

# THE EFFECT OF COMPUDOSE AND FINAPLIX ALONE AND IN COMBINATION ON GROWTH OF FEEDLOT STEERS

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## Story in Brief

One-hundred-twenty yearling steers were divided into five treatments as follows: (1) no implant, (2) Compudose on day 1, (3) Trenbolone acetate (TBA) on days 1 and 63, (4) Compudose on day 1 and TBA on days 1 and 63, and (5) Compudose and TBA on day 1.

Daily gains and feed efficiencies were improved for the steers receiving a combination of Compudose and TBA. Compudose plus a single TBA implant improved gains 8.6 percent and feed efficiency 4.6 percent on a carcass basis. Compudose plus two TBA implants improved daily gain 7.6 percent and feed efficiency 3.9 percent on a carcass basis. Gain and feed efficiency were improved 4.3 and 1.0 percent by Compudose alone on a carcass basis. The TBA implants alone reduced gain and efficiency 7.3 and 3.9 percent, respectively on a carcass basis. Dressing percentages and marbling tended to be lower for steers receiving TBA implants.

(Key Words: Feedlot Steers, TBA, Compudose, Growth Promotants.)

## Introduction

Estrogenic anabolic implants have been used to increase rate of gain and improve feed efficiency in feedlot cattle in the U.S. for many years. One such implant is Compudose. The use of the androgenic steroid trenbolone acetate (TBA) to improve beef cattle performance has been reported in European literature. It has been suggested that the growth response to TBA is additive to that produced by estrogens. The objective of this study was to evaluate the effect of Compudose and Finaplix (200 mg TBA) alone and in combination on growth and carcass characteristics of feedlot steers.

## Materials and Methods

One-hundred-twenty crossbred steers of predominantly one-half Brahman breeding were weighed on trial at Goodwell, Oklahoma on April 25, 1984. These steers had been grazed as a single group on winter wheat pasture near Purcell, Oklahoma since October 1983. They were implanted on January 4, 1984 with Ralgro (36 mg zeranol) and had received no additional implants prior to the initiation of this study.

The steers were weighed twice on day 1 of the trial, and had an average initial weight of 762 lbs. They were blocked by weight and breed type into three groups of 40 head each. Each block was further divided into five pens of eight head each with the five treatments being

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randomly assigned within each block. The treatments were (1) control, (2) Compudose on day 1, (3) TBA on days 1 and 63, (4) Compudose on day 1 and TBA on days 1 and 63, and (5) Compudose and TBA on day 1.

The Compudose implants were placed subcutaneously in the posterior surface of the left ear. The TBA implants were placed subcutaneously in the posterior surface of the right ear. Second TBA implants administered on day 63 were also placed in the right ear.

A complete concentrate ration consisting of whole shelled corn, cottonseed hulls and pelleted supplement was fed for the full 126 day trial (Table 1). Dehydrated alfalfa pellets and cottonseed hulls were used to dilute the ration to 60 percent concentrate for starting the cattle on feed, these were decreased in 5 steps until the cattle were on the final ration at 28 days on feed. Steers were weighed full on days 28, 56, 84, 112 and 126. They were weighed twice on day 126. On days 56 and 112 each animal was evaluated for male characteristics in the head, neck and shoulder areas.

Steers were trucked 70 miles to Booker, Texas on day 127 of the trial (August 30, 1984) for slaughter and carcass data was obtained. In addition, each carcass was evaluated for masculinity traits. Live weights are reported on a full basis while gains and feed efficiencies were calculated using a 4 percent shrink. Gains and feed efficiencies for the total trial were calculated from hot carcass weights assuming a dressing percentage of 62, and are indicated as "0-slaughter" in Table 2.

Table 1. Ration composition, dry matter basis<sup>a</sup>.

Ingredient	Ration	
	1 <sup>b</sup>	2
Corn, whole shelled, %	51.85	86.85
Cottonseed hulls, %	15.00	5.00
Alfalfa, dehydrated, %	25.00	-----
Pelleted supplement, %	8.15	8.15
	Supplement Composition, % of DM	
Soybean meal		3.84
Cottonseed meal		2.05
Calcium carbonate		1.00
Urea		0.45
Salt		0.30
Molasses		0.28
Potassium Chloride		0.20
Vitamin A-30		0.02
Trace mineral		0.01

<sup>a</sup>Calculated to contain 11.65% crude protein, .60% potassium, .42% calcium and .33% phosphorus.

<sup>b</sup>Starting ration only.

