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Comparison of Revalor XS to a Revalor IS / Revalor S Implant Strategy in Finishing Steers

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Summary

A commercial feedlot study compared effects of Revalor IS/Revalor S (RevIS-S) implant strategy to a Revalor XS (RevX) single implant strategy on performance and carcass characteristics of feedlot cattle. There were no differences ($P > 0.90$) in DMI, final BW, ADG, or F:G. Hot carcass weight, marbling score, 12th rib fat, LM area and calculated yield grade also were unaffected ($P > 0.10$) by implant strategy. The RevX treatment resulted in a greater ($P < 0.01$) percentage of Choice carcasses than RevIS-S. Cattle receiving Revalor XS performed similar to cattle implanted with RevIS-S using a traditional reimplant program.

Introduction

Revalor XS is a new extended release implant that contains 40 mg estradiol and 200 mg trenbolone acetate. The last six capsules of this 10-capsule implant are coated with a polymer that allows for the delayed breakdown and release of hormone to mimic a reimplant program. This single implant strategy contains similar quantities of hormone as a reimplant program consisting of Revalor IS-S. Revalor IS contains 16 mg estradiol and 80 mg trenbolone acetate, whereas Revalor S contains 24 mg estradiol and 120 mg trenbolone acetate. The following experiment compared feedlot and carcass performance for steers receiving either Revalor XS or Revalor IS implant followed by Revalor S in a commercial feedlot.

Procedure

Yearling steers (n = 1,356; initial BW = 689 ± 35 lb) from ranches and auction barns in Montana, Wyoming, Nebraska, Idaho, Missouri, and North Dakota were blocked by arrival date (5 blocks). This commercial trial was conducted at Hi Gain feedlots near Farnam, Neb. Steers were allocated to pens based on sorting every 2 steers into one of two pens prior to processing. Pens were assigned randomly to one of two treatments (eight pens/treatment). Treatments consisted of two implant strategies, either a single Revalor XS implant given on day 1 (RevX) or Revalor IS given on day 1 followed by Revalor S on day 80 (RevIS-S). All steers received Vista 3SQ, Safe Guard, and Ivomec on arrival. Mean days on feed across blocks was 157 days. A step-up period consisting of three adaptation diets was used to adapt cattle to the finishing ration. During the step-up period, incremental percentages of dry rolled corn replaced ground hay. The finishing diet consisted of 54.9% dry rolled corn, 35% WDGS, 5.5% mixed grass hay, and 4.6% liquid supplement. The supplement contained Rumensin formulated to provide 330 mg/steer daily and Tylan formulated to provide 90 mg/steer daily. Pen weight and individual BW were collected on day 1; however, performance was calculated from pen BW, pencil shrunk 4% to adjust for fill. Carcass-adjusted performance was calculated using final BW, based on HCW divided by a common dressing percentage of 63%. Cattle were slaughtered at a commercial abbatoir (Tyson, Lexington, Neb.) on three different dates according to the date they were placed on trial. On day 1 of slaughter, both liver score and HCW were recorded. After a 24-hour chill, KPH, 12th rib fat thickness, color score, LM area, USDA quality grade, and yield grade were recorded. Data were analyzed using the PROC MIXED procedure of SAS with pen as the experimental unit. PROC FREQ of SAS was used for the Chi Square distribution analysis for both quality and yield grade distributions.

Results

There were no differences in DMI between steers assigned to RevIS-S or RevX treatments (Table 1). Using carcass-adjusted performance, no differences in final BW or ADG were observed. Therefore, F:G also was unaffected by implant strategy. Similar results were observed when evaluating performance using final live BW.

There were no differences in HCW, USDA marbling score, fat depth, LM area or calculated USDA yield

Table 1. Performance of steers implanted with either Revalor-IS on day 1 followed by Revalor-S on day 80 (RevIS-S) compared to steers implanted with Revalor-XS on day 1 (RevX).

	RevIS-S	RevX	SEM	*P*-value
Pens	8	8		
Steers	671	671		
Carcass-adjusted performance[ab]				
Initial BW, lb	700	701	18.0	0.89
Final BW, lb	1345	1347	14.2	0.90
DMI, lb/d	24.0	24.0	0.39	0.96
ADG, lb/d	4.14	4.15	0.05	0.94
F:G	5.79	5.79		0.96[d]
Live performance[c]				
Final BW, lb	1320	1327	15.3	0.67
ADG, lb/d	3.98	4.01	0.06	0.67
F:G	6.03	5.98		0.55[d]

[a]All BW are shrunk 4%.
[b]Overall carcass performance calculated using 63% dressing percentage for both treatments.
[c]Overall live performance calculated from live BW on a pen basis collected prior to study initiation and on day of slaughter.
[d]*P*-value calculated from G:F.

Table 2. Carcass characteristics of steers implanted with either Revalor IS on day 1 followed by Revalor-S (RevIS-S) on day 80 compared to steers implanted on day 1 with Revalor-XS (RevX).

	RevIS-S	RevX	SEM	*P*-value
Carcass characteristics				
Hot carcass weight, lb	850	854	9.90	0.69
Marbling[a]	534	532	8.32	0.86
Fat depth, in	0.63	0.62	0.04	0.95
LM Area in^2	14.1	14.1	0.43	0.78
Calc. YG[b]	3.40	3.40	0.20	0.97
USDA quality grade, % of total				
Prime	1.50	0.75		0.20
Upper Choice	4.80	3.47		0.22
Mid Choice	13.04	12.97		0.97
Low Choice	50.22	58.37		< 0.01
Select	29.99	23.68		< 0.01
Standard	0.45	0.75		0.47
Choice or >	69.57	75.57		0.01
Select or <	30.43	24.43		0.01
USDA yield grade, % of total				
YG 1	1.20	1.66		0.48
YG 2	11.84	10.29		0.37
YG 3	38.98	40.54		0.56
YG 4	40.48	37.52		0.27
YG 5	7.50	9.98		0.11

[a]450 = $Slight^{50}$, 500 = $Small^{0}$, 540 = $Small^{40}$, etc.
[b]Calculated as 2.5 + (2.5*fat depth) – (0.32*REA) + (0.2*KPH) + (0.0038*HCW).

grade when comparing the two treatments (Table 2). Implanting steers with Revalor XS increased ($P < 0.01$) the number of carcasses that graded low Choice, and decreased ($P < 0.01$) the number of carcasses that graded Select. Overall, when comparing the two implant strategies, the RevX treatment group had a higher number ($P = 0.01$) of carcasses that graded Choice or better and therefore had a lower number ($P = 0.01$) of carcasses that graded Select or worse. There was a tendency ($P = 0.11$) for the RevX treatment to have more USDA yield grade 5 carcasses than the RevIS-S group.

In conclusion, this study indicates cattle implanted once up front with Revalor XS will perform similar to cattle that are implanted initially with Revalor IS and then reimplanted with Revalor S.

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