EFFECTS OF FINAPLIX® IN COMBINATION WITH RALGRO® AND SYNOVEX® ON PERFORMANCE AND CARCASS CHARACTERISTICS OF STEERS AND HEIFERS[1]

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Summary

Five field trials were conducted with 762 steers and heifers to evaluate Finaplix® in combination with Ralgro® or Synovex® for growing and finishing programs. Effects on cattle performance and carcass characteristics were inconsistent across trials. However, in general, implanting cattle with Finaplix and either Ralgro or Synovex tended to result in increased gain, final weight, and carcass weight, with little effect on backfat, loin eye area or kidney, heart, and pelvic fat. Marbling score and the percentage of cattle grading choice tended to be reduced slightly, although this was not usually significant.

Introduction

The recent clearance of Finaplix®, a synthetic testosterone-like implant for growing-finishing cattle, has stimulated a great deal of interest relative to its growth-promoting effects when used in conjunction with estrogenic implants. There has been considerable speculation that the use of Finaplix may reduce carcass quality by reducing marbling, and increase the incidence of dark cutters. Additionally, some packers have suggested that cattle implanted with Finaplix may have heavier hides that pull harder, resulting in problems during slaughter. Thus, these trials were conducted to compare cattle performance and carcass characteristics using Finaplix in combination with Ralgro® or Synovex® implants under commercial feeding conditions.

Experimental Procedures

Five field trials were conducted to compare Finaplix with Ralgro and/or Synovex reimplant programs for growing and finishing steers and heifers in four cooperating commercial feedlots.

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In Trial 1, 176 Hereford steer calves averaging 490 lbs. were allotted randomly to implant treatments 1) Synovex-S alone or 2) Synovex-S plus Finaplix-S on November 14, 1987 and pastured on wheat for 108 days. At the start of the drylot-silage growing phase on March 1, 1988, and at the start of the finishing phase on May 26, 1988, steers were allotted within previous implant treatments and reimplanted with either Synovex-S alone or Synovex-S plus Finaplix-S, such that all possible implanting alternatives were studied during the wheat pasture, growing, and finishing phases. Carcass data were collected at slaughter.

In Trial 2, 273 yearling crossbred steers were allotted to four summer finishing treatment groups as follows: 1) Ralgro, 2) Ralgro plus Finaplix-S, 3) Synovex-S, and 4) Synovex-S plus Finaplix-S. Complete carcass data were obtained on 64 steers slaughtered after 99 days and 209 head slaughtered after 109 days on feed.

In Trial 3, 101 yearling crossbred steers were assigned randomly to four finishing implant groups as follows: 1) Ralgro, 2) Ralgro plus Finaplix-S, 3) Synovex-S, and 4) Synovex-S plus Finaplix-S. Steers were fed for 97 days, with carcass information collected at slaughter.

In Trial 4, 126 yearling heifers averaging 724 lbs. were implanted with Synovex-H at the beginning of the 127-day finishing period. After 49 days on feed, heifers were reimplanted as follows: 1) no implant, 2) Synovex-H, 3) Finaplix-H, or 4) Synovex-H plus Finaplix-H. All heifers were fed MGA® throughout the feeding period, and carcass data were collected at slaughter.

In Trial 5, 86 crossbred steer calves were allotted to two implant treatments: 1) Ralgro alone or 2) Ralgro plus Finaplix-S. Steers were fed a silage-based ration during the 77-day growing trial.

Results and Discussion

In Trial 1, Synovex plus Finaplix (S+F) increased ($P<.05$) gain over Synovex (S) alone during the wheat pasture phase (Table 29.1). In the subsequent drylot-growing phase, the S+F combination tended ($P=.11$) to increase performance compared to S alone. In the finishing phase, there were no significant differences in daily gain and carcass characteristics across the six implant treatments, indicating that prior implant treatment had no effect on finishing performance. However, when only the finishing implant (S vs S+F) was considered, steer gain, final weight, and carcass weight were increased ($P<.05$) by implanting with S+F. Correspondingly, lifetime gain was increased ($P<.05$) by implanting with S+F in the finishing phase.

In Trial 2, implant treatment had no effect on gain, carcass weight, backfat, percentage kidney fat, or loin eye area (Table 29.2). Finaplix use did not affect carcass quality. However, Synovex-implanted cattle had lower marbling scores and fewer graded choice ($P<.05$) compared to Ralgro steers. In Trial 3, implant treatment had no significant effect on gain or any carcass characteristic, as shown in Table 29.3.

In Trial 4, reimplanting heifers with either S or S+F had no effect on gain or carcass characteristics, except for the percentage grading choice, which was reduced (P<.05) in the F and S+F groups compared to controls (Table 29.4). Hide weights and hide pull scores tended to be increased slightly by treatments including Finaplix. In Trial 5, implanting growing steers with Ralgro plus Finaplix increased daily gain by 5.3% compared to Ralgro alone, as shown in Table 29.5.

