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Effect of Bovatec^{1,4} and Ralgro² Implants on Finishing Steer Performance

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Summary

Cattle fed Bovatec¹ consumed 17.4% less feed and were 17.7% more efficient than controls, with no effect on gain. Ralgro² implants improved gain 12% and feed efficiency 6.9%, with no effect on feed intake. Bovatec and Ralgro combined had an additive effect on feed efficiency.

Introduction

Bovatec is the trade name of lasalocid sodium, a feed additive similar to Rumensin. Both antibiotics were used as poultry coccidiostats before they were used for cattle. Both alter the proportion of rumen volatile fatty acids toward more propionate and less acetate. Although not currently approved, Bovatec is expected to be cleared for use in feedlot cattle by the Food and Drug Administration in early 1982. The approved dosage is expected to be 10 to 30 grams per ton of ration dry matter.

Procedure

Eighty-four Simmental steers averaging 832 lb were randomly allotted by weight to 12 pens of seven head each. Treatments were: 1) control (neither Bovatec nor Ralgro); 2) Bovatec only (45 gm per ton of dry ration); 3) Ralgro only (36 mg, implant); and 4) Bovatec and Ralgro combined. Each treatment was replicated in three pens. When the study began, March 11, 1980, we used 30% concentrate and 70% corn silage (dry basis). Then the concentrate was increased and the silage decreased by 5% daily until 80% concentrate and 20% corn silage had been reached. Initially, steers were weighed after a 16-hour shrink (off feed and water). Final weights were taken after 16 hours without feed. The trial terminated on July 1, 1980. Cattle were slaughtered July 16, 1980, and individual carcass data were collected.

¹Bovatec is the trademark name for lasalocid sodium produced by Hoffmann-LaRoche, Inc., Nutley, N.J. 07110. Feed additive and partial financial assistance provided by Hoffmann-LaRoche, Inc.

²Ralgro is the trademark name for zeranol implants produced by International Minerals and Chemical Corp., Terre Haute, IN 47808. Implants and partial financial assistance provided by IMC.

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⁴Bovatec is not currently cleared by the FDA for use in cattle.

Results

During the 112-day finishing study, gains with and without Bovatec were similar (Table 21.1). Feeding the steers Bovatec decreased their feed intake 17.4% ($P=.002$) and improved feed efficiency 17.7% ($P=.0001$). Cattle fed Bovatec in this study also had smaller ribeye area ($P=.0001$), more internal fat ($P=.0051$), and a higher yield grade ($P=.0002$) than did those fed no Bovatec, contrary to most other studies.

Ralgro implants increased steer gain (Table 21.1) 12.0% ($P=.0001$) and improved feed efficiency 6.9% ($P=.0276$); there was no effect on feed intake. Implanted cattle also had less internal fat ($P=.0360$). Effects of Bovatec and Ralgro on feed efficiency were additive.

Table 21.1. Effect of Bovatec and Ralgro on Feedlot Performance (112 days) of Simmental Steers

Item	Effect of Bovatec			Effect of Ralgro		
	No Bovatec	Bovatec 45g/ton	Statistical significance ^a	No Ralgro	36 mg Ralgro	Statistical significance ^a
No. of steers	42	42	-	42	42	-
Initial wt., lb	831.5	833.5	-	831.7	833.3	-
Final wt., lb	1243.8	1248.5	-	1222.2	1270.0	-
Gain, lb	412.3	415.0	N.S.	390.5	436.7	.0001
ADG, lb	3.68	3.71	N.S.	3.49	3.90	.0001
Daily DM intake, lb	27.68	22.89	.002	24.76	25.78	N.S.
Feed/gain	7.52	6.19	.0001	7.10	6.61	.0276
Fat thickness, in.	.28	.29	N.S.	.28	.29	N.S.
REA, sq. in.	14.9	13.9	.0001	14.3	14.6	N.S.
KPH fat, %	2.5	2.7	.0051	2.7	2.5	.0360
Marbling score ^b	5.9	5.9	N.S.	6.1	5.7	N.S.
Quality grade ^c	10.9	10.7	N.S.	11.0	10.5	N.S.
Yield grade	1.9	2.3	.0002	2.2	2.0	N.S.

^aN.S.= Not statistically different ($P>.05$).

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

^cQuality grade: Ch⁻ = 10; Ch⁰ = 11.