

# The Use of Flunixin Meglumine<sup>1</sup> as Adjunct Therapy for Bovine Respiratory Disease in Stocker Cattle

D.H. Hellwig,<sup>2</sup> E.B. Kegley,<sup>2</sup> Z. Johnson,<sup>2</sup> J. Morris,<sup>2</sup> and B. Hunsaker<sup>3</sup>

## Introduction, Materials and Methods

Ninety-six stocker calves were purchased from several sale barns in central Arkansas and delivered as a group to the University of Arkansas Beef Cattle Research Facility in Savoy. Processing was done within 24 hours and serum was collected for baseline determination of  $\alpha$ -glycoprotein and haptoglobin. The calves were blocked by weight and randomly assigned to 1 of 16, 1.1-acre grass lots, with 6 calves per lot.

Calves pulled for bovine respiratory disease (BRD) from group 1 were treated with flunixin meglumine<sup>1</sup> at 2.2 mg/kg body weight, IV and tilmicosin<sup>4</sup> at 10 mg/kg, SC when first pulled. Calves from group 2 were treated with tilmicosin at 10 mg/kg, SC without non-steroidal anti-inflammatory (NSAID) therapy. Blood was collected each time an animal was treated for BRD, as well as 48 hours after treatment. Serum was used to determine  $\alpha$ -glycoprotein and haptoglobin levels using agar gel immunodiffusion<sup>5</sup> (AGID).

## Results and Conclusion

The total number of BRD relapses in the group receiving flunixin meglumine plus tilmicosin was less than the number of relapses in the group receiving

tilmicosin alone (12.5% vs. 40%,  $P \leq 0.06$ ). Total medication cost per head for group 1 was less than for group 2 (\$14.66 vs. \$18.10). Average daily gain (lbs/head/day) over the 35-day feeding period was statistically the same for both groups (2.2 vs. 2.4,  $P \leq 0.51$ ).

There was a large variation in the AGID results. Neither the serum  $\alpha$ -glycoprotein nor the haptoglobin levels could be correlated with response of BRD to therapy as measured by reduction in body temperature and abatement of clinical signs. Flunixin meglumine has potential for decreasing the number of BRD relapses when used in conjunction with antibiotics. Consequently, the cost of medication and labor will also be reduced.

In this trial, serum  $\alpha$ -glycoprotein and haptoglobin did not appear to be a useful indicator of successful response to BRD therapy. Identification of the animals will be maintained through the feeding period and lungs will be examined at slaughter for residual damage due to BRD.

## References

1. Banamine<sup>®</sup>, Schering-Plough Animal Health, Union, NJ
2. University of Arkansas, Department of Animal Science, Fayetteville, AR
3. Schering-Plough Animal Health, Claude, TX
4. Cardiotech Services, Inc., Louisville, KY