

# **Feeding and Managing Dairy Calves**

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Dairy calves represent the future productivity of any milking herd. Since the results of carefully planned feeding and management strategies may not be fully appreciated for years to come, at first it may seem difficult to justify the extra time and labor required. However, a sound feeding, housing, and health care program for baby calves will prove its value by developing healthier, more productive cows for the future.

## **Feeding**

A calf's first meal is the most important meal of its life. Since maternal antibodies are not transferred across the placenta during pregnancy, calves are born with weak immune systems. In addition, the intestinal absorption of antibodies declines rapidly after birth and effectively ceases within 24 hours. As a result, they depend on the timely consumption of adequate amounts of good quality colostrum to provide antibodies for disease resistance.

Calves should be fed at least 3 quarts of high quality colostrum as soon as possible, ideally within an hour after birth. If the calves are unable to consume the necessary quantity by suckling, they may need to be force-fed with an esophageal tube. The colostrum must contain high levels of antibodies in order to provide adequate disease protection. First and second lactation cows, cows leaking milk prepartum, and cows under environmental stress will produce lower quality colostrum. A colostrometer will give a quick estimate of quality based on specific gravity, optimally greater than 60 mg/ml. If the dam's colostrum supply is unavailable or low quality, frozen colostrum should be fed.

After the calf has received adequate amounts of good quality colostrum soon after birth, it will be ready to consume the liquid diet. Among the several types of liquid diets used to feed calves, including whole milk, fermented waste milk and colostrum, milk replacers are the most common. They are cheaper and more convenient than whole milk, and will support acceptable performance if made of high quality ingredients.

Select a milk replacer based on quality rather than price to promote better calf growth and decrease the risk of scours. The best milk replacers contain at least 20% protein from primarily milk sources, 10% fat, and low fiber levels. Higher fat levels up to 20% may be necessary to provide energy in very cold weather. Avoid milk replacers that use soy as the main source of protein, since the soy contains anti-nutritional factors and the proteins settle out of solution. For optimum performance, feed liquid diets once or twice daily in the amount of 8-10% of birth weight per day. Although the calves' nutrient requirements increase, keep this feeding level constant to encourage starter feed intake.

Starting at three days of age, calves should be provided with a specially formulated starter ration and fresh, clean water free-choice. The starter should be palatable and course-textured. Calves with access to water will consume more starter, which stimulates rumen development and increases weight gain. Wean calves when they are consuming 1½ lbs of starter per day, as long as they are healthy and the weather is not extremely cold.

### **Housing**

A proper housing environment for young calves should emphasize comfort and minimize disease transmission. The first environment a calf encounters, the calving area, should be clean, dry and well-ventilated. As soon as the calf is dry, it should be removed from the cow to reduce the risk of injury, spread of disease, and the trauma of separation. Calf hutches are the most preferable form of housing since they provide plenty of fresh air, a clean, dry bed of straw, and prevent calf-to-calf contact. The main disadvantages of calf hutches include inconvenience during cold or wet weather, and a greater labor requirement. Calves may be removed from hutches and placed in group housing once they are consuming adequate amounts of starter and have been weaned from the liquid diet for several days.

### **Health Care**

Providing the calf with a clean calving environment, adequate amounts of colostrum soon after birth, proper early nutrition, and individual housing in a calf hutch are some of the most important ways to develop strong, healthy calves. However, several additional management practices will aid in disease prevention. Immediately after birth, the calf's umbilical cord should be dipped in an iodine solution. In addition, producers should be alert to the signs of calf scours and dehydration and be prepared to provide replacement fluid therapy as needed.

The extra time, labor, and expense invested now to improve management of baby calves will reap greater rewards in the years to come. Combining proper feeding, housing, and health care strategies towards raising young dairy calves will produce healthier, more profitable replacements for the milking herd in the future.