

# Calf Rearing by Modern Methods.

W. H. DOWNES,

*District Dairy Instructor.*

**T**HIS is a question of interest to most dairy farmers, particularly those separating on the farm, who have skim milk available for the purpose of feeding to stock. There is little doubt that, provided the farmer has the ground available to run the calves until fully grown, it is the most economical method of making replacements in the herd, rendered necessary by deaths, sales, &c. Only the best calves from proved cows and by a bull of some standing should be kept for this purpose.

## Pre-Parturition Treatment.

The treatment the cow received prior to calving has a marked influence on the health of the calf when born. Quietness and a comfortable paddock are essential features in her treatment, as well as ample water and food of a fairly succulent nature, and she should also have access to rock salt or some other lick. These tend to keep the digestive system and bowels in good order, which materially assist her during the critical period. The very common practice of milking the cow close up to her time of calving should be discouraged, because it causes a heavy drain on her system at a time when rest is most necessary. For this reason it is advisable to dry off at least two months before calving.

## Treatment at Birth.

When the calf is first dropped it should be allowed to run with its mother for 24 hours, the object being to allow it to secure the colostrum, beastings, or first milk direct from the cow. This milk, which contains a large proportion of albumen, has medicinal properties of distinct advantage to the alimentary tract of the newly born calf. By allowing a day to elapse, it can generally be assumed that the calf has suckled its mother and secured some of the new milk, but it is inadvisable to allow a longer time to elapse, because they take much longer to forget each other, the calf being disinclined to drink, and the cow holding back her milk. The cow at this time should receive a hot bran mash and a drench of, say, 8 ozs. to 12 ozs. Epsom salts.

## First Week.

After removing the calf from its mother, it should be given the mother's milk at blood temperature (98°—100°F.), because, for a week at least, the milk is still of an abnormal nature, and particularly suited to the building up of bone, muscle, &c. This gives the calf a good start in life but should

the mother die, the addition of the white of one egg to ordinary fresh, warm milk will make a good substitute. During winter months the calf should have warm quarters, with straw bedding, and shade in summer. The quantity of milk the calf receives at this time should be 10 lb. to 12 lb. daily, given, according to the calf's appetite, in two or three separate feeds.

## Feeding Stalls and Equipment.

The long trough for feeding calves has many objectionable features, the chief one being that the greediest calves become over-gorged and develop digestive troubles, whilst the slow drinkers do not receive sufficient nourishment. Separate feeding stalls are advocated because the quantity can be regulated for each calf. The nearer they approach to Nature the better will be the results achieved. For that reason the teat and tube system of feeding has many advantages over other methods. The equipment necessary for each feeding stall consists of a rubber teat, flexible  $\frac{1}{4}$  in. metal pipe 15 in. long (gas tubing), and a milk container made from half of a kerosene tin.

The container or milk receptacle rests on a bench, the tube leading to the teat, which is firmly fixed through a hole in the board at the front of the stall. In this way the calf cannot interfere with the milk container, but is compelled to draw it from the teat and get its food more slowly and more naturally. The teats, tubes, and milk tins should be kept scrupulously clean, or scours and other troubles will quickly result.

## Second Week.

During this period a change can be made in the milk, not necessarily giving the calf its own mother's milk, but it should still be whole milk.

## Third Week.

During the third week the whole milk can be gradually broken down by the addition of increasing quantities of skim milk, until at the end of the third week skim milk only is being fed. It then becomes necessary to add meal to the skim milk in order to replace in some way the butter fat which has been removed. For this purpose any of the following will be found suitable substitutes:—Linseed meal, pollard, cotton seed meal, coconut oil-cake, cod liver oil, but the first mentioned is to be recommended for preference. The meal should be boiled in water until it reaches the consistency of porridge and is free from lumps, and can be added to the milk at the rate of half a pint of meal, which actually amounts to about 2 ozs. per calf. Oat-meal gruel, one part to four of above, makes an ideal porridge.

Should the calf show signs of scouring one should revert back immediately to whole-milk diet until the trouble ceases. The calf will now be commencing to feed on grass, and should be run in a small paddock provided with water and suitable shade and shelter. A trough with a small quantity of chaff and concentrates can also be available. It is a good plan to provide this immediately after the milk ration, because it dries the mouth of the calf, and, to a large extent, prevents the sucking habit.

## Dehorning.

There is no fixed time for painlessly dehorning calves, but if it is to be carried out the operation should be performed when the button horns can be felt, but are not showing through the skin—second or third week.

Repeated applications of moistened caustic potash for four days should remove them. It is a good plan to clip the hair over the spot and clean with a little methylated spirits, allowing it to dry before applying the caustic. Whilst the calves are growing the ration can be increased to 15 lb. daily. The addition of half a pint of lime water to each feed will assist in the development of bone. Feeding can be continued until the calves are five months old, when, if well grown, they can be weaned and turned out to grass.

## Diseases in Calves.

The most common diseases amongst calves reared artificially are white scours, lung disease, ringworm, colic, and tympanitis (hoven or bloat). The first, being associated with feeding, is generally the most prevalent. For this reason, it is advisable, if convenient, to pasteurise milk for calves as soon after separating as possible, and then cool it down to blood heat. Calves suffering from white scours or blood scours (dysentery) should be isolated, because the disease is contagious. All droppings from affected calves should be removed and the spot thoroughly limed.

## Treatment for Scours.

Give a mild dose of castor oil (one to two teaspoonfuls) in warm milk, and if the trouble continues give one or two drachms of chlorodyne. If the calf is subject to scours add lime water regularly to the milk because it acts as a tonic to the bowels, solidifies the excreta, and corrects acidity in the intestines.

A drench for calves consists of baking soda, 3 ozs. ; powdered rhubarb, 1 oz. ; laudanum, 3 ozs. ; limewater, 16 ozs. One wineglassful should be given three times daily. As soon as the disease ceases the drench should be stopped.

## Branding.

Branding can be done at weaning (five to six months), when the hide is thick enough to take the iron distinctly, without growing too large in size. The part to be branded should be clipped and smeared lightly with olive or castor oil. The calf should be held securely, or thrown, if necessary, in order to get a non-giving surface. The iron should be fairly hot, and placed quickly and evenly on the skin, exerting only a fair pressure, because heavy pressure will cause it to burn too deeply, or perhaps cause the iron to slip, making an ugly, illegible brand.

In conclusion, to rear calves successfully particular care and attention should be given to the cleanliness of the feeding vessels, and to see that the milk is clean, sweet, and of correct temperature. In this way calves will receive little or no check during their growth, and will develop into fine, healthy animals.—*The Journal of the Department of Agriculture of South Australia*, Vol. XXXI., No. 1.