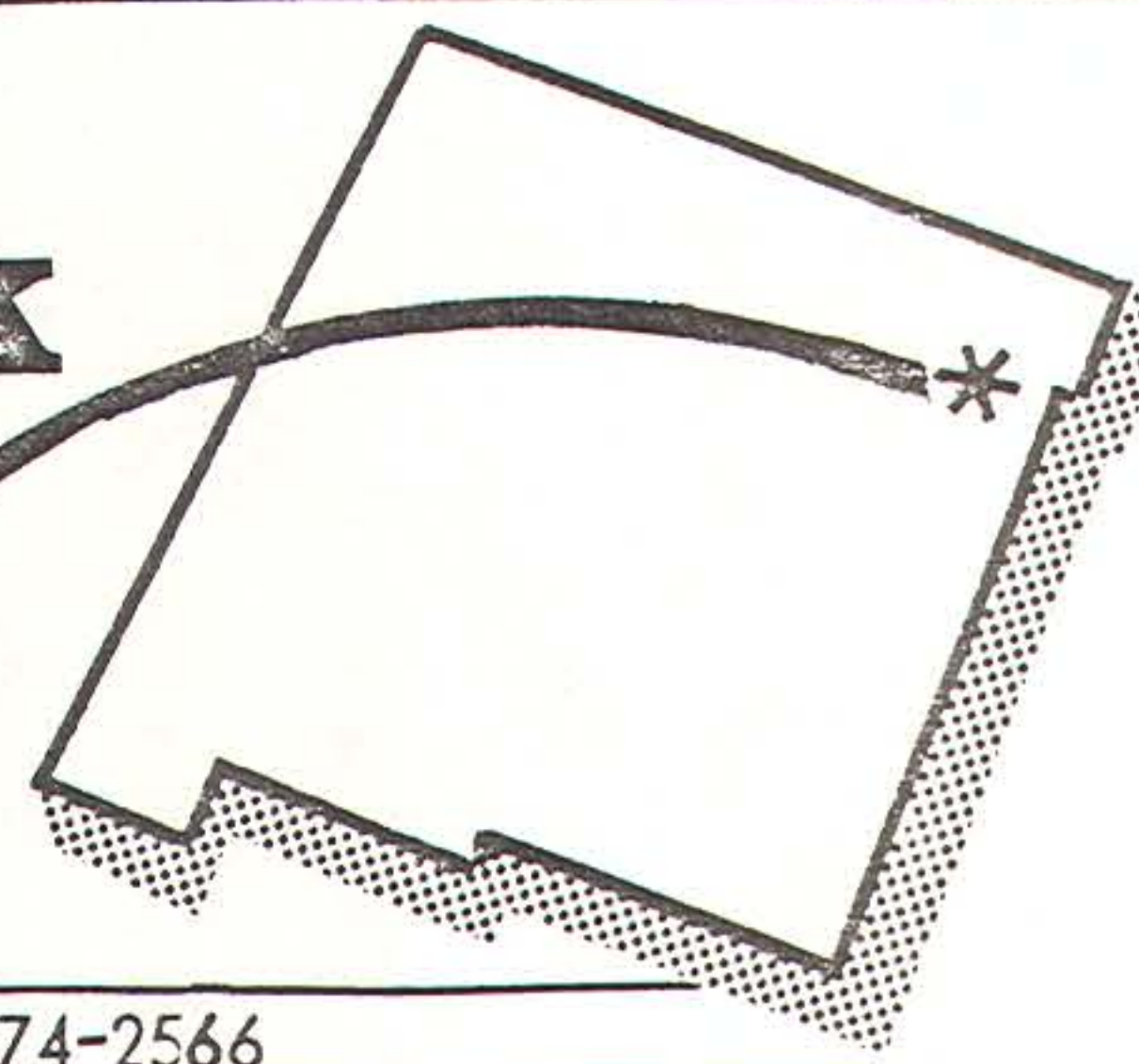




Clayton Livestock Research Center

PROGRESS REPORT



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EFFECT OF COMPOUND 139603 ON PERFORMANCE OF FEEDLOT STEERS

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The use of ionophores such as monensin and lasalocid have proven valuable tools for improving weight gains and feed efficiency for beef cattle grown either on pasture or in the feedlot. To evaluate a new ionophore designated as Compound 139603 (generic name Tetronasin®) for commercial use, a cooperative study was conducted by the Clayton Livestock Research Center (CLRC) and Coopers Animal Health, Inc. The objective of the study was to evaluate the dose response of Compound 139603 on performance of feedlot cattle provided feed containing 0, 3, 6, 9, or 15 g Compound 139603/ton.

