EFFECTS OF CASTRATION AGE AND A GROWTH IMPLANT DURING SUCKLING ON WEANING AND PRECONDITIONED WEIGHTS

T. T. Marston, D. A. Llewellyn, L. C. Hollis, and J. W. Homm

Summary

Crossbred Angus calves (n=141) were used to determine the effect of castration age and implant on weaning and preconditioned weights. Calf treatments consisted of: early castration at 90 days of age with no growth implant, early castration with a growth implant (Synovex C) at 90 days of age, or late castration at weaning (226 days of age). All calves completed a preconditioning program that consisted of timely vaccinations (21 days prior and at weaning) and a 28-day, post-weaning feeding period. Steers that were early castrated/implanted had weaning weights similar to those of bull calves, and both groups weighed 15 lb more than their early castrated/no implant contemporaries. However, 28 days after weaning the early castrated/implanted steers weighed 20 lb more than either the early castrate/no implant or late castrated steers. Our data indicate that early castration in combination with a suckling phase implant produces the greatest amount of saleable weight along with the most flexibility in marketing options.

Introduction

Cow/calf producers have several options for selling their calves. Traditionally, calves have been sold either at weaning, after a growing period, or retained until slaughter. The initiation of a preconditioning program can create a new marketing opportunity. Most preconditioning programs require vaccinations and boosters for bovine respiratory diseases, clostridials, treatment for internal and external parasites, as well as dehorning and castration. The more stringent programs will also require calves to be held for 30 to 45 days after weaning. The timing of castration and implementation of an implant program may affect selling weight. Therefore, the objective of this trial was to determine the effect of different castration ages in combination with a growth implant on calf weights at weaning and after preconditioning.

Experimental Procedures

One hundred forty-one spring-born (average birth date = March 4), Angus crossbred calves were used in this experiment. Calves were blocked by dam age and then randomly assigned to treatments. The three treatments were: 1) castrated in early June with no implant, 2) castrated in early June and implanted with Synovex® C (Fort Dodge), and 3) castrated mid-October on the day of weaning. Calves in the early castrated/ no implant and early castrated/ implanted treatments were approximately 90 days of age when castrated, whereas late castrated calves averaged 226 days of age at time of castration. Dates of castration were used to simulate typical branding and weaning ages of the calves. Calves were allowed to freely nurse their dams throughout the summer with no creep feed. Three weeks prior to weaning, all calves were weighed and injected with Cattlemaster 4® (Pfizer) and Fortress 7® (Pfizer). Calves were weighed, received a booster vaccination of Cattlemaster 4, and were treated with Dectomax® Pour-on (Pfizer) on the day of weaning. After weaning, calves were fed round bales of brome hay free choice and hand-fed 5 pounds/day of a pelleted, commercial starter feed for 28 days. During the first 5 days after weaning, the

hand-fed supplement was top dressed with Aueromycin® (Alpharma) at a rate of 5 grams chlortetracycline per calf daily.

Results and Discussion

Descriptions of the calves and results are summarized in Table 1. Summer health of the calves was excellent and was reflected by their summer weight gains. Between the June and September weigh dates the average calf gain of all calves was 2.46 lb/day. The early castrated/ no implant calves gained slower ($P<0.01$) while suckling their mothers than did early castrated/ implanted and late castrated calves (2.37 lb/day, 2.53 lb/day, and 2.53 lb/day, respectively). Our data indicates that a single implant given during the suckling phase will produce a positive weight gain response when compared to non-implanted steer calves and that the weight gain of castrated, implanted calves will mirror intact bull calf performance.

Average gain of all calves (1.61 lb/day) during the 21 days from first vaccination to weaning dates was less than the previous summer period. This is probably the result of several factors, including decreasing dam milk production and maturing forages. Regardless, no differences in rate of gain were noted between treatments ($P>0.94$) during this short period of time. If calves were to be marketed directly off their dams, early castrated/ implanted and late castrated calves would have had greater pay weights than their early castrated/ no implant contemporaries. Previous reports suggest that the price of bull calves would be $5 to $6/cwt less than of comparable steer mates. These price discounts would have made our late castrated calves the least valuable at weaning time. Market prices would dictate the necessary price adjustments cow/calf producers would need to compensate for the weight difference between early castrated/ no implant and early castrated/ implanted calves (See Table 2).

The weather following weaning was cool, damp, and cloudy for the first 2-week period. All calves readily ate the commercial starter feed by the third day. At 28 days after weaning, early castrated/ implanted steers weighed more than either early castrated/ no implant or late castrated steers. Average daily gains during the post-weaning period were similar ($P=0.22$) between early castrated/ implanted (1.72 lb/day) and early castrated/ no implant (1.52 lb/day) steers and both were greater ($P<0.01$) than late castrated (1.16 lb/day). This difference in rate of gain erased any weight advantage late castrated calves had over their contemporaries at weaning time.

Cow/calf producers that desire marketing flexibility should consider early castration and implanting suckling calves if maximum pounds of saleable product are desirable.

Table 1. Description of Calves

	Treatments		
	Early Castration		Late
Item:	No implant	Implant	Castration
No. of calves	60	40	41
Average birth date	March 9	March 2	March 2
Average castration age, days	87 ± 18	94 ± 19	226 ± 16
Weight, lb			
June	304 ± 38	311 ± 37	317 ± 42
September 2	530 ± 3	545 ± 4	544 ± 4
October 15	564 ± 5	580 ± 5	578 ± 5
November 12	606 ± 4	628 ± 4	611 ± 4

Table 2. Market Price Adjustments Needed to Compensate for Differences in Weaning Weight or Weight 28 Days After Weaning Between Early Castrated/No Implant and Early Castrated/Implanted Steer Calves

	Price Adjustment[a], $/cwt	
Anticipated market price	Sell at Weaning	Sell after Preconditioning
$105/cwt	+2.90	+3.79
$100/cwt	+2.76	+3.50
$95/cwt	+2.62	+3.33
$90/cwt	+2.48	+3.15
$85/cwt	+2.34	+2.98
$80/cwt	+2.21	+2.80

[a]The additional price that would need to be received to justify not implanting early-castrated calves.