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Wartime Rations for Young Calves!

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A GOOD MANY Iowa farmers who have been in the habit of separating their milk on the farm, sending the cream to market and using the skimmilk for raising their calves and pigs have a new problem now. The demand for more cheese, more dried milk and more condensed milk for the army and navy and for our allies in the war has caused many Iowa dairy plants to start turning out these products instead of just butter.

If you happen to be one of those farmers who is confronted with the problem of raising calves now with a reduced supply of milk, you may be interested in some work we carried on here at the Iowa Station to try to find an economical and efficient substitute for milk.

We claim only partial success, because in our opinion no real substitute has ever been found for milk in calf feeding.

This past winter we have been trying out some simple milk supplements. Several kinds were tried, but one gave better results than the others. Because oatmeal is frequently fed to very young children, we used this as the principal ingredient of our successful ration. We then added 1 part linseed oilmeal for each 3 parts oatmeal along with a little salt, bone meal and vitamin supplement.

Here is how we fed these calves. The calves were allowed all the whole milk they needed until 3 weeks of age. This amounted to around 3\frac{1}{2} pound daily for each 10 pounds of live weight. At 3 weeks of age the milk was reduced in amount and used in making a gruel. Enough boiling water was added to the oatmeal, with linseed oilmeal mixed in it, to make a thick paste, stirred and then cooled with 3 pounds of milk. The amount of gruel fed depended on the calf. In this experiment 80- to 90-pound calves were fed about a fifth of a pound of the mix (dry basis) twice a day. The milk in the gruel was gradually replaced with water so that the calves were receiving a milk-free gruel at 6 to 8 weeks of age, depending on the vigor of the calves.

A grain mix was accessible to the calves at all times. It consisted of 3 parts ground corn and 1 part wheat bran. They also received all of the best grade of alfalfa hay they would eat.

Gains and Growth

Holstein calves gained 1 pound a day during the 6 weeks of the trial (from the time they were 3 until 9 weeks of age). This is a normal rate of gain for calves of this age. Other breeds did equally as well although, of course, their rates of gain varied with the breed. Although not fat, the calves showed sufficient bloom to indicate a good...
These calves got all the whole milk they needed until 3 weeks old and then were shifted gradually to oatmeal gruel. At 6 to 8 weeks they were fed no milk. healthy condition. Their alertness and activity also indicated plenty of vigor. A normal height at withers for their age was further proof that they had not been stunted by this minimum-milk plan of feeding.

Feeding Suggestions

The gruel method of feeding takes more time and requires more skill than the usual methods of feeding. However, it is the most satisfactory and economical method of rearing calves we have found when milk is scarce. Of course, we're assuming that skimmilk, whey, dry skimmilk, dry butter-milk and similar milk by-products have become scarce along with whole milk.

Oatmeal gruel as we fed it had two advantages over the other methods which we tried. The pouring of boiling water over the oatmeal mix tends to rupture the starch particles. The heated feed is not only more digestible but the calves like it better. Another advantage of heating is that this oatmeal gruel hardly ever scour calves even though fed in relatively large amounts. Scouring is frequently encountered with calf starters because the finely ground grains tend to escape into the intestine before they have been sufficiently digested.

Although oatmeal is considerably higher in price than ground oats it has several advantages over the unhulled grain. It contains only 2 percent fiber as compared with 10 to 12 percent for whole oats. Since calves have difficulty in handling roughage at this early age, large amounts of fiber are a detri-

Boiling water was poured over oatmeal in making up the gruel which was fed.