Do we really know how treaters make decisions on which calf to treat?

D.A. Moore1*, DVM, PhD; A. Olson1, BS; A. Adams-Progar2, PhD; A.C.B. Berge3, DVM, PhD; W. Sischo1, DVM, PhD

1Department of Veterinary Clinical Sciences; 2Department of Animal Sciences, Washington State University, Pullman, WA; and 3Berge Veterinary Consulting, Vollezelle, Belgium

Introduction

Lack of compliance with protocols on dairy farms is cited as an important reason for drug residues, poor estrus synchronization, and mastitis. In calf-rearing, treatment records are often absent making it difficult for veterinarians to understand treatment protocol compliance, and on what signs treaters rely to make treatment decisions. The objective of this study was to compare clinical observations made by trained investigators with treatment decisions for pre-weaned calves made by farm personnel.

Results

- 461 calves observed for 28 days – 14,019 calf-days of observation
- Mortality rate by 28 days across farms 9.8% --Range 1.5-28%
- Few calves had FS>1 in first week of life
  - ~5% of calves FS>1 by Day 8
  - FS>1 peaked at 13 days of age (47% of calves)
- Increasing FS was associated with a greater proportion of calf days where attitudes were “depressed”, using Chi square
- No association between FS and hydration observations
- Over 86% (397) of the calves received at least one treatment
- First treatments were initiated from the first day of life to Day 28
  - Average age to first treatment 9 days
- Of those first treatments:
  - ~27% (109) of the calves had no clinical observations made by investigators
  - ~16% were treated when investigators noted a FS=1 and no other clinical observations
- No difference by farm in the proportion of calves with no clinical signs that were treated
- Of 117 calves with an initial treatment with FS=0, RS=0, navel=0 and ear =0:
  - ~20% received fluids/electrolytes or other supportive therapy
  - ~80% were treated with an antibiotic (spectinomycin sulfate, trimethoprim-sulfa, florfenicol, ceftiofur, and penicillin)
- There were 507 calf observation days with FS>1 with no treatments given

Materials & Methods

Data on clinical observations and treatments for over 400 calves from 4 on-farm clinical trials were merged. Daily clinical observations were made by veterinary or technician investigators for at least the first 28 days of life.

Clinical observations included:
- Fecal scores (FS): 0=formed to 4=watery with blood; FS≥2 was classified as “diarrhea”,
- Attitude: alert or depressed,
- Hydration: based on sunken eyes and skin tent
- Respiratory score (RS): 0=normal to 4=abdominal labored breathing, and
- Presence of swollen joins, ear droop or navel swelling.

Calf treaters on each farm made independent decisions on which calf to treat and with what treatment. Clinical observations and treatments were recorded by investigators into a spreadsheet. Associations between different clinical scores and treatment decisions were evaluated.

Acknowledgements

This project is supported by the USDA National Institute of Food and Agriculture Grant No. 2015-68003-22998.

*Corresponding Author: Dale A. Moore damoore@vetmed.wsu.edu