

**Table 1.** On-site slaughterhouse screening test results from fresh (FSH) kidney and previously frozen (FZN) kidney, liver, and muscle from cows dosed with ceftiofur sodium at a dose of 2.2 mg CE/kg IM once daily for five consecutive days, and slaughtered 12 hours after the last injection

#+/# Tested	FAST FZN	FAST FSH	CAST FZN	STOP FSH	STOP FZN	2-Plate FZN	7-Plate FZN
Muscle	0/6	ND	0/6	ND	0/6	0/6	0/6
Kidney	5/6	1/6	5/6	0/6	0/6	0/6	0/6
Liver	2/6	ND	2/6	ND	1/6	0/6	0/6

\*Naxcel® Sterile Powder, Pharmacia Animal Health

## Pasteurella Vaccination with Metaphylaxis for Calf Health

Raymond W. Loan<sup>1</sup>; Charles W. Purdy<sup>2</sup>; Robert E. Briggs<sup>3</sup>; Norbert K. Chirase<sup>4</sup>

<sup>1</sup>Department of Veterinary Pathobiology, Texas A&M University, College Station, TX 77843

<sup>2</sup>Charles W. Purdy, USDA-ARS, P. O. Drawer 10, Bushland, TX 79012

<sup>3</sup>National Animal Disease Center, USDA-ARS, P. O. Box 70, Ames, IA 50010

<sup>4</sup>Texas Agricultural Experiment Station, Texas A&M University System, Amarillo, TX 79106

### Introduction

The objective of the study was to determine the benefit of simultaneous *Pasteurella/Mannheimia* vaccination as an addition to metaphylaxis for the prevention of bovine respiratory disease complex (BRDC).

### Methods and Materials

Calves were high-risk, assembled stocker/feeder calves of 414 lb average weight. The study was a comparison of BRDC in these calves following metaphylaxis with tilmicosin<sup>a</sup> alone versus vaccination with *Mannheimia* (*Pasteurella*) *haemolytica*, serotype 1, biotype A (MhA1) and *Pasteurella multocida* bacterin with metaphylaxis (dual prophylaxis). In the pilot study, experiment 1, the calves were vaccinated with an experimental MhA1 oil emulsion bacterin-toxoid. In experiment 2, a commercially available MhA1/*Pasteurella multocida* bacterin-toxoid<sup>b</sup> was used.

### Results and Conclusions

In experiment 1, dual prophylaxis resulted in more healthy calves during the receiving period ( $p < 0.05$ ) and fewer calves experiencing two or more episodes of BRDC or death ( $p < 0.01$ ) compared to untreated control calves. Tilmicosin alone also reduced the number of calves experiencing severe BRDC ( $p < 0.05$ ) compared to controls.

In experiment 2, dual prophylaxis compared to metaphylaxis alone resulted in an increase in the number of healthy calves during the feedyard receiving period ( $p < 0.05$ ) and a decrease in the number of calves experiencing two or more episodes, or dying, of BRDC ( $p < 0.01$ ). It is calculated that dual prophylaxis increased the value of each calf by \$12.50 and would increase net return during the entire feeding period by \$18 to \$34.

<sup>a</sup>Micotil 300, Elanco Animal Health Division, Eli Lilly and Co., Indianapolis, IN 46285

<sup>b</sup>Pulmoguard™ PHM-1, *Pasteurella Haemolytica Multocida* Bacterin-Toxoid, Boehringer Ingelheim Vetmedica, Inc., St. Joseph, Missouri 64506