

Prevention of Neonatal Calf Diarrhea with the Sandhills Calving System

D. R. Smith, DVM, PhD¹; D. M. Grotelueschen, DVM, MS²; T. Knott, DVM³; S. Ensley, DVM, PhD⁴

¹Department of Veterinary and Biomedical Sciences, University of Nebraska-Lincoln, Lincoln, NE

²Pfizer Animal Health, Gering, NE

³Sandhills Veterinary Hospital, Arthur, NE

⁴Bayer Crop Science, Stilwell, KS

Introduction

Neonatal diarrhea remains an important cause of illness and death of beef calves. Costs of the disease include loss of performance, mortality and the expense of medication and labor to treat sick calves. In addition, cattle producers often become disheartened after investing long hours to treat scouring calves during an already exhausting calving season. Our objective was to design and test calving systems that would reduce morbidity and mortality due to neonatal calf diarrhea.

Materials and Methods

The management actions we defined as the Sandhills Calving System were designed to prevent effective contacts by: 1) segregating calves by age to prevent direct and indirect transmission of pathogens from older to younger calves, and 2) scheduled movement of pregnant cows to new calving pastures to minimize pathogen dose-load and contact time.

Herd #1 was an 800-900-cow spring calving system. Cows were turned into the first calving pasture as soon as the first calves were born. Calving continued in the first pasture for two weeks. Each subsequent week, cows that had not calved were moved to a new pasture and pairs remained in their pasture of birth. The result was multiple pastures, each with calves within one week of age of each other. Cattle from different pastures could be commingled after the youngest calf was four weeks of age.

Herd #2 was a 400-cow rotational grazing system with early summer calving. Groups of cattle were moved to different pastures throughout the calving season as appropriate for forage utilization; however, every 10 days or whenever 100 calves were born the herd was divided by sorting cows that had not calved from the cow-calf pairs of the preceding group. In this manner all calves

within a group were within 10 days of age of each other. Pasture groups were commingled after the youngest calf was four weeks of age.

Results

Herd #1. During the five years prior to the study the mortality rate due to scours ranged from 14 to 6.5% and veterinary expenses during the calving season averaged \$3114.18 per year. During the three study years illness and death due to calf scours decreased significantly ($p < 0.01$). No calves died from neonatal calf scours, four calves were treated for scours in the first year and no calves were treated for scours since. Veterinary expenses averaged \$128.83 per year, a 24-fold reduction from previous years ($p < 0.01$).

Herd #2. The all-causes calf mortality rate the two years prior to the study was 6.5 and 11.9%, respectively. Deaths were primarily due to neonatal calf scours. In the three study years, death loss was significantly reduced compared to previous years ($p < 0.01$). No calves have died of neonatal scours, and the all-causes death loss was 2.3, 1.5, and 1.5%, respectively.

Significance

After implementing the Sandhills Calving System in these two ranch herds, we observed important reductions in morbidity and mortality due to neonatal calf diarrhea and greatly reduced use of animal drugs. The reduction in illness and death in each ranch has been consistent over three calving seasons. We concluded that the Sandhills, Calving System effectively prevented illness and death due to neonatal calf diarrhea. The system was tested in ranches typical of the Nebraska Sandhills, however, it should be as useful elsewhere.