

## THE EFFECT OF SYSTEMIC GRUBICIDES ON YEARLING STEERS IN THE FEED LOT

This experiment is being conducted to determine the effectiveness of systemic grubicides for grub control, and the effects of the treatments on feed lot gains. The trial has been in progress for two years.

In both years, 1963 and 1964, yearling Hereford steers were purchased from an area believed to be infested with cattle grubs. The last week in September they were allotted at random into three lots and placed on a ration of corn silage, alfalfa hay, rolled barley and supplement.

One lot was designated as the control lot and received no treatment for grub control. One lot was treated with Co-Ral and one lot was treated with Ruelene.

Grub counts were made in February and March in both 1964 and 1965 and in April 1965. The steers were on feed for 181 days in 1963-64 and 195 days in 1964-65.

Results for the 1964-1965 trial in detail are shown in tables 4 through 6.

<b>Table 4. Results of Grub Control on Feed Lot Performance and Slaughter Value.</b>			
Treatment	CoRal	Check	Ruelene
No. of Steers	10	9	10
Days on Feed	195	195	195
Initial Weight	688	687.5	688
Final Weight	1100.5	1080.0	1108.5

Gain	412.5	392.5	420.5
Average Daily Gain	2.12	2.01	2.16
Av. Dressed Wt.	598.9	595.7	604.9
Dressing Percent	54.42	55.15	54.57
Average Grade	8 Cho, 2 Gd.	6 Cho, 3 Gd.	7 Cho, 3 Gd.
Av. Carcass Value	\$222.31	\$218.49	\$222.52
Av. Feed Cost	\$60.17	\$58.66	\$58.64
Profit	\$162.14	\$159.83	\$163.88
Feed Cost/100# Gain	\$14.59	\$14.95	\$13.95

<b>Table 5. Grub Count - Total Grubs Per Lot.</b>			
Date	CoRal	Check	Ruelene
February 17, 1965	10	5	13
March 10, 1965	5	22	6
April 7, 1965	5	23	3
Total	20	50	22
Grubs Per Head	2	5.5	2.2

**Table 6. Average Daily Ration Fed Steers Treated With Systemic Grubicides.**

	CoRal	Check	Ruelene
Silage	31.4#	29.2#	29.2#
Barley	8.7#	8.7#	8.7#
Alfalfa	1.4#	1.4#	1.4#
Supplement	0.8#	0.8#	0.8#

**Table 7. Two Years Results From the Systemic Grubicide Trial.**

	CoRal	Check	Ruelene
Initial Weight			
1963	669	671	665
1964	688	687.5	688
Average	678.5	679.3	676.5
Final Weight			
1963	1021	1033	1034
1964	1100.5	1080.0	1108.5
Average	1060.5	1056.5	1071.2

Average Daily Gain					
1963	1.94		2.00		2.04
1964	2.12		2.01		2.16
Average	2.03		2.01		2.10
Feed Cost/100# Gain					
1963	\$16.10		\$15.65		\$15.86
1964	\$14.59		\$14.95		\$13.95
Average	\$15.35		\$15.30		\$14.91
Grub Count Per Head					
1963	10.2		10.0		3.8
1964	2.0		5.5		2.2
Average	6.1		7.8		3.0
Dressing % On Home Weight					
1963	58.8		58.8		58.1
1964	54.4		55.2		54.6
Average	56.6		57.0		56.4
Pour-On vs Spray					
	Pour On	Spray		Pour On	Spray
Gain	419	406		444	397

## Results

The results from the 1964-65 trial show that both treatments, CoRal and Ruelene, were effective in the control of cattle grubs. Although both treatments gave slightly faster gains than the control, the difference could not be considered significant. When feed costs per 100 pounds gain are considered, the Ruelene treated animals averaged one dollar per hundred less than the controls. The control steers averaged slightly higher dressing percentages than either chemical treatment.

This experiment was hindered by a lack of grub larva in all animals. An added benefit, the control of cattle lice, was observed in both lots of treated steers.

The two year average (shown in table 7) shows that both CoRal and Ruelene significantly reduced the grub numbers. There appeared to be no significant difference between the rate of gain or dressing percentage. The Ruelene treated steers were slightly more efficient, putting on 100 pounds of gain for approximately .40 less than the other treatments.

The pour-on method of application gave faster gains did the high pressure spray method.

Average results for this trial for the two years are summarized in tables 8 through 16.

