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Information for Today's Agri-business Professional

Autofeeders cannot run on "autopilot"

Steve, the owner of an 850-cow Midwestern dairy, was alarmed by the events occurring in his fairly new calf barn. They had finished the new loose-housing barn 18 months earlier, and switched from hutches and bottles to group pens and an autofeeder system.

When they designed the barn, they worked with a consultant trained by the University of Wisconsin Dairyland Initiative to create a positive-pressure tube ventilation system to deliver fresh air to the calves without creating a draft. Steve also had been careful not to overcrowd the pens, limiting stocking density to 20 calves in each of the four pens. He invested heavily in wood chips and oat straw, and visited the barn daily to make sure his crew was using them to create an oasis of deep, dry bedding for the calves. Pens were cleaned out and sanitized monthly.

Initially, all was well. Steve's employees appreciated the new working environment; air quality was excellent; the autofeeder was much more convenient than mixing and washing bottles; and, best of all, the farm's rate of gain from birth to weaning jumped from 1.32 to 1.67 pounds per day the first year.

But lately, things were not going so well. On his daily inspections, Steve noticed the air quality was not as good, and he was observing rough hair coats, mild coughs and scours among many of the calves. An inspection of treatment records showed more than half of the calves were being treated for either respiratory disease, scours, or both. After losing just one calf the entire first year, they had lost three in the last month. And the most recently weaned calves had dropped in average daily gain to 1.45 pounds per day.

When Steve called in his veterinarian, the practitioner confirmed the farm was adhering to the priorities for bedding and stocking density they had established from the outset of the project. So he turned his attention to the autofeeder.

The veterinarian immediately noticed caking of milk-replacer powder around the outlet of the powder hopper. The silicone hoses leading from the mixer to the nipple supply valves were cloudy instead of clear, and the nipple panels and guard areas carried a layer of slimy build-up. He performed a sanitation audit, swabbing the mixing bowl, hoses, nipples and the surface surrounding the nipples, and found many areas that "lit up" his luminometer with contaminants, most likely high bacteria levels due to inadequate cleaning.

In a discussion of the farm's feeding program, the veterinarian learned they had switched from 24:24 milk replacer in the winter, to a different brand of a 24:20 formulation in the summer, but had not recalibrated the machine. A change in staffing a few months earlier also had resulted in circuit cleaning of the machine from the prescribed once a day, to about twice a week, when they also changed the nipples. They also did not clean the nipples other than soaking them in a dilute choline solution. The new employees said they had not been instructed to clean any other components of the feeding system, nor had they ever replaced any hoses on it. Additionally, the prescribed low-temperature detergent was recently replaced by a lower cost alternative.

Among the SOPs were daily tasks that included manually cleaning the outlet of the powder hopper with a brush;

calibrating powder levels; performing circuit cleaning; and changing, scrubbing and sanitizing the nipples. They also implemented a thorough, weekly manual cleaning of all milk contact surfaces and general cleaning of the entire milk-preparation area. A supply station also was developed that held the brushes, cloths and a recommended general-purpose cleaner in one handy spot.

While the farm's problems did not all turn around overnight, the incidence of scours did drop precipitously, in addition to an overall improvement of the calves' immune system resulting in lower respiratory disease. Attention to sanitation of the autofeeder gradually should help the farm return to the preweaned calf health and performance it initially enjoyed with the new system, with some important lessons learned along the way.