



12 Keys to making automated calf feeders work

1 Excellent colostrum management to start calves off. Some farms keep baby calves in isolated pens up to five days before introducing them to the group; other farms put baby calves onto the group feeders shortly after birth. Both approaches can work, but farmers need to ensure all calves get adequate, high quality colostrum in the first 24 hours of life. Nearly 40% of the farms in the study had serum total protein of less than 5.2 g/dl. At this level, calves are at some risk for sickness and death.

2 Navel disinfection critical. Basic baby calf management, such as navel disinfection, is also important. Those farms that disinfected navels had a 3% mortality versus 7% for those that didn't.

3 Adequate training of calves to the nipple feeders. Calves won't eat if they're not properly trained on how to suckle the nipple feeders.

4 Clean, dry bedding a minimum of 40 to 50 square feet per calf. "Keeping bedding clean and dry takes some labor, but if you're going to go with group housing, you have to do it right," says Endres. Farms that disinfect pens between groups had half the calf mortality than farms that didn't disinfect between groups.

5 Stocking rates of no more than 12 to 15 calves per pen. Research has shown that the best health outcomes occur when there are only 7 to 8 calves per pen, but farms have to balance that with capital and operating costs of the systems. "Larger group sizes are more successful when the age range among calves is narrow," says Endres.

6 Use positive pressure ventilation tubes over pens to ensure adequate ventilation. Retrofitted barns can work, but ventilation must be designed carefully to ensure adequate air exchange and movement in all areas of each pen.

7 Milk or milk replacer with low bacteria counts. The median of the top 10 farms were

coliform counts of 887 and standard plate counts of 87,590. The median counts for the bottom 10 farms were coliform counts of 5.6 million and standard plate counts of 21 million. "Standard plate counts should be less than 100,000 cfu/ml," says Endres. "It doesn't take a rocket scientist to know that if you feed high bacteria milk you will have more sick calves."

8 Use drinking speed to judge illness. Farms in the study that used drinking speed as a metric for illness had about three times lower mortality rates. Sick calves tend to drink slower, and using this variable to check animals can mean treating sick animals sooner.

9 Peak milk of at least 8 liters per calf per day. The advantage of the automated feeders is that calves can drink frequently and consume larger daily amounts. Calves will easily drink 10 liters per day.

10 Meal sizes of 2 to 2.5 liters. Ratchet up meal size as calves grow, with the goal of reaching upper limits by two to three weeks of age. Calves should reach peak amounts with four to six feedings per day.

11 When milk replacer is used, powder is typically diluted to about 13 to 15% solids. "It is important that the feeder is calibrated routinely and all parts kept clean so that the powder flows properly and dilution is consistent," Endres says.

12 Clean equipment is one of the most important factors in making these systems work. "It is extremely important to run circuit and mixer cleaning as recommended by the manufacturer, replace nipples daily and hoses weekly, use the recommended cleaner to remove biofilms from surfaces and keep the area around the feeders clean," emphasizes Endres.