Effect of Ronnel® on Performance of Feedlot Steers

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Summary

We used 180 yearling Hereford and Angus x Hereford crossbred steers averaging 643 pounds in a 139-day, feedlot trial to evaluate steer performance when the systemic grub control pesticide Ronnel was fed at 5 levels: 0, 16, 32, 64, and 128 grams per ton of complete feed. Ronnel increased daily feed intake an average of 2.5%; 64 grams/ton produced gains 8.5% faster and 5.8% more efficiently than the controls (0 Ronnel) and was the most beneficial dose. No significant differences were observed in carcass traits. This product is presently not cleared for use in feedlot cattle.

Introduction

An organophosphate, commonly known by its trademark of Ronnel, has been used for several years as a very effective insecticide. Recent research by USDA and the Agricultural Research division of Dow Chemical Co.[1] has indicated that Ronnel may increase growth and feed efficiency in feedlot cattle.

Procedure

One hundred eighty yearling Hereford and Angus x Hereford crossbred steers averaging 643 pounds were allotted by weight to 30 pens of six steers each. Six pens were assigned to each of 5 Ronnel treatments: (1) 0, (2) 16, (3) 32, (4) 64 and (5) 128 grams of Ronnel per ton of complete feed. All steers were fed a 50% concentrate ration for 56 days and then increased to 85% concentrate for the final 83 days. The trial began April 15 and ended September 1, 1976.

Results

Effects of Ronnel on performance of feedlot steers is summarized in Table 21.1. Ronnel increased daily feed intake an average of 2.5%. The 64 gram/ton level was the most effective and produced gains 8.5% faster and 5.8% more efficiently than the controls. Feeding 128 grams/ton proved to be too much and resulted in depressed animal performance. The 16 and 32 gram/ton treatments appeared to be too low. No significant differences were observed in carcass traits.

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[1]Ronnel® is a registered trademark name of Dow Chemical Co., Midland, Mich.

Ronnel® and some financial assistance provided by Dow Chemical Co.

Table 21.1. Effect of Ronnel on performance of feedlot steers.

	Grams Ronnel/ton				
	0	16	32	64	128
No. steers	36	36	36	36	36
Init. wt., lbs.	643.2	642.1	642.4	643.7	645.2
Final wt., lbs.	1003.2	1020.2	1026.0	1034.3	994.1
Gain, lbs.	360.0	378.1	383.6	390.6	348.9
Daily gain, lbs.	2.59^{ab}	2.72^{abc}	2.76^{bc}	2.81^{c}	2.51^{a}
Daily feed, lbs.	20.8	21.6	21.2	21.1	21.2
Feed/lb. gain, lbs.	8.00^{cd}	7.95^{cd}	7.67^{bd}	7.54^{b}	8.48^{a}

^{a,b,c,d}Means on same row with different superscripts are significant ($P<.05$).