calf should be provided with whole milk two or three times a day for one month after taken from its dam, when it should be gradually weaned to skim milk, which should take about a week or ten days to get it on a full feed of skim milk. While feeding milk at any time, either whole or skimmed, be very careful as regards quantity fed; avoid extremes, making increases or changes very gradually, and always maintain even temperatures. After the calf is ten days old, it will begin to nibble at any hay it can reach, and should from this time on be provided with a bunch of clean, bright and wholesome fine clover, with a sprinkling of timothy, twice daily, keeping the supply always fresh and clean. Many, when starting to feed skim milk, make a practice of adding a small amount of some commercial calf feed, or flaxseed, etc., to the milk. We do not approve of this method; we feed milk alone always, as we want our drinking pails clean—scrupulously so—and find them much easier kept so when meal is not added to the drink. Besides, we think that when the meal is fed dry it is much better than when gulped down with the drink, because the act of chewing incorporates the saliva more efficiently, and so aids digestion, while the calf is also enabled to eat its meal when it has a taste for it, instead of being obliged to swallow it, in order to get its drink.

When on a full feed of skim milk, the calf should be about six weeks old, and will very soon then have a taste for a little meal. We teach our calves to eat at first the meal mixture we intend feeding them right along, being a mixture of bran and chopped oats, equal parts, with oil cake of flaxseed. This they seem to like from the start, and it is fed in clean grain boxes after each feeding of milk. Along with careful and liberal feeding of the feeds already mentioned, and an abundance of green feed, consisting of clover, oats and peas, or rape, best results can be had only by providing clean, airy and comfortable quarters. Avoid a dark stable and damp beds or foul odors. An excellent idea is to have for litter cut straw or sawdust, and have the damp portion of this removed and replenished after each feeding time.

As regards the matter of stabling the entire summer for calves simply intended for dairy purposes, I do not contend that it is absolutely necessary. I think the calf suffers no disadvantage if allowed to run out of doors during the latter part of August and early autumn, providing this be accompanied by proper conditions. The feed they had in the stable should be continued in such quantities as they will take along with the pasturage. If they cannot be admitted to one of the sheds or outbuildings as they seek protection from the hot sun and flies or rain, a shelter should be provided. An excellent idea is to provide a movable coop which may be moved from place to place in the field on skids. By hanging a piece of canvass over the entrance, the flies are brushed off as the calf enters, and the interior made dark, conditions very favorable to the comfort of the calf during the heat of the day, you will be surprised at the amount of time they will spend in this shelter, when once provided.

In concluding the first year's feeding, on coming to the stable again, when the weather gets chilly, they should, if properly cared for outside, be in thriving condition, which condition should be maintained throughout the first stabling season by liberal feeding of meal rich in bone and muscle-formation qualities, silage, roots, and good quality of hay. Keep free from vermin, and allow some exercise and abundance of pure air.

To make the most of its time, which is imperative if we intend bringing the heifer into milk at two and a half years of age, or younger, it must suffer no standstill periods; and when once dairymen are brought to a full realization of the importance of this, a big stride will have been accomplished towards better cows and more profitable dairying.

Dundas Co., Ont.

According to figures furnished by the British Board of Trade, the average retail price of frozen foreign meats in England is from 8 to 12 cents per pound. The same authority compares these prices with the average price paid for horseflesh in Germany, the latter running from 9 to 13 cents per pound, and sometimes as high as 15 cents.

Cotswold Sheep.

By John Rawlings.

The Cotswold has a very interesting history, being the oldest breed of sheep of which there is any satisfactory record. As far back as A. D., 75, Tacitus, the famous Roman historian, makes mention of the manufacturing of woollen cloth at Cirencester, Gloucestershire, England, from the wool of sheep reared on the Cotswold Hills. We afterwards find the name Cotswold applied to these sheep. In the year 1468, King John of Aragon was presented with twenty head of Cotswold ewes, which he exported to Spain. At this time, the wool of the Cotswold was much in demand for the manufacture of the finest cloth, from which we infer that the wool at that time was much finer than at present. The description of the Cotswold in those days indicates that they were more adapted for the production of wool than mutton.

In later years we find them conforming to mutton qualities, as well as retaining their long, heavy, lustrous fleece. We find no satisfactory record of the infusion of any foreign blood into the Cotswold, but we find that Cotswold blood has been used in the foundation of many of the modern mutton breeds; one writer even asserts they were used in the founding of the Spanish Merino. While this may seem absurd, it is a well-known fact that Cotswold rams, crossed with Merino ewes, produce one of the very best classes of wool and of mutton lambs raised on the Western ranges. Cotswold rams are very highly thought of for this purpose on the range, on account of the large increase of wool and mutton from this cross. The Cotswold of to-day is a more compact sheep than formerly, more attention being paid to the mutton qualities and weight of fleece than to fineness of wool, as this makes very little difference on our present market, in the United States, when the rams are used for crossing on fine-wool ewes. The coarser the wool, the heavier the fleece. We have had considerable experience shipping to the West, and have never had a single complaint of coarseness of wool, while we have taken rams out with what might be called hair, instead of wool. One particular man in the West picked out the coarsest-wooled ram in a shipment of two cars, and asked me if it would be possible to secure a carload like it in Canada.

In January, 1908, while at the Wyoming Wool-growers' Convention, I had two samples of range-grown wool, one sample pure Merino, the other Cotswold-Merino cross. There was present at the convention one of the largest wool manufacturers of Boston, Mass., who, on being asked his opinion as to the difference in the price of the two samples, expressed his opinion that there was no difference in their market value. The Cotswold-Merino wool averaged three pounds per fleece more than the other. It is a singular fact that the Cotswold will thrive and do well in any climate in the world, hot or cold, wet or dry. Different climates and different soils affect the fleece and size of sheep, but they retain their hardy constitution and vigorous growth.

Sir J. B. Lawes, in his experiments of feeding various breeds and crosses, proved that the Cotswold made more profitable returns in growth for feed consumed than any other breed.

While the Cotswolds have not obtained notoriety by having any very high-priced individuals among them, they have always given very satisfactory returns for money invested. In forty years breeding Cotswolds, we have never once sold our good sheep to the butcher, having always found a ready market in the Western States. There is at present a market in the United States for five times as many good Cotswold rams as is being produced in Canada, or ewes, either. We also believe, from reliable information, that Cotswold sheep are selling for more money in car lots than any other breed of sheep raised in Canada.

The requirements of a good Cotswold are a well-poised head, with long, curly ringlets of wool hanging over the face; ears well set, and dark-colored; neck short, and well set on the shoulders; back broad, straight, covered with firm flesh; body well rounded over a deep flank and full brisket; legs short, well set, feathered with wool down to the toes; face and legs may be gray or white; body covered with long, curly wool, averaging ten to fifteen inches in length, and weighing eighteen to twenty pounds per fleece. Fineness of fleece is not so important as length, density and curl, a good curly fleece weighing much heavier than a loose, open one, though evenness of quality all over the body is desirable and usual. We much prefer the gray face, as they generally shear a heavier fleece of better wool, are larger, and have a better constitution, than the white-faced ones. Among show sheep, we almost invariably find in an outstanding good one a gray face. They are also much more highly thought of by