ing and practically every phase of the farm work is carried on by means of it, even to the threshing. It also supplies a lighting system to all parts of the building. An immense steel tank near the barn furnishes a plentiful supply of water to the herd. This tank is kept supplied from the lake by means of an electric pump.

While the elaborate equipment of Manor Farm is scarcely possible to the average man in the dairy business, it is well worth any dairy breeder's time and money to visit this farm for the many new ideas and suggestions that could be put into practice in the case of his own buildings.

## Ration for Dairy Cows

Please suggest a ration for new milkers from the following feeds. Being hailed out badly I am short of grain, but have abundance of good corn silage and a large quantity of good mixed clover hay, 10 tons Hungarian grass, alfalfa hay and 200 shocks eared corn.—Subscriber, Middlesex Co., Ont.

In compounding a ration of the feeds mentioned we would suggest that the alfalfa hay be used in combination with Hungarian grass during the flush of the milk flow and that the mixed hay be substituted later on when the demands on the cows are not so great. The following ration would prove satisfactory for cows giving 25 lbs. of milk a day. Cows milking in excess of this should have the meal ration increased in quantity and also in protein quality. Either cotton seed or oil cake meal would be desirable for this purpose.

| | D.M. | P. | C.H. | F. |
|---|---|---|---|---|
| 40 lbs. corn ensilage | 8.856 | .460 | 4.52 | .32 |
| 10 lbs. alfalfa hay | 8.96 | 1.1 | 3.96 | .15 |
| 6 lbs. Hungarian grass | 5.538 | .27 | 3.102 | .078 |
| 5 lbs. brewers' grains | 4.59 | .705 | 1.815 | .155 |
| | 27.614 | 2.515 | 13.397 | .733 |

This ration balances well according to scientific standards, and approximates very closely the ration actually fed by one of the most successful dairymen of Ontario. A good order of feeding would be ensilage and meal first thing after milking in the morning, and when these are cleared up, alfalfa hay. At night a feeding of Hungarian grass could follow ensilage and meal. Unless the cows are milking very heavily two feeds a day would be sufficient. Ensilage might be reduced to make room for some shocked corn in the ration. It would also be advisable to throw some stalks in front of the cows last thing at night that they may have a chance to pick it over.

One of the great secrets in success in feeding dairy cattle is to keep them well filled up. A cow is never so comfortable as when she is full. Hence the advisability of giving the more palatable and nutritious feed in the morning, the alfalfa hay and ensilage, in order that she may fill up well on the less palatable feed later on, as corn fodder and Hungarian grass.

## Nipple versus Bucket Feeding

*By J. J. Hooper of the Experiment Station.*

Eighty calves (principally jerseys) were employed in five separate experiments by J. J. Hooper, of the Experiment Station, to determine the advisability of using the calf nipple for feeding the young calf. In all the tests two lots of calves were fed, one lot of calves being fed milk direct from the bucket and the second lot was fed through a nipple. Three kinds of patent nipples or "calf feeders" were used. The results of these experiments are reported in a recent bulletin.

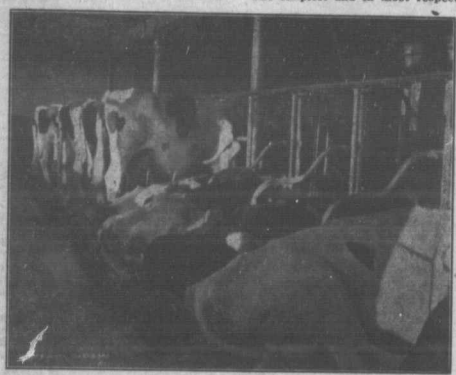
The simplest and in most respects the most satisfactory calf feeder was made of a round wooden block with a one-inch hole bored in the middle, through which the nipple was placed. This block with the nipple was placed on top of the milk in a bucket and we never had any trouble cleaning this nipple and it cost very little. One type of calf feeder had the nipple placed in the bottom of the bucket which was hung above the calf's head. Because of the fact that the bucket was not very strong, we had some trouble from leaks and this "feeder" did not give absolute satisfaction.

