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Summary

The objective of this study was to determine if there were differences in daily gain and carcass traits of yearling steers implanted with Synovex-S (S), Synovex-S + Finaplix-S (S+F), or Revalor-S (R). Upon arrival at the feedlot, 264 steers (average weight 731 lb) were allotted to 24 pens and adapted to a 90% concentrate diet over a period of 23 days. They were implanted on day 20 with either S, S+F, or R. No differences were found between S+F and R ($P>.10$) at any time during the study. However, combination implants (S+F and R) both resulted in 10% greater weight gains ($P<.01$) between days 57 and 84 of the study (37 and 64 days postimplanting) than S implanted steers. Some of this advantage was lost after day 113 (93 days postimplanting), as combination implant cattle gained almost 8% less per day than those implanted with S ($P<.01$). During the portion of the study when all implants could be expected to be fully functional (days 9 through 93 postimplanting), combination implant treatments increased daily gain by 3.7% ($P<.05$) over S. Steers were slaughtered at an average of 115 days postimplanting. No differences in carcass characteristics were found ($P>.20$).

Key Words: Synovex, Finaplix, Revalor, Yearling Steers

Introduction

Implants have been used for many years to increase rate and efficiency of growth in beef cattle. Management options for their use have increased with the availability of new implants. One such option has been to use Synovex and Finaplix implants in combination. More recently, growth stimulating compounds found in Synovex-S[4] (estradiol) and Finaplix-S[5] (trenbolone acetate) have become available in a single implant, Revalor-S[5].

The objective of this study was to determine if there were differences in the daily gain and carcass characteristics of yearling steers implanted with Synovex-S, Synovex-S plus Finaplix-S, or Revalor-S.

Materials and Methods

A group of 298 crossbred, yearling steers was vaccinated (IBR, BVD, BRSV, and Lepto), ear tagged, and weighed upon arrival at the feedlot. From these, 264 steers were randomly allotted the same day to 24 pens and, after 23 days on receiving and step-up diets, were fed 90% concentrate finishing diets ad libitum or restricted by access time to approximately 90% of ad libitum. The steers were given BRSV booster and 7-way clostridial vaccines, dewormed (Ivermectin[6]), and implanted with either Synovex-S (S), Synovex-S + Finaplix-S (S+F), or Revalor-S (R) 20 days after arrival. Implants were equally represented in each pen.

The steers were weighed at approximately 28-day intervals after overnight removal of water but not feed. Final weights were taken after overnight removal of feed and water.

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Results and Discussion

No interactions between implant and intake treatments were found (P>.10). Only implant effects will be discussed. Because the steers were not implanted until day 20 of the study, little implant effect would be expected by the end of the first weigh period and none was found (P>.10; Table 1). Additionally, no differences were found between S+F and R treatments (P>.10) at any time. However, combination implant treatments (S+F and R) both resulted in 10% greater weight gains (P<.01) between days 57 and 84 of the study (37 and 64 days postimplanting) than S implanted steers. Some of this advantage was lost after day 113 (93 days postimplanting), as combination implant cattle gained almost 8% less per day than those implanted with S (P<.01). This was in spite of the fact that S+F steers were also implanted with S, suggesting that the response was not solely a function of implant exhaustion, although that could have been involved. The result was that overall gains were not different between implants (P>.10)). However, during that portion of the study when all implants could be expected to be fully functional (days 9 through 93 postimplanting), combination implant treatments increased daily gain by an average of 3.7% (P<.05) over S.

It has been suggested that combination implant strategies result in lower carcass quality grades and, as a result, cattle should not be slaughtered earlier than 100 days postimplanting. The cattle on this study were slaughtered an average of 115 days postimplanting. No differences were found in quality grade or other carcass characteristics (P>.20; Table 2).

The results of this study indicate that the use of estradiol and trenbolone acetate, whether in a single implant or two separate implants, elicits a greater daily gain than estradiol for approximately 93 days. However, the advantage can be rapidly lost beyond that point in time.

Table 1. Weights and daily gains of yearling steers implanted on day 20 with Synovex-S, Synovex-S and Finaplix-S, or Revalor-S[a]

	Implant			
Item	Synovex	Synovex + Finaplix	Revalor	SE
No. of steers	88	88	88	
Initial weight, lb	730	726	736	6.9
Final weight, lb	1259	1270	1267	6.7
Weight gain, lb/day				
1-28 days	4.34	4.41	4.38	.15
29-56 days	4.59	4.75	4.57	.11
57-84 days[b]	3.72	4.03	4.16	.11
85-113 days	3.96	4.09	3.88	.10
114-135 days[b]	2.31	2.12	2.16	.13
29-113 days[c]	4.10	4.29	4.21	.06
29-135 days	3.80	3.92	3.88	.05
1-135 days	3.91	4.00	3.97	.05

[a]Least squares means.
[b]Contrast of Synovex vs Synovex + Finaplix and Revalor (P<.01).
[c]Contrast of Synovex vs Synovex + Finaplix and Revalor (P<.05).

Table 2. Carcass characteristics of yearling steers implanted with Synovex-S, Synovex-S and Finaplix-S, or Revalor-S

Item	Implant			SE
	Synovex	Synovex + Finaplix	Revalor	
Hot carcass weight, lb	768	771	770	7.6
Dressing percentage	60.4	60.4	60.4	.27
Fat thickness, in.	.51	.47	.51	.02
Rib eye area, in.^{2}	12.8	13.0	12.7	.17
Kidney, pelvic, heart fat, %	2.2	2.3	2.2	.04
Yield grade	3.0	2.9	3.1	.09
Quality grade[a]	10.0	10.3	10.2	.15

[a]10 = high select; 11 = low choice.