

# Preventing Disease in Baby Dairy Calves



College of Agriculture,  
Food and Environment  
Cooperative Extension Service

By: Donna Amaral-Phillips, Ph.D.

Preventing disease in dairy calves is critical for not only their survivability but also proper growth the first two years of life, and overall milk production after they calve. All of these areas directly impact profitability of a dairy operation. In [a DAIReXNET webinar](#), Dr. Geof Smith from North Carolina State Veterinary School addressed “Avoiding Disease in Dairy Calves”. A summary of his discussion is the foundation for this article. In addition, Dr. Ken Nordlund, retired from the University of Wisconsin Veterinary School, recently discussed with the UK Dairy Extension Group, the need for ventilation systems for baby calves. As appropriate, some of his discussion points are included in this article.

- Dr. Smith indicated that the majority of calf health issues stem from improper calf management. Thus, calf management practices should always be monitoring and modified when necessary. No silver bullets or products exist for overcoming poor colostrum management, housing, or other management practices. Vaccines can help prevent disease, but sound management practices must be in place to capitalize on their benefits.
- Mortality or death losses should be less than 4% in calves over 24 hours of age. However, in well-managed dairies death losses are often 2% or less. Records regarding calf disease incidence should be maintained so that problems can be identified quickly and corrections implemented.
- Dr. Smith reiterated the concept that the single most important way to prevent disease is the timely, adequate consumption of high quality, cleanly-harvested and stored colostrum. Calves are born without antibodies against disease and must obtain antibodies from colostrum. By 24 hours of age, calves cannot absorb these large molecules and the rate of absorption decreases rapidly within the first 24 hours of life. For calves born overnight without 24-7 maternity supervision, calves should receive colostrum as the first chore in the morning before other chores, such as milking, have been completed. Dr. Smith did not recommend pooling colostrum between cows since he believed this practice increased the risk for disease.
- In addition, calves need to be born in a clean environment, removed from the dam promptly after birth, and then housed in a clean, dry environment with adequate drainage and away from adult cows. Poorly maintained calving areas are generally associated with illness the first week of life. After a week of age, the housing of the calf itself could be a contributing cause of calf diseases.

Educational programs of Kentucky Cooperative Extension serve all people regardless of race, color, age, sex, religion, disability, or national origin.

## Preventing Disease in Baby Dairy Calves

- Preventing overcrowding helps decrease stress and exposure to disease pathogens. Housing should provide 30 to 40 ft<sup>2</sup> per calf and hutches should be spaced with at least the width of a hutch between hutches.
- Respiratory disease in calves has been linked to poorly ventilated housing. Dr. Nordlund indicated that Dr. McGuirk's group estimates that 3 to 4 times more calves have respiratory issues than farmers realize. Air quality at the calf's level, not the caretakers level, is important. Calf pens should have solid sides but with unobstructed ("mesh" or open) in the front and back for the best air movement or exchanges. In the winter, barns should have 4 air exchanges per hour and increasing to 40 to 60 in the summer. Buildings with low ceilings, such as old swine or poultry barns, often have very poor ventilation and are not suitable for positive pressure ventilation tubes.
- Higher planes of nutrition (for example, 6-8 quarts of milk versus 4 quarts daily fed in at least two equal feedings) can help improve a calf's immunity and decrease susceptibility to disease.
- Stresses, such as dietary changes, overcrowding, or weaning, can increase disease incidence in calves. Studies in poultry and swine have seen an increase in shedding of pathogens in feces when stressed. Thus, minimizing stress is important in prevention of disease in calves.
- Dr. Smith stressed that "sick" calves need to be identified early. Most calves respond to treatments when they are started early in the course of a disease. Treatment protocols should be developed with your veterinarians advice and treatment response monitored.