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Comparison of implants in grazing heifers and carryover effects on finishing gains and carcass traits

Abstract

Crossbred yearling heifers were allotted randomly to three grazing implant treatments: 1) control (CONT), 2) Component® E-H (CEH), and 3) Ralgro® (RAL). After grazing native grass for 74 days, the heifers were transported to a western Kansas feedlot. All heifers were implanted with Synovex-H® upon arrival at the feedlot and were reimplanted 70 days later with Finaplix-H®. The CEH heifers gained faster while on grass ($P < .10$) and in the feedlot than the RAL heifers. The CEH heifers had heavier carcasses than RAL heifers. Control heifers had the largest ribeyes. Other carcass traits, including USDA quality grade, were not influenced by pasture treatment. In this study, administration of CEH to heifers grazing native grass optimized overall performance when combined with the feedlot implants (Synovex-H and Finaplix-H).

Keywords

Kansas Agricultural Experiment Station contribution; no. 97-309-S; Report of progress (Kansas State University. Agricultural Experiment Station and Cooperative Extension Service); 804; Cattlemen's Day, 1998; Beef; Implants; Heifers; Feedlot

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COMPARISON OF IMPLANTS IN GRAZING HEIFERS AND CARRYOVER EFFECTS ON FINISHING GAINS AND CARCASS TRAITS

F. K. Brazle¹

Summary

Crossbred yearling heifers were allotted randomly to three grazing implant treatments: 1) control (CONT), 2) Component[®] E-H (CEH), and 3) Ralgro[®] (RAL). After grazing native grass for 74 days, the heifers were transported to a western Kansas feedlot. All heifers were implanted with Synovex-H[®] upon arrival at the feedlot and were reimplanted 70 days later with Finaplix-H[®]. The CEH heifers gained faster while on grass ($P < .10$) and in the feedlot than the RAL heifers. The CEH heifers had heavier carcasses than RAL heifers. Control heifers had the largest ribeyes. Other carcass traits, including USDA quality grade, were not influenced by pasture treatment. In this study, administration of CEH to heifers grazing native grass optimized overall performance when combined with the feedlot implants (Synovex-H and Finaplix-H).

(Key Words: Implants, Heifers, Feedlot).

Introduction

Current implanting strategies involve the use of certain implants in specific phases of the cattle production cycle. Determining the relationship of implants used during the grazing phase to the trenbolon acetate-based implants employed in finishing programs might allow for the use of different implant

combinations in growing/finishing systems. The objectives of this study were to compare the effectiveness of Component E-H (CEH) and Ralgro (RAL) when administered in a grazing program and to calculate their effects on subsequent feedlot and carcass performance.

Experimental Procedures

Two hundred fifty-eight crossbred yearling heifers were allotted randomly to three implant treatments: 1) control (CON), 2) Component E-H (CEH), and 3) 36 mg Ralgro (RAL). The heifers were implanted according to manufacturers' recommendations and weighed individually before being grazed on Flint Hills native grass pastures. Equal numbers of heifers in each implant group were allotted randomly to two pastures. All heifers were grazed for 74 days, then weighed individually early in the morning and shipped 300 miles to a commercial feedlot near Garden City, where they all were fed in one pen for 120 days. At the feedlot, all heifers were implanted initially with Synovex-H and reimplanted 70 days later with Finaplix-H. The heifers were slaughtered at a commercial packing plant, and carcass data were collected.

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Results and Discussion

The CEH heifers gained 19.6% faster than control and 8.8% faster ($P < .10$) than RAL heifers during the grazing period. The RAL heifers gained less ($P < .10$) than the other groups during the feedlot phase. However, no differences occurred in feedlot gain between the CONT and CEH heifers (Table 1). The CEH heifers had heavier ($P < .10$) carcasses than RAL heifers, whereas those of controls were intermediate. In this study, grazing heifers implanted with Component E-H, when followed in the feedlot with Synovex-H and Finaplix-H, performed better

overall than those implanted with Ralgro. The control heifers had the largest ribeyes, when expressed on either an actual or carcass weight-adjusted basis. This was not expected and either may be an artifact of cattle allotment or due to feedlot implants reacting differently in unimplanted cattle. At the time of implanting before grazing, the heifers were palpated for old implants, and only eight were found. Other carcass traits, including backfat thickness, KPH fat percentage, and USDA quality grade, were not affected by pasture implant treatments.

Table 1. Effects of Implanting Heifers on Grazing Gains and Subsequent Feedlot and Carcass Performance

Item	Pasture Treatment			SE
	Control	Component E-H	Ralgro	
No. heifers	87	86	85	
Starting wt, lb	517	515	520	
Daily gain, lb				
Grazing, 74 d	1.48 ^c	1.77 ^a	1.61 ^b	.06
Finishing, 120 d	3.39 ^a	3.32 ^a	3.16 ^b	.07
Results				
Hot carcass wt, lb	658.0 ^{ab}	664.0 ^a	647.0 ^b	3.3
Backfat, in.	.45	.50	.51	.02
Ribeye area, sq. in.	12.70 ^a	12.40 ^{ab}	12.30 ^b	.16
Ribeye area/cwt carcass wt	1.94 ^a	1.87 ^b	1.90 ^{ab}	2.94
KPH fat, %	2.25	2.31	2.34	.05
USDA % Choice	49.4	50.3	51.0	5.5

^{abc}Means in the same row with unlike superscripts are different ($P < .10$).