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## Feeding bulls-A practical evaluation

### Abstract

Bull calves on nine Kansas ranches were either castrated and implanted with Ralgro, left intact and not implanted, or left intact and implanted with Ralgro, with performance evaluated through slaughter. Bulls produced leaner carcasses and gained slightly faster and more efficiently than steers. However, based on actual prices received, bulls returned \$16.09 less to their owners than steers. Implanting with Ralgro during the suckling phase did not influence any of the traits measured. It is evident that marketing is a major problem which makes bull feeding risky

### Keywords

Cattlemen's Day, 1984; Kansas Agricultural Experiment Station contribution; no. 84-300-S; Report of progress (Kansas State University. Agricultural Experiment Station and Cooperative Extension Service); 448; Beef; Bulls; Implants; Performance; Carcass

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## Feeding Bulls - A Practical Evaluation<sup>1</sup>

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and Robert Schalles

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### Summary

Bull calves on nine Kansas ranches were either castrated and implanted with Ralgro, left intact and not implanted, or left intact and implanted with Ralgro, with performance evaluated through slaughter. Bulls produced leaner carcasses and gained slightly faster and more efficiently than steers. However, based on actual prices received, bulls returned \$16.09 less to their owners than steers. Implanting with Ralgro during the suckling phase did not influence any of the traits measured. It is evident that marketing is a major problem which makes bull feeding risky.

### Introduction

Feeding intact males takes advantage of their faster gain and greater efficiency compared to steers. This field trial was conducted to evaluate bull feeding as a practical option for commercial cattlemen. Since implanting during the suckling phase retards sexual development in bulls, a Ralgro treatment was included to determine its effect on bull performance and carcass desirability.

### Experimental Procedure

Fifteen bull calves from each of nine ranches were assigned randomly at branding (2-3 mo of age) to three treatments: 1) castrated and implanted with 36 mg Ralgro, 2) left intact and not implanted, and 3) left intact and implanted with 36 mg Ralgro. Most of the calves were Simmental crossbreds with a few Charolais and Limousin crosses. Individual, non-shrunk weights were taken at branding and weaning. Following weaning, the calves were entered in the Ellis County Steer Futurity in late November. On arrival at the feedlot, all steers and bulls were implanted with 36 mg Ralgro and weighed. All bulls, regardless of initial treatment, were penned together. Steer calves were assigned to one of two pens based on weight. Both bulls and steers were re-implanted with 36 mg Ralgro mid-way through the feeding period. The feeding program was the same for both the steers and bulls; both groups were on full feed approximately 7 weeks after arrival in the feedlot.

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<sup>2</sup>Extension Livestock Specialist, Northwest Kansas.

The steers were slaughtered in two groups (170 and 184 days on feed) and the bulls in one group (194 days on feed) with the goal of attaining the same carcass backfat in all treatments. All animals were sold on a grade and yield basis. Carcass data were collected in a commercial packing plant following a 24-hr chill. Steer feedlot costs and feed conversion values were based on an average of the two steer pens. Since both the steers and bulls in this study were fed in pens with animals not involved in the experiment, the feed conversion data is subject to some error.

### Results and Discussion

Table 34.1 shows the performance of the treatment groups from birth through slaughter.

**Table 34.1. Comparative Performance of Bulls vs. Steers**

Item	Steers Implanted from Branding to Slaughter	Bulls Implanted from Weaning to Slaughter	Bulls Implanted from Branding to Slaughter
No. head, branding to weaning	47	32	44
Wt. per day of age to weaning, lbs	2.13	2.13	2.12
No. head delivered to feedlot	37	26	39
Feedlot ADG (arrival to slaughter), lbs	3.28	3.32	3.36
On test ADG, lbs	3.24	3.30	3.36
ADG from branding to slaughter, lbs	2.42	2.54	2.52
Average days on feed	177	194	194
Feed/gain, lb <sup>a</sup>	7.10	6.85	6.85
Vet. and hospital charges, \$/head	28.28	7.46	7.46
Death loss, % <sup>a</sup>	1.3	1.1	1.1

<sup>a</sup>Based on all 153 steers and 87 bulls on test.

Weight per day of age at weaning was the same for both steers and bulls. Bulls gained only slightly faster in the feedlot than steers. Consequently, from branding to slaughter, gain per day was only .09 lbs greater for the bulls. Prewearing implants had no influence on bull performance. Death losses were the same for bulls and steers; however, the veterinary and hospital charges were over \$20 more for the steers. The bulls had a 3.5% better feed conversion.

Table 2 shows a comparison of the carcass traits for the bulls and steers.

Table 34.2. Comparison of Carcass Traits of Bulls vs. Steers

Item	Steers Implanted from Branding to Slaughter	Bulls Implanted from Weaning to Slaughter	Bulls Implanted from Branding to Slaughter
No. head	37	26	38
Quality grade:			
No. Choice (%)	25 (68)	2 (8)	6 (16)
No. Good (%)	12 (32)	20 (77)	26 (68)
No. Stag (%)	-	4 (15)	6 (16)
Avg. carcass wt., lbs	681 <sup>a</sup>	737 <sup>b</sup>	726 <sup>b</sup>
Avg. rib fat, in.	.36 <sup>a</sup>	.22 <sup>b</sup>	.26 <sup>b</sup>
Avg. rib eye area, sq. in.	13.4 <sup>a</sup>	14.7 <sup>b</sup>	14.6 <sup>b</sup>
Avg. REA/cwt of carcass, sq. in.	1.97	1.99	2.01
Avg. yield grade	2.2 <sup>a</sup>	1.4 <sup>b</sup>	1.6 <sup>b</sup>

<sup>ab</sup> Values with different superscripts differ significantly ( $P < .05$ )

Only 8 out of 64 (12.5%) bulls graded USDA Choice compared to 25 out of 37 (68%) steers. There was a tendency for a higher percentage of the bulls implanted during the suckling phase to grade Choice; however, about 16% of all bulls graded Stag. Bulls produced heavier carcasses as a result of an average 17 days longer on feed. Even with this longer feeding period, bull carcasses carried less backfat and had lower yield grades than steer carcasses. Rib eye areas were larger in bull carcasses; however, rib eye area per hundred lbs of carcass was the same in bulls and steers. No differences in any of the carcass traits existed between the two bull treatments.

Table 34.3 shows an economic analysis of this trial. Gross and net returns were calculated using the actual prices received at slaughter and also an average of the prices for the three slaughter dates, since the market dropped considerably following the first slaughter date. This drop in the market greatly reduced the profitability of the bulls since they were slaughtered last. Furthermore, the spread between Choice and Good grade carcasses widened following the first slaughter date.

Table 34.3. Economic Comparison of Bulls vs. Steers

Item	Steers Implanted from Branding to Slaughter	Bulls Implanted from Weaning to Slaughter	Bulls Implanted from Branding to Slaughter
Gross returns per head (actual market), <sup>a</sup> \$/head	731.40	721.70	712.63
Gross return per head (average market), <sup>b</sup> \$/head	723.85	752.02	742.46
Average feedlot cost, \$/head	273.76	313.24	313.24
Net return (actual market), <sup>a</sup> \$/head	457.64	408.46	399.39
Net return (average market), <sup>b</sup> \$/head	450.09	438.78	429.22

<sup>a</sup>Returns based on actual prices received at slaughter.

<sup>b</sup>Returns based on average prices for the three slaughter dates.

Net return per head averaged \$53.71 more for steers than bulls using the actual prices received; however, using average market prices, the advantage was only \$16.09. Two major factors contributed to the lower profitability of the bulls. While most research has shown that bulls will gain substantially faster and more efficiently, the advantage to bulls in this trial was only 3 to 4%. Secondly, at the time of slaughter, the discounts from Choice grade for Good grade carcasses (\$6/cwt) and for stags (\$15/cwt) were relatively large.

In this trial, the primary difficulty in feeding intact males was marketing. The bulls were 15 to 17 months old at slaughter and had been fed a high energy ration for almost 200 days - a commonly recommended program for feeding intact males. Yet 16% still graded Stag. Packers would only purchase the bulls on a grade and yield basis, greatly increasing the marketing risk. Furthermore, packing plant personnel displayed bias against bulls. Thus, unless a market is arranged prior to feeding, or the packing industry demonstrates a willingness to accept young bull beef and pay a competitive price, it appears that the traditional program of feeding steers offers the greatest profit potential.