During March 1986, three loads of medium and large frame no. 1 and 2 steer calves were shipped from Florida to CLRC. Upon arrival, all calves were allowed free access to water and grass hay. Calves were processed the day following arrival. Processing included administration of long-acting oxytetracycline (LA 200®) and 25 g sustained-release sulfadimethoxine (Albon SR®) as preventative medication; castration and dehorning as required; vaccination IBR-PI₃, BVD and 7-way Clostridium; injection of Ivomec® and vitamins A and D; branding, ear-tagging and weighing. All animals were maintained in the feedlot a minimum of 21 days prior to starting the trial during which time cattle were progressively brought on full feed with a 75% concentrate milled feed

containing Deccox®. By the initiation of the study, all cattle were consuming an 85% concentrate finishing diet in ad libitum quantities. On April 11, 1986, steers were again weighed and assigned to receive a designated level of Compound 139603 in the feed and were allotted into four groups based on initial weight. Four pens consisting of 15 steers/pen were fed the 85% concentrate milled feed containing either 0, 3, 6, 9 or 15 g Compound 139603/ton. Each steer was weighed at the initiation and termination of the trial with intermediate weights obtained at approximately 28 day intervals. Cattle were sold to a commercial packing house for slaughter when it was judged that at least 50% of the animals would grade USDA choice. Steers in the heaviest weight group were sent to slaughter after 225 days on feed with the remaining cattle shipped after 252 days on feed. Compound 139603 was withdrawn from the feed a minimum of 7 days prior to slaughter. At the packing house, carcass data were collected from each animal.

Since there was no effect due to weight group on either average daily gain (ADG), feed intake, or feed-to-gain ratios, only treatments means are given. Mean initial and final weights are presented in Table 1. Final mean weights were not affected by the level of Compound 139603 incorporated into the feed. Likewise, ADG (Table

¹ Authors wish to thank Dr. John Bailie for his advice and assistance and to Coopers Animal Health, Inc. for partial financial support of this project. Appreciation is expressed to Dr. Ted Montgomery, WTSU, for collection of carcass data and to Iowa Beef Processors, Inc. for their cooperation.

2) was not different between treatments at the termination of the study. Daily feed intake (Table 2), however, did appear slightly lower for cattle receiving feed containing Compound 139603, particularly at the 15 g/ton level compared to cattle receiving no Compound 139603. Similarly, feed-to-gain ratios (Table 2) were apparently improved as the concentration of Compound 139603 increased. These observations suggest Compound 139603 is effective in increasing feed efficiency by reducing

feed intake without reducing weight gain. These results are consistent with those generally observed for feedlot cattle fed diets containing either monensin or lasalocid. However, in this study Compound 139603 increased feed efficiency at concentrations approximately half of that recommended for monensin or lasalocid. Overall, the results of this study indicate providing Compound 139603 in the feed at a level of 9 to 15 g/ton can improve feed efficiency in feedlot steers.

Table 1. Mean Initial and Final Weights According to Level or Control 139603 in the Feed.

Level or Control 139603 g/ton	Initial weight lbs	Final weight lbs	Total gain lbs
0	429	1047	618
3	424	1048	624
6	423	1042	619
9	423	1048	625
15	428	1048	620

¹ Initial and final weights recorded on two consecutive days.

Table 2. Effects of Compound 139603 Concentration on Feed Intake, Weight Gain and Feed-to-Gain Ratio in Growing-Finishing Cattle.

Item	Level of Compound 139603 in feed, g/ton				
	0	3	6	9	15
Average Daily Gain, lb/d	2.52	2.55	2.53	2.56	2.53
Feed intake, lb	17.11	17.10	16.88	16.81	16.44
Feed-to-Gain Ratio, lb	6.80	6.73	6.68	6.60	6.50

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