

Effect of Synovex Choice Implant on Performance and Carcass Traits of Steer Calves

Darrell Busby, livestock specialist
ISU Extension
Dan Loy, professor
Department of Animal Science
Dallas Maxwell, ag specialist

Introduction

As marketing of fed cattle has evolved over the past few years, technologies that improve performance and lower cost with the least effect on carcass quality have become more important. One such technology is the intermediate dosage combination implant. These implants combine TBA and estrogen for additive growth response, but at a lower dosage that may reduce potential negative effects of combination implants on carcass quality. Intermediate dosage implants have been used to provide a more aggressive arrival implant for feedlot cattle, or a more conservative terminal implant depending on the goals of the manager. With the recent clearance of Synovex Choice for feedlot steers, the cattle feeder now has two options relative to intermediate dosage combination implants, Synovex Choice and Revalor IS. This study was designed to compare two practical implant combinations—Synovex Choice implanted initially and reimplanted, and Synovex S implanted initially and reimplanted with Revalor IS.

Materials and Methods

One hundred thirty-four steers were implanted on day 1 with Synovex Choice or Synovex S and with either Choice or Revalor IS on day 86, respectively. This study was conducted at the Armstrong Research Farm. The facility contains four pens designed to accommodate 40 head each. Two pens were implanted and reimplanted with Synovex Choice, and two pens were implanted with Synovex S and reimplanted with Revalor IS. The steers were on a 60%

concentrate ration, which was increased to the finishing ration over a 28–35 day period. The ration used in this study averaged 12.05% crude protein, 1.00% Ca, .37% P, .87% K, and NEg of .60 mcg/lb on a dry matter basis. Steers were weighed, were body condition scored, and received their initial implant on November 7. All cattle were reimplanted at 86 days on feed. The first group was marketed when 50% of the pen exceeded .4 in. external fat as measured by real-time ultrasound. The remaining cattle were marketed after an additional 35 days on feed.

Results

Dry matter intake and feed efficiency effects by implant treatment are shown in Table 1. Feed intake and feed efficiency are nearly identical for the first 85 days, suggesting no difference between Synovex Choice and Synovex S as an initial implant in this study. No differences were noted for days 86 until harvest, comparing the terminal implants as well. Overall there were no differences in dry matter intake or feed efficiency between the two implant systems.

Results of the individual performance analysis are shown in Table 2. Generally, performance was excellent with daily gains exceeding 5 lb/day for the first 85 days. Daily gains from day 86 until harvest averaged approximately 3.5 lb/day. Overall daily gains exceeded 3.7 lb/day for all treatments. No significant differences were noted for daily gains between the implant systems.

Carcass effects of the implant systems are shown in Table 3. Cattle in this study were of very high quality averaging nearly 90% USDA choice with over 60% yield grade 2s and no yield grade 4s. None of the carcass measurements, with the exception of percent rib fat, were significantly different among implant

treatments. Cattle implanted with the Syn/Rev treatment did have higher rib fat percentage ($P < .05$) than cattle implanted with Synovex Choice. This difference is consistent with the trend that was noted in the carcass measurements. The Synovex Choice implanted steers tended to be numerically leaner in several of the carcass measurements.

This study would suggest that for high-quality steer calves fed 165 days, an implant treatment consisting of Synovex Choice initially, reimplanted with Synovex Choice at 85 days, is comparable to an implant treatment consisting of Synovex S initially, reimplanted with Revalor IS at 85 days.

Table 1. Intake and efficiency of pens with Synovex-Choice Reimplant or Synovex S /Revalor IS.

	<u>Choice/Choice</u>	<u>Syn/Rev</u>	<u>SE</u>
No pens	2	2	
First period (85 days)			
Dry matter intake, lb	19.01	19.02	.04
Feed/gain	4.90	4.81	.02
Second period			
Dry matter intake, lb	24.2	23.9	.23
Feed/gain	6.95	6.87	.23
Overall			
Dry matter intake, lb	21.53	21.37	.12
Feed/gain	5.84	5.74	.09

Table 2. Effect of implant system on performance.

	<u>Choice/Choice</u>	<u>Syn/Rev</u>	<u>SE</u>
Number of head	67	67	
Days on feed	165.7	164.4	2
On test weight	557	561	9.5
86-day weight	886.5	897.8	11.7
86-day ADG	5.15	5.17	.06
Final weight	1172.8	1175	9.1
ADG, day 86 to slaughter	3.54	3.48	.06
Overall ADG	3.73	3.74	.04
Weight/day of age	3.17	3.18	.03
Carcass adjusted final weight	1167.3	1180.9	9.2
Overall ADG (Std Dress %)	3.70	3.76	.04

Table 3. Effect of implant system on carcass characteristics.

	<u>Choice/Choice</u>	<u>Syn/Rev</u>	<u>SE</u>
Hot carcass wt.	730.7	739.3	5.5
Dressing %	62.3	62.8	0.2
Fat thickness	.42	.45	.02
KPH, %	2.18	2.20	.04
REA	12.2	12.2	.11
Marbling score	Sm 54	Sm 83	11.5
Yield grade	2.85	2.98	.06
% Fat ^a	4.14	4.72	.19
Carcass price \$/cwt	\$128.68	\$129.81	\$.70

	<u>Choice/Choice</u>	<u>Syn/Rev</u>
Quality Grade Distribution	%	%
Prime	1.5	4.5
Upper 2/3 Choice	20.9	30.3
Low Choice	64.2	56.1
Low Choice or better	86.6	90.9
Select	13.4	7.6
Standard	0.0	0.0
Dark cutters	0.0	1.5

	<u>Choice/Choice</u>	<u>Syn/Rev</u>
Yield Grade Distribution	%	%
1	0.0	0.0
2	76.1	54.5
3	23.9	45.5
4	0.0	0.0

^aMeans differ (P<.05).