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Effect of Bovatec®¹ and Synovex-S®² Implants on Finishing Steer Performance

Lyle W. Lomas³

Summary

Cattle fed Bovatec consumed 18.3% less feed and were 19.4% more efficient in feed conversion than controls, with no effect on gain. Synovex-S implants improved gain by 8.2% with no effect on feed intake and feed efficiency. The effects of Bovatec and Synovex-S were additive.

Introduction

Bovatec is the trade name for lasalocid sodium, a feed additive similar to Rumensin®. Both are antibiotics, previously used as poultry coccidiostats. Both alter the proportion of rumen volatile fatty acids toward more propionate and less acetate. Bovatec was cleared for use in feedlot cattle by the Food and Drug Administration in August, 1982. The approved dosage is 10 to 30 grams per ton of ration dry matter.

Procedure

Eighty-four Simmental steers from a ranch in Southeast Kansas, averaging 842.5 lb, were randomly allotted by weight to 12 pens of seven head each for a finishing study. Treatments were: 1) control (neither Bovatec nor Synovex-S), 2) Bovatec only (30 gm per ton of dry ration), 3) Synovex-S implant only, and 4) Bovatec and Synovex-S implant combined. Each treatment was replicated in three pens. The pens had no cover or wind protection. Water and feed were available at all times. When the study began (October 28, 1981) cattle were fed 30% concentrate and 70% corn silage (dry basis). Then, the concentrate was increased and the silage decreased by 5% daily until the final ration contained 80% concentrate and 20% corn silage. Initial and final weights were taken after a 16 hour shrink from feed and water. Implanted cattle received Synovex-S only once at the onset of the study. One steer was removed from Synovex-S and one from the Bovatec plus Synovex-S treatments for health reasons unrelated to the experiment. The trial ended on March 19, 1982. Cattle were slaughtered on March 23 and individual carcass data were collected.

¹Bovatec is the trademark name for lasalocid sodium produced by Hoffman-LaRoche, Inc., Nutley, NJ 07110, who provided the feed additive and partial financial assistance.

²Synovex-S is the trademark name for steer finishing implants containing progesterone and estradiol benzoate produced by Syntex Agribusiness, Inc., Des Moines, IA 50303, who provided implants and partial financial assistance.

³Southeast Kansas Branch Experiment Station, Parsons, KS 67357.

Results

During the 142 day finishing study, gains with and without Bovatec were similar ($P>.10$), Table 37.1). Feeding Bovatec decreased feed intake 18.3% ($P=.04$) and improved feed efficiency 19.4% ($P=.06$), with no effect on external fat thickness, rib eye area, marbling score, and quality or yield grade.

Cattle implanted with Synovex-S gained 8.2% more ($P=.05$), had larger rib eye areas ($P=.003$) and lower numerical yield grades ($P=.06$) than nonimplanted steers. Implants had no effect on daily feed intake, feed efficiency, fat thickness, marbling score or quality grade.

Table 37.1. Effect of Bovatec and Synovex-S on Feedlot Performance (142 days) of Simmental Steers

	Effect of Bovatec			Effect of Synovex-S		
	No Bovatec	Bovatec, 30g/ton	P ^a	No Implant	Synovex-S	P ^a
No. of steers	41	41	---	42	40	---
Initial wt., lb	841.0	844.0	---	840.7	844.4	---
Final wt., lb	1271.0	1282.1	---	1258.3	1295.6	---
Gain, lb	430.0	438.1	N.S. ^a	417.6	451.2	.0048
ADG, lb	3.03	3.08	N.S.	2.94	3.18	.0048
Daily DM intake, lb	28.03	22.89	.0386	24.49	26.43	N.S.
Feed/gain	9.26	7.46	.0563	8.39	8.33	N.S.
Fat Thickness, in.	.31	.26	N.S.	.30	.28	N.S.
REA, sq. in.	13.6	13.8	N.S.	13.4	14.1	.0025
Marbling score ^b	5.1	5.2	N.S.	5.1	5.2	N.S.
Quality grade ^c	9.8	10.0	N.S.	9.8	10.1	N.S.
Yield grade	2.5	2.3	N.S.	2.5	2.3	.0639

^aP = probability of effects due to chance. N.S. = ($P>.10$).

^bMarbling score: Small = 5; modest = 6.

^cQuality grade: Gd⁺ = 9; Ch⁻ = 10; Ch⁰ = 11.