

# Range Beef Cow Symposium XX

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## Applying the Principles of the Sandhills Calving System

by **Linda Robbins**

FORT COLLINS, Colo. (Dec. 15, 2007)—David Smith shared with producers attending the 2007 Range Beef Cow Symposium Dec. 12 the principles used in the Sandhills Calving System to minimize the risk of calves developing scours. Smith is professor and Extension dairy/beef veterinarian with the Department of Veterinary and Biomedical Sciences at the University of Nebraska—Lincoln (UNL).

“There are numerous infectious agents that cause calf diarrhea,” Smith said. “Probably too much time [is] spent in knowing the name of the agent responsible for the calf’s illness or death, even though that knowledge rarely explains the outbreak or provides a solution for treatment, control or prevention.”

Calves typically become ill or die from diarrhea within one or two weeks of age, Smith added. Regardless of the reason for this narrow range of age, the first seven to 14 days defines the age of susceptibility as well as the age calves are most likely to become infective and shed the agents in their feces.

The dam’s age also explains a young calf’s risk for diarrhea, Smith said. Calves born to heifers are at higher risk for diarrhea and have lower maternal antibody levels than calves born to older cows. Researchers suggest calves born to heifers are probably more susceptible to disease because heifers



► David Smith

produce a lower volume and quality of colostrum, they don’t have good mothering skills, and they are more likely to experience calving difficulty.

Although the adult cow herd likely serves as the source of calf scour pathogens from year to year, Smith said, the average amount of pathogen exposure to calves is likely to increase later in the calving season because calves infected earlier serve

as pathogen multipliers and become the primary source of exposure to younger calves. This multiplier effect can result in higher infection rates and widespread environmental contamination.

While biosecurity is the total of actions producers can take to prevent the introduction of a disease agent into a pen or herd, that is not possible with scours since the pathogens for scours are already present in the herd. Biocontainment describes the actions taken to control a pathogen already present in the population, Smith said.

Various biocontainment systems for beef herds have been developed to prevent calf diarrhea. Each of these strategies, including the Sandhills Calving System, are designed to manage cattle in a way that prevents calves from having effective contacts with pathogens by reducing opportunities for exposure and transmission.

“The later a calf is born in the season, the more likely it is to die from scours,” Smith said. “This is due to the calf’s lower level of immunity and its higher level of exposure.” The two management actions that will prevent or limit scours in beef calves are:

1. segregating calves by age to prevent direct and indirect transmission of pathogens from older to younger calves; and
2. scheduling movement of pregnant

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## Sandhills Calving System CONTINUED

cows to clean calving pastures to minimize the pathogen multiplier effect in the environment and to limit contact time between calves and the larger portion of the herd.

“We try to recreate those conditions that exist at the beginning of the calving season,” Smith said. Producers using the Sandhills Calving System or a similar management system or strategy to control or prevent exposure have observed meaningful and

sustained reductions in sickness and death due to calf scours, and greatly reduced use of medications.

Biocontainment systems or strategies are not new ideas, Smith added, showing a textbook from the 1930s that suggested good hygiene was most important in maintaining calf health.

Range Beef Cow Symposium XX was hosted by the Cooperative extension services and animal science departments of Colorado

State University, South Dakota State University, the University of Wyoming and the University of Nebraska at the Larimer County Fairgrounds and Events Complex Dec. 11-13. Additional coverage of the symposium is available at [www.rangebeefcow.com](http://www.rangebeefcow.com).



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