The third type was composed of a rubber tube, a metal core, a spring and a nipple. The bucket in this type was hung on a hook outside the calf's stall, and the rubber hose extended from the bucket through the wall and spring to the nipple. This feeder was quite successful and altogether satisfactory.

CONDITIONS OF EXPERIMENT.

The lots of calves were divided equally into two groups with regard to age, sex, weight and thrift. The same amount of feed, pasture and milk was given to all calves. In the beginning of the experiment the calves were approximately two weeks of age. Careful weights of each calf were taken on three successive days of each month. The milk was warmed before being fed to the calves and the rubber parts were soaked in three per cent. formalin solution after each feeding. The calves were fed milk twice each day and hay and grain as they grow.

It required on an average for all calves, 30½ seconds for the bucket-fed calves to drink their milk, while the calves sucking their milk through the nipple required an average of two minutes and 21 seconds to drink the same quantity of milk. Our weights show conclusively that during the first seven or 10 weeks of the calf's life, they were more thrifty when fed through the nipple, which was due to the fact that as they suck the milk they mix it thoroughly with saliva and take it slowly. After the 70th day the nipple was no more effective than bucket feeding, and in fact calves fed carefully from the bucket, will make almost as large growth by the time they are six months old as those fed on the nipple when they are young.



**Comfort and Profits Go Hand in Hand in the Keeping of a Dairy Herd**

Different from human beings, the dairy cow works hardest when she is the most comfortable. Manor Farm Holsteins receive every care. Even the floors are of Kent cork brick. No capped knees as on hard slippery floors. The modern dairy is but a comfortable sun-room for the cows.
—Photos by an editor of Farm and Dairy.

## Shoeing the Farm Horse

*(Continued from page 4)*

Now for the rasping. When the shoe is nailed on firmly and the extra length of nails is cut off almost flush with the hoof, the corner of the rasp may be used to make a slight indention to permit of turning down and clinching. It may then be run lightly around to remove any sharp or uneven ends where hoof and shoe meet. This done the foot is correctly shod.

I will close with a few points taken from a most excellent article by Mr. Frank R. Shaw, in a recent number of Successful Farming. Mr. Shaw's points coincide with my own conclusions reached after a period of many years' experience with horses and many heated arguments with blacksmiths who seemed to think I had no right to dictate how my own horse should be shod:

"Don't ever rasp the outside of the hoof to give it a smooth, finished appearance; nature has covered the foot with an enamel to protect it against heat and cold and to enable it to retain the moisture necessary to its healthy growth. Don't cut away any of the frog—it is placed where it is to act in connection with the plantar cushion or sensitive frog as a buffer in meeting the concussion caused by the foot coming in contact with the ground. Don't cut away the sole of the foot—it is put there to protect the entire structure and nature provides for the shedding or scaling away of old and dead growth. Don't place a red hot shoe to the foot; it is impossible to have fire and a live fibrous substance come together without injury to the latter, and where a hoof is thin and inclined to shelliness, it will be fired to a point where in time it will be almost impossible to have it retain a shoe. Don't cut away or interfere with the brace extending from the heel toward the frog; this is a wise provision of nature to strengthen the wall or hoof and to prevent contraction and can never grow too large or strong.

## Dairying on Sandy Land

*(Continued from page 5)*

years. They are A No. 1 quality, the finest I have ever used when grown on light soil. We plow the land in the fall. In the winter or early spring we spread seven loads of manure per acre. As soon as the land is fit in the spring, we drag twice over; in a week or ten days cultivate both ways. Then plow in another week or so; then drag both ways; leave till the first week of June, then plant. We drop the tubers in rows four feet wide and about 18 apart, cover with a hoe and drag once over lengthwise. The following week we drag three or four times. As soon as we can see the rows, we start our two-horse cultivator. Keep it going till they are a good size, then use a one-horse scuffler.