Table 29.1. Evaluation of Synovex or Synovex plus Finaplix Combinations in Steers during Wheat Pasture, Drylot Growing, and Finishing Phases

Wheat Pasture Treatments:	S[1]		S+F[1]			
No. Steers	88		88			
Initial Wt, lb	490		489			
Ending Wt, lb	636		647			
Daily Gain, lb	1.35[a]		1.46[b]			
Drylot Growing Treatments:	S	S+F	S	S+F		
No. Steers	60	28	31	57		
Ending Wt, lb	898	917	899	915		
Daily Gain, lb	3.06	3.17	2.90	3.11		
Finishing Treatments:	S	S+F	S+F	S	S	S+F
No. Steers	30	30	28	31	26	31
Daily Gain, lb	3.18	3.38	3.22	3.15	2.94	3.28
Final Wt, lb	1131	1150	1156	1132	1130	1160
Carcass Wt, lb	711	723	727	712	711	730
Backfat, in	.53	.59	.56	.54	.56	.50
Ribeye Area, sq in	13.1	13.1	13.3	13.2	13.1	13.9
Kidney Fat, %	2.25	2.25	2.19	2.30	2.30	2.13
Marbling Score[2]	165	167	155	164	172	146
% Choice	13[a]	13[a]	11[a]	19[a]	31[b]	10[a]
Overall Daily Gain, lb.	2.39	2.47	2.49	2.38	2.39	2.52

[1]Steers were implanted successively with either Synovex-S alone (S) or Synovex-S plus Finaplix-S (S+F).
[2]100-199 = slight, 200-299 = small, 300-399 = modest degrees of marbling.
[ab]Values with unlike superscripts differ (P<.05).

Table 29.2. Effect of Ralgro and Synovex, with or without Finaplix, on Performance of Feedlot Steers

Item	Ralgro	Ralgro + Finaplix	Synovex	Synovex + Finaplix
No. Steers	67	70	71	65
Inital Wt, lb	808	807	807	806
Final Wt, lb	1149	1150	1145	1155
Daily Gain, lb	3.28	3.30	3.25	3.36
Carcass Wt, lb	723	724	720	727
Backfat, in	.54	.53	.53	.50
Kidney Fat, %	1.87	1.85	1.85	1.84
Ribeye Area, sq in	12.3	12.3	12.4	12.7
Marbling Score[1]	211[a]	202[ab]	192[bc]	181[c]
% Choice	48[a]	49[a]	31[b]	27[b]

[1]100-199 = slight, 200-299 = small, 300-399 = modest degrees of marbling.
[abc]Values in the same row with unlike superscripts differ (P<.05).

Table 29.3. Effect of Ralgro and Synovex Alone and in Combination with Finaplix on Finishing Steer Performance

Item	Ralgro	Synovex	Ralgro + Finaplix	Synovex + Finaplix
No. Steers	24	26	25	26
Inital Wt, lb.	832	832	831	832
Final Wt, lb.	1202	1191	1213	1207
Daily Gain, lb.	3.82	3.70	3.94	3.87
Carcass Wt, lb.	769	762	777	773
Backfat, in.	.47	.47	.47	.49
Kidney Fat, %	1.94	2.09	2.25	1.91
Ribeye Area, sq. in.	13.1	13.5	13.4	13.2
Marbling Score[1]	194	185	167	190
% Choice	50	46	44	54

[1]100-199 = slight, 200-299 = small, 300-399 = modest degrees of marbling.

Table 29.4. Effect of Finaplix and Synovex Implants Used Singly or in Combination on Performance of Heifers

Item	Initial Implant + Reimplant			
	Synovex None	Synovex Synovex	Synovex Finaplix	Synovex Syn. + Fin.
No. Heifers	33	31	31	31
Initial Wt, lb.	724	724	724	724
Reimplant Wt, lb.	857	857	857	857
Final Wt, lb.	1103	1095	1093	1100
Daily Gain, lb.	3.16	3.05	3.03	3.12
Carcass Wt, lb.	675	670	666	673
Backfat, in.	.46	.45	.47	.51
Kidney Fat, %	2.41	2.51	2.05	2.37
Ribeye Area, sq. in.	13.4	12.9	13.3	13.1
Marbling Score[1]	323	280	256	278
% Choice	97[a]	94[ab]	87[bc]	77[c]
Hide Pull Score[2]	2.0	2.0	2.3	2.2
Hide Wt, % of Live Wt	5.9	6.2	6.5	6.2

[1]100-199 = slight, 200-299 = small, 200-299 = modest degrees of marbling.
[2]Difficulty of mechanically pulling hides at slaughter appraised visually on a 1 to 5 scale, 5 = most difficult.
[abc]Values with unlike superscripts differ (P<.05).

Table 29.5. Influence of Ralgro and Finaplix on Growing Steer Gains

Item	Ralgro Alone	Ralgro + Finaplix
Initial Wt., lb.	501	500
Final Wt., lb.	688	697
Total Gain, lb.	187	197
Daily Gain, lb.	2.43	2.56