Treatment	Initial Weight	Final Weight	Average Daily Gain	TDN Per 100 lbs. Gain	Feed Cost Per 100 lbs. Gain	Average Grub Count Per Hd.
Control	671	1033	2.00	642	\$15.65	16.0
Co-Ral	669	1021	1.94	660	\$16.10	10.2
Ruelene	665	1034	2.04	651	\$15.86	3.8

**Table 9. Effects of Systemic Grubicides on Spring Grub Counts and Weight Gains When Used on Yearling Steers in the Feed Lot in 1964-65.**

Treatment	Initial Weight	Final Weight	Average Daily Gain	TDN Per 100 lbs. Gain	Feed Cost Per 100 lbs. Gain	Average Grub Count Per Hd.
Control	688	1080	2.01	603	\$14.95	5.5
Co-Ral	688	1101	2.12	588	\$14.59	2.0
Ruelene	688	1109	2.16	562	\$13.95	2.2

**Table 10. Effects of Systemic Grubicides on Spring Grub Counts and Weight Gains When Used on Yearling Steers in the Feed Lot. Two Year Average.**

Treatment	Initial Weight	Final Weight	Average Daily Gain	TDN Per 100 lbs. Gain	Feed Cost Per 100 lbs. Gain	Average Grub Count Per Hd.
Control	680	1057	2.01	623	\$15.30	7.8
Co-Ral	679	1061	2.03	624	\$15.35	6.1
Ruelene	677	1072	2.10	607	\$14.91	3.0

**Table 11. Effects of Systemic Grubicides on Carcass Characteristics When Used on Yearling Steers in the Feed Lot in 1963-64.**

Treatment	Carcass Price Per 100 Lbs.	Average Carcass Grade	Dressing % on Homeweight
Control	\$32.60	High - Good	58.8
Co-Ral	\$32.30	High - Good	58.8
Ruelene	\$32.13	High - Good	58.1

**Table 12. Effects of Systemic Grubicides on Carcass Characteristics When Used on Yearling Steers in the Feed Lot in 1964-65.**

Treatment	Carcass Price Per 100 Lbs.	Average Carcass Grade	Dressing % on Homeweight
Control	\$36.68	High - Good	55.2
Co-Ral	\$37.12	High - Good	54.4
Ruelene	\$36.79	High - Good	55.1

**Table 13. Effects of Systemic Grubicides on Carcass Characteristics When Used on Yearling Steers in the Feed Lot. Two Year Average.**

Treatment	Carcass Price Per 100 Lbs.	Average Carcass Grade	Dressing % on Homeweight
Control	\$34.64	High - Good	57.0
Co-Ral	\$34.71	High - Good	56.6

Ruelene	\$34.46	High - Good	56.6
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Two methods of treatment, pour-on application and spray application, were also compared. Tables 14, 15, and 16 show the results of this comparison.

<b>Table 14. Comparison of Pour-On Application and Spray Application of Two Systemic Grubicides Used on Yearling Steers in the Feed Lot, 1963-64.</b>				
Treatment	Initial Weight	Final Weight	Average Daily Gain	Average Grub Count Per Head
Pour-On	670	1033	2.01	3.9
Spray	664	1023	1.99	9.1

<b>Table 15. Comparison of Pour-On Application and Spray Application of Two Systemic Grubicides Used on Yearling Steers in the Feed Lot, 1964-65.</b>				
Treatment	Initial Weight	Final Weight	Average Daily Gain	Average Grub Count Per Head
Pour-On	688	1120	2.21	3
Spray	688	1090	2.06	2

<b>Table 16. Comparison of Pour-On Application and Sprav Application of Two Systemic Grubicides</b>				
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**Used on Yearling Steers in the Feed Lot. Two Year Average.**

Treatment	Initial Weight	Final Weight	Average Daily Gain	Average Grub Count Per Head
Pour-On	679	1077	2.11	4
Spray	676	1057	2.03	6

Both chemical were effective in reducing grub counts. The pour-on method of application was more effective than was application by spraying. Animals treated with these chemicals produced slightly faster gains than the untreated control. In this trial the difference is so small it is not considered significant. An additional cost not included in the tables is the cost of the chemical which amounts to .40 to .50 per head plus the cost of application. Labor costs will vary depending upon many things. Therefore this item is left to the consideration of each individual operator.

The trial was hampered by a lack of grub larvae in all animals. The control of cattle lice was an added benefit observed in both lots of treated steers.

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