## Results and Discussion

Performance and carcass data are presented in Table 2. Steers

Table 2. Performance and carcass data.

	Treatment*				
	Control	E <sub>2</sub> B, day 1	TBA days, 1 & 63	E <sub>2</sub> B, day 1; TBA, days 1 & 63	E <sub>2</sub> B, day 1; TBA, day 1
Weights, lb					
Initial	762	762	762	761	762
126 days	1156 <sup>b</sup>	1170 <sup>ab</sup>	1150 <sup>b</sup>	1205 <sup>a</sup>	1204 <sup>a</sup>
Daily gain, lb					
0-126 days	2.76 <sup>b</sup>	2.87 <sup>ab</sup>	2.72 <sup>b</sup>	3.14 <sup>a</sup>	3.12 <sup>a</sup>
0-slaughter	3.03 <sup>ab</sup>	3.16 <sup>a</sup>	2.81 <sup>b</sup>	3.26 <sup>a</sup>	3.29 <sup>a</sup>
Daily feed, lb					
0-126	17.7	18.3	17.0	18.23	18.3
Feed/gain					
0-126	6.41 <sup>a</sup>	6.36 <sup>a</sup>	6.28 <sup>ab</sup>	5.82 <sup>c</sup>	5.86 <sup>bc</sup>
0-slaughter	5.84 <sup>ab</sup>	5.78 <sup>ab</sup>	6.07 <sup>a</sup>	5.61 <sup>ab</sup>	5.57 <sup>b</sup>
Carcass weight, lb	709 <sup>ab</sup>	719 <sup>a</sup>	691 <sup>b</sup>	727 <sup>a</sup>	730 <sup>a</sup>
Dressing percent	61.3	61.5	60.1	60.3	60.6
Liver abscesses,					
Incidence, %	0	8.3	8.3	4.2	0
Severity <sup>e</sup> , %	0	.17	.13	.04	0
Rib eye area, sq in	12.8	12.7	12.3	13.0	12.7
KHP, %	2.10	2.19	1.85	2.10	2.10
Fat thickness, d.in.	0.40	0.46	0.41	0.48	0.47
Marbling score, <sup>d</sup>	12.5	12.4	11.6	11.8	11.7
Cutability, %	50.9	50.4	50.8	50.4	50.3
Yield grade <sup>f</sup>	2.5	2.8	2.6	2.7	2.8
Federal grade <sup>f</sup>	11.1	11.2	10.5	10.8	10.4

\*E<sub>2</sub>B= Compudose 200 (Estradiol control release implant).

TBA= Finaplix (Trenbolone acetate).

abc Means in a row with different superscripts differ (P<.05).

d 11=average slight; 12=slight plus.

e 0 = one; 1 = small size; 2 = many or moderate sized abscess.

f Average Good = 10; Good Plus = 11.

implanted with Compudose had significantly higher daily gains (carcass weight basis) than steers receiving TBA alone. Improvements in rate of carcass adjusted gain with these implants were 8.6 percent for Compudose plus a single TBA implant, 7.6 percent for Compudose plus two TBA implants and 4.3 percent for Compudose alone. TBA alone decreased gains 7.3 percent on a carcass basis. On a live weight basis, steers receiving both Compudose and TBA implants had significantly higher gains than the controls and steers receiving TBA alone. Gains reported on a live weight basis were higher for steers receiving Compudose plus two TBA implants. Compudose alone or in combination with TBA increased feed intake 3.4 percent, whereas TBA alone decreased feed intake 4.0 percent.

Steers receiving Compudose and a single TBA implant had a significantly improved feed efficiency (carcass weight basis) compared to TBA alone. Improvements in efficiency of feed use reported on a carcass weight basis were 4.6 percent (Compudose plus one TBA implant), 3.9 percent (Compudose plus two TBA implants) and 1.0 percent (Compudose alone). TBA alone reduced efficiency of feed use 3.9 percent on a carcass weight basis, whereas TBA alone improved efficiency 2.0 percent on a live weight basis.

Carcass weight differences correspond with differences in rate of gain discussed above. Dressing percentages and marbling scores tended to be lower for steers implanted with TBA. Only five steers had liver

abscesses in the trial. No differences in masculinity traits were observed on a live basis or carcass basis.

The combination of Compudose and TBA implants in this study increased daily gains and improved efficiency of feed use for feedlot cattle over either implant alone. (Caution!! TBA implants are not approved for use alone or in combination with other implants in the United States at the time this report is being written.)