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EFFECT OF LIQUAMYCIN® AND SYNTABAC PLUS® ON GAIN AND HEALTH OF STOCKERS PURCHASED AS STEERS OR BULLS¹

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Summary

Steer calves gained faster ($P < .001$) and required fewer treatments per animal ($P < .01$) than newly castrated bull calves during a 29-day receiving period. Liquamycin® (LA-200) injection at arrival increased steer gains ($P < .08$) and reduced treatments required per animal ($P < .08$). The combined use of LA-200 and Syntabac Plus® increased gains ($P < .08$) of newly castrated calves.

Introduction

Research has shown that stockers purchased as bulls and castrated at arrival have slower gains, higher mortality and need more treatments per animal compared to steers. The objective of this study was to determine whether Liquamycin® (LA-200) and Syntabac Plus®, alone or in combination, would reduce the stress on steers and newly castrated bull calves during the receiving period, as measured by animal health and gain.

Experimental Procedures

Nine hundred and eighty-four, mixed-breed, steer and bull calves averaging 394 lbs. were purchased over a 27-day period in the fall from 11 locations in Kansas, Missouri, Arkansas, Tennessee, and Mississippi. At arrival, the calves were individually weighed; vaccinated for IBR, BVD, PI3, and 7-way Blackleg; and treated for internal and external parasites with Ivomec®. Calves with horns were tipped, and bulls were castrated with a knife. The calves were randomly allotted to treatment at processing. The 508 newly castrated calves and 476 steers were allotted separately to four treatments: 1) Liquamycin (LA-200) injected subcutaneously at 5 ml per 100 lbs. body weight, 2) Syntabac Plus administered orally at 10 ml per animal, 3) both LA-200 and Syntabac Plus, and 4) unmedicated controls.

The cattle were started on 2.5 lbs. of whole shelled corn and .5 lb. of a 40% protein pellet containing 250 mg Bovatec® per head daily, plus free choice hay consisting of 50% prairie grass and 50% alfalfa. During the 29-day receiving period, the cattle were treated when they appeared sick. Treatment was continued until appearance improved or body temperature

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returned to normal. Choice of medications was determined by the local veterinarian and producer. The cattle performance data were subjected to statistical analysis, and the results are expressed as least squares means.

Results and Discussion

Four-weight calves purchased as steers gained faster (1.30 vs .94 lbs. per day, $P < .001$) and required fewer ($P < .01$) treatments at both days 1 to 5 and days 6 to 29 than calves purchased as bulls and castrated at arrival.

LA-200, when injected at arrival, resulted in better steer gains (1.39 vs 1.27 lbs. per day, $P < .08$) during the first 29 days, but had little affect on newly castrated calves. Overall, LA-200 reduced the number of treatments required per steer purchased, as shown in Table 32.1. Syntabac Plus alone did not improve calf performance. However, LA-200 and Syntabac Plus in combination resulted in improved ($P < .08$) gains in both steers and newly castrated calves compared to unmedicated controls. This combination resulted in a trend toward fewer treatments required per animal in the newly castrated bull calves. These results suggest that with newly castrated calves, which normally are more highly stressed than steers, best results can be achieved with the combined use of LA-200 and Syntabac Plus during the receiving period.

Health problems in this set of calves were higher than normal because of a virus outbreak, with approximately 65% of all calves requiring treatment. The degree of stress and the type of health problems that occur likely would influence the response to these products.

Table 32.1. Effect of LA-200 and Syntabac Plus on Gain and Health of Calves Purchased as Steers or Bulls

Item	Newly Castrated Calves				Steers Calves			
	La-200 +				LA-200 +			
	LA-200	Syn.Plus	Syn.Plus	Control	LA-200	Syn.Plus	Syn.Plus	Control
Daily Gain, lb	.84 ^a	1.04 ^b	.93 ^{ab}	.82 ^a	1.39 ^d	1.46 ^d	1.00 ^b	1.27 ^c
No. Treatments/Animal:								
Days 1 to 5	1.27 ^{bc}	.93 ^{ab}	1.39 ^c	1.21 ^{bc}	.69 ^a	.89 ^{ab}	.95 ^{ab}	.88 ^{ab}
Days 6 to 29	3.23 ^g	3.34 ^g	3.41 ^g	3.37 ^g	2.02 ^c	2.33 ^{ef}	3.13 ^{fg}	2.87 ^f
Overall	4.50 ^{cd}	4.29 ^c	4.80 ^d	4.58 ^d	2.71 ^a	3.22 ^a	4.07 ^b	3.75 ^b

^{abcd}Means in a row with unlike superscripts differ ($P < .08$).

^{efg}Means in a row with unlike superscripts differ ($P < .04$).