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Consumer preference of beef rib steaks from implanted steers, implanted and non-implanted bulls.

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Abstract

Our research showed that implanting bulls from birth to slaughter made steaks from bulls as acceptable as steers to consumer panels. Implanting bulls from weaning to slaughter resulted in the least desirable consumer panel ratings for all palatability traits measured.

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; Rib steak; Implants; Steers; Bulls

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Consumer Preference of Beef Rib Steaks from
Implanted Steers, Implanted and Non-implanted Bulls.

C.D. Pelton, D.M. Allen, L.R. Corah
and G.A. Milliken

Summary

Our research showed that implanting bulls from birth to slaughter made steaks from bulls as acceptable as steers to consumer panels. Implanting bulls from weaning to slaughter resulted in the least desirable consumer panel ratings for all palatability traits measured.

Introduction

Recent interest in feeding bulls has stimulated attempts to improve their carcass acceptability. One potential method of improving meat palatability in intact males is through the use of growth promotant implants. If successful, a major impediment to bull feeding might be removed. We examined the effect of implanting on consumer acceptability of beef from bulls.

Procedure

Rib steaks were obtained from 55 fall-born Simmental crossbred male calves, randomly allotted at birth to the following treatments: steers, implanted birth to slaughter (S); bulls, implanted birth to weaning (IBW); bulls, implanted birth to slaughter (IBS); bulls, implanted weaning to slaughter (IWS); and non-implanted bulls (B).

Implanted calves were given 36 mg zeranol (Ralgro) implants every 100 days. Steers were castrated at 5 months and all calves were weaned from their dams at an average of 250 days. After weaning, calves were fed a high concentrate corn-based diet until slaughtered at 17 months of age.

Animals were slaughtered at a commercial kill plant, electrically stimulated after evisceration, chilled 24 hours and graded by USDA personnel. Left primal ribs were removed and delivered to the Kansas State meats laboratory. Ribs were aged 7 days at 39° F and cut into steaks 1 in. thick.

Fifty-five households with 129 adult panel members were selected randomly from KSU academic and non-academic personnel. Steaks were distributed based on random designs. Response sheets were given to each household, requesting demographic information, visual preference prior to cooking, definition of cookery method, approximate degree of doneness, after cooking household preference, and data on buying and pricing decisions. Individual participants were asked to evaluate steaks for tenderness, juiciness, flavor and overall acceptability on an 8-point scale.

¹Department of Statistics, Kansas State University, Manhattan.

Results and Discussion

Mean values for consumer panel scores of palatability are shown in Table 5.1. Implanting bulls from weaning to slaughter resulted in the least desirable steaks in all areas rated by consumers. Steers and bulls implanted from birth to slaughter produced the most acceptable steaks. In conclusion, implanting of bulls from birth to slaughter was the only system involving intact males that enhanced palatability.

Table 5.1. Consumer Panel Results^a

Palatability Trait	Treatments				
	Steers	Implant Treatment Groups			Bulls
		Birth to slaughter	Birth to weaning	Weaning to slaughter	
Juiciness	6.94 ^b	6.60 ^b	6.24 ^c	6.06 ^{bc}	6.39 ^d
Flavor	6.90 ^b	6.61 ^b	6.61 ^b	6.22 ^{bc}	6.45 ^c
Tenderness	7.03 ^b	6.78 ^b	6.23 ^c	5.96 ^c	6.12 ^d
Overall	7.10 ^b	6.69 ^b	6.25 ^c	6.13 ^{bc}	6.34 ^d

^aPanel ratings are based on an 8-point hedonic scale, with 8=most preferred and 1=least preferred.

^{b,c,d}Means within rows with different superscripts differ ($P < .05$).