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Effect of feeding insecticide to cattle on growing and finishing rations

Abstract

A convenient method to control flies in cattle manure is adding an insecticide to the ration. The chemical passes through the digestive tract and effectively controls fly larvae in the manure. It may also influence animal performance. We added an insecticide at 50 p.p.m. to a high roughage growing ration and to an all-concentrate finishing ration and measured performance by growth, feed intake, and feed efficiency in steers and heifers.

Keywords

Cattlemen's Day, 1972; Report of progress (Kansas State University. Agricultural Experiment Station); 557; Beef; Insecticide; Growth; Feed intake; Feed efficiency

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Effect of Feeding Insecticide to Cattle on Growing and Finishing Rations

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L. L. Tucker, and E. F. Smith

A convenient method to control flies in cattle manure is