

Glendinning made a running estimate of the cost of feeding and profit on this cow for a month, pointing out, however, that it was a mere estimate, and that the cow might not come up to it:

COST OF MONTHLY RATION.

	Per Month.
40 pounds silage per day, at \$2 per ton.....	\$1 20
15 pounds mangels per day, at 6c. per bushel.	45
20 pounds alfalfa hay per day, at \$2 per ton....	60
	\$2 25

In six months, at above estimate, the butter would be worth \$67.75, which, deducting \$13.50 for feed, would leave \$54.25. Even supposing she did a third less than the estimate, she would still show a profit over feed of \$31.66, a pretty good winter's work for an ordinary cow. Winter dairying certainly pays when carried on in the proper way.

THE DAIRY CALF.

When we take into consideration that it takes just as much time to milk and care for a poor cow as a good one, and nearly as much feed, therefore costing much more to produce milk by using poor cows, we see what an enormous waste of labor and profit is going on.

Whilst horsemen are exercised by the poor sires being used, and would have laws to license only such as find favor in the eyes of inspectors, there could be as much or more said in favor of eradicating the scrub bull. One of the reasons why there are so many poor milk cows is that there are so many scrub bulls; and it takes just as much to raise a scrub cow as an improved one. We say the scrub bull is one of the reasons there are so many poor cows. It is not the only reason; there are several. Therefore, education is more to be relied upon than legislation. Whilst the breeding is very important, it must be always remembered that improvement in breeds has been brought about by many years of culling and selection, with liberal and judicious feeding. There never has been a superior herd or flock built up or maintained by a poor feeder. An animal that is not in vigorous condition is low in vital force. Vigor, thriftiness, good constitution, ability to assimilate food and give large returns for it, are some of the points we must aim for. Therefore, in breeding for the dairy, it is necessary to use a sire whose ancestors have been noted for large production. His immediate female ancestors, dam, and sire's dam, are the most important, but the further back, the better. And if some of the sires in the pedigree have proven their worth by begetting daughters that had proven large producers, it shows well for those blood lines. With the system of Advanced Registry now in vogue by the Holstein breeders, we shall

soon have many certified records that we can rely upon, not only for the dams, but also be able to know what the sires have done in the way of producing good daughters.

Whilst it is not likely we shall ever be able to conduct breeding operations without some proving failures, yet, as the years go by, and pedigrees are made stronger and longer, failures will be less frequent. One reason for this will be that there has been continuous good care and feeding to produce these good records.

Observation and experience has shown that the condition in which cows are kept is, perhaps, the most essential feature in breeding up a dairy herd. Heifers from dams that have been in good condition before calving are invariably the best. The greatest drawback to progress in dairying is that so many people keep their cows so poorly. Not only are they in no shape to stand the drain of milk-giving, but a poor cow does not give as vigorous a calf, and is not likely to inherit the large producing propensity when the dam has not been kept in good vigor.

To illustrate this: Some years ago we had a cow which had three daughters from different sires; all of them were good. She had milk fever after this, and nearly died; she was never as vigorous afterwards, and her daughters after that were not nearly so good. But, taking a wider view, and showing the general effect of feeding dams well, in order that their daughters may be as good or better, I will mention something I have had under my observation. At a certain public institution a large number of cows were kept to supply milk. On first visiting this herd, a large number of grades were on hand, and I never saw a better lot. A number of pure-breds were added, which, by the way, impressed me as being nothing extra. They were well fed, and their daughters added to the herd, as the milk was needed for the inmates of the institution. The calves were only fed a limited quantity of milk, which had to be supplemented by other feed, and the calves were kept growing. In a few years this herd has come from obscurity to one of the best. The daughters of the first and second generation have been decidedly larger producers than their dams. The sire used on the herd received credit for the improvement, but I consider the way the cows were fed had a great influence upon their daughters also.

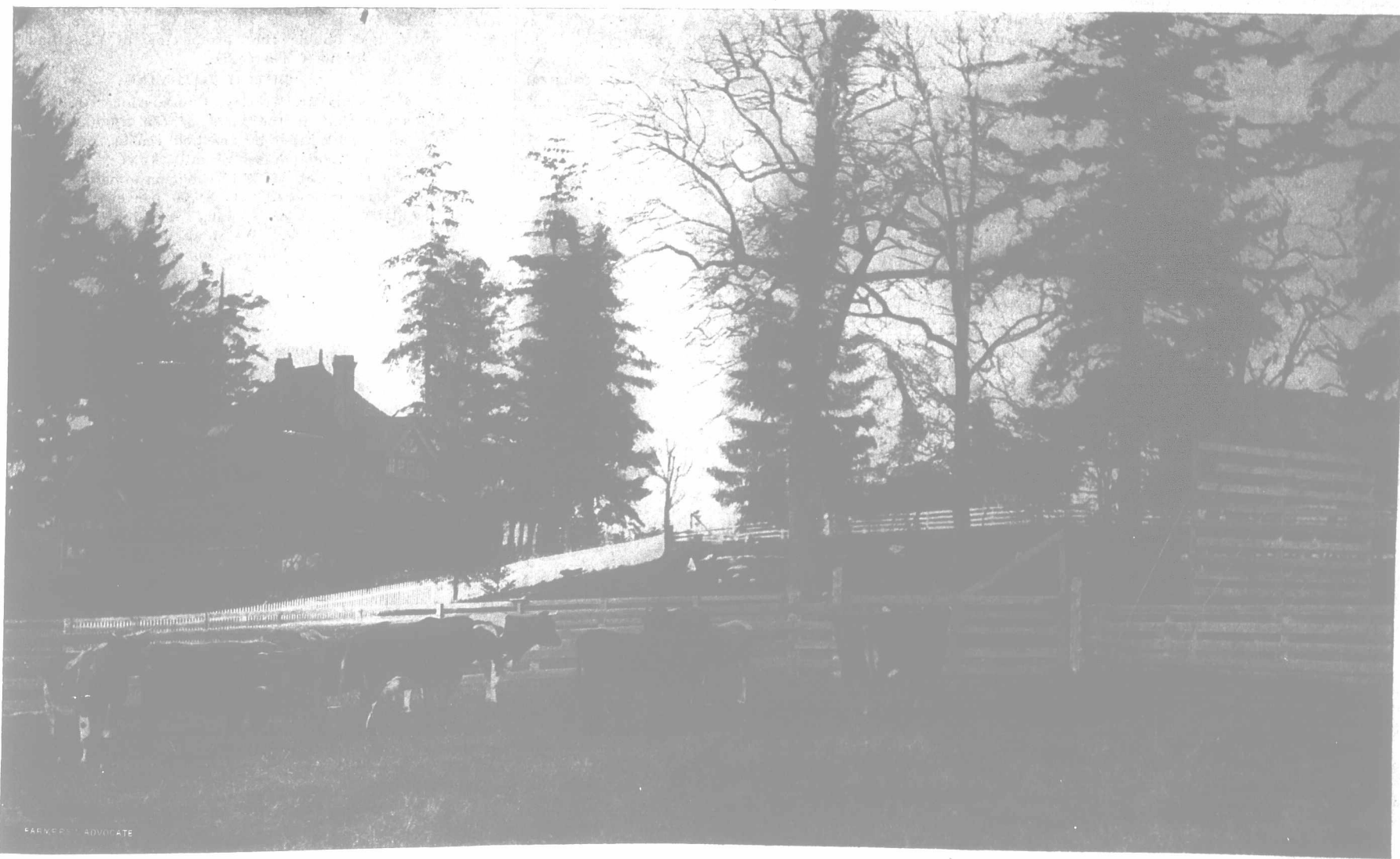
Another instance is the case in a locality where a very large number of cows were kept to supply milk to a condensary. As good prices were paid for the milk, everybody that had any sense wanted to get all they could from their cows, and fed well. Cows were in good condition before calving; milk was so high in price that not very much was fed to calves, but those from pure-bred dams were raised on a small quantity of whole milk, mixed with water, to make just enough drink for the calf to assimilate other

feeds. Nearly every man had a different way of feeding his calves. And, after all, the system of feeding is of less importance than that the calves are fed enough of something to keep them growing. I never was in a neighborhood where the general average of the milk cows was so good; and the young things continued to be good, many of which have, when given a chance, made large records. The cow Boutsje, at the O. A. C. (20,778 pounds milk in one year), is from a herd in that locality. Many others I could mention.

It was not the feeding of the calves that gave such very satisfactory results; in fact, the results would have been better still, in many cases, if the calves had been fed a little more, as several were rather undersized and not so well developed, being, as a rule, bred to have their first calf at two years old. Under this rather scant feeding, it would be better to have them calve at 28 or 30 months old.

One of the most important points in breeding up a dairy herd is to have both the sire and dam in a good, vigorous condition. The condition of the sire at mating has, no doubt, considerable influence upon his progeny, and the condition of the cow when carrying the calf has also an influence. The qualities are no doubt largely latent in the calf when born; being born with lots of vigor and constitution is the essential thing. And such a calf is easy to raise. It is possible to spoil such a calf by feeding too well, and giving it a propensity to turn its feed into fat. But a great many more are spoiled by underfeeding, which stunts the growth, and does not develop the digestive organs. As a rule, young calves are fed too much milk for the first month or two and not enough later. When whole milk has to be fed, 8 or 10 pounds a day is quite sufficient for the first three weeks, then add a little water as the calf gets older, and teach it early to nibble at hay, bran or silage. It will take only a handful of bran at the start, say from three to four weeks old, but will soon learn to eat more. Then give it a pinch of oil cake (ground), either with the bran or put in the feed pail, as soon as the calf has about taken all the milk out that will keep it sucking at the bottom of the pail, which makes saliva, which aids digestion.

When a calf is four or five weeks old, add a little hot water to the milk, only a cupful at first, and gradually increase the water. A calf needs a certain quantity of drink; the state of the excrements will show how much. If dry and hard, more drink should be given; if too loose, less drink. If the calf is doing well at three or four months, and is thrifty, a little less milk can be given, if it is valuable, as the calf should be eating considerable by that time, and, when eating bran, oat chop and oil cake, with some silage, as well as hay, it does not take much milk to keep it going. At four months old, one-third milk and two-thirds water does very well—enough of this



In the Sunset Glow.