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Effect of Presponse® on the gain and health of long-hauled, newly arrived calves

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Abstract

Five hundred mixed-breed steer and bull calves (246 lbs) were divided into two treatment groups, with one group receiving a new Pasteurella haemolytica vaccine (Presponse®) at arrival. There was no difference between groups in terms of gain, mortality, or morbidity during the 32-day receiving study. The Presponse group required fewer (P<.09) medication days per animal purchased, resulting in $1.68 less drug cost per head than the control group.

Keywords

Cattlemen's Day, 1992; Kansas Agricultural Experiment Station contribution; no. 92-407-S; Report of progress (Kansas State University. Agricultural Experiment Station and Cooperative Extension Service); 651; Beef; Stocker cattle; Pasteurella vaccine; Presponse; Receiving program; Stress

EFFECT OF PRESPONSE® ON THE GAIN AND HEALTH OF LONG-HAULED, NEWLY ARRIVED CALVES[1]

F. K. Brazle[2]

Summary

Five hundred mixed-breed steer and bull calves (246 lbs) were divided into two treatment groups, with one group receiving a new *Pasteurella haemolytica* vaccine (Presponse®) at arrival.

There was no difference between groups in terms of gain, mortality, or morbidity during the 32-day receiving study. The Presponse group required fewer (P < .09) medication days per animal purchased, resulting in $1.68 less drug cost per head than the control group.

(Key Words: Stocker Cattle, Pasteurella Vaccine, Presponse, Receiving Program, Stress.)

Introduction

Calves transported long distances typically exhibit high incidences of respiratory disease and other health complications.

Presponse is a new *Pasteurella haemolytica* vaccine in an inactivated, bacteria-free liquid containing leukotoxoid and bacterial surface subunit antigens, which stimulate toxin-neutralizing and bacterial-agglutinating antibodies. *Pasteurella haemolytica* infection is one of the major health problems of shipped calves. Therefore, the objective of this study was to determine if Presponse, when injected at arrival, would reduce sickness and improve gain of highly stressed, long-hauled calves.

Experimental Procedures

Five hundred mixed-breed steer and bull calves (246 lbs) were uniformly allotted based on sexual status to either a Presponse vaccination group or control group at arrival. The calves were purchased over a 10-day period from Tennessee, Kentucky, and Mississippi. All the calves were vaccinated on arrival against IBR, BVD, PI_3, and blackleg (7-way); treated for internal and external parasites with Ivomec®; and implanted with Synovex-S®. All bulls were surgically castrated at arrival.

The calves were fed a diet of 1/2 alfalfa and 1/2 prairie hay to appetite, supplemented with .5 lb of a 40% crude protein supplement and 2.5 lb of corn/day. Calves were treated when they appeared sick during the 32-day receiving period.

Results and Discussion

Presponse vaccination at arrival of long-hauled, light weight calves did not improve gain, or reduce mortality or morbidity. However, Presponse did reduce (P < .09) the number of medication days required per animal purchased, which resulted in $1.68 less drug treatment cost per animal.

Presponse vaccination has been shown to be effective when injected before the stress

[1]Appreciation is expressed to Richard Porter, Reading, Kansas, for providing cattle and collecting data.

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period on calves. Veterinary case studies in which calves were injected with Presponse 3 weeks before weaning showed consistent results. Therefore, vaccinating highly stressed calves with Presponse at time of arrival may not allow enough time for adequate protection to occur.

Table 1. Effect of Presponse on Gain and Health of Highly Stressed Calves

Item	Control	Presponse
No. calves	250	250
Daily gain, lb (32 days)	2.06	1.98
Mortality, %	5.20	5.70
Morbidity, %	83.80	85.30
Medication days/ animal purchased	6.14[b]	5.09[a]
Drug cost head, $	$10.76	$9.08

[ab]Means in the same row with unlike superscripts are different ($P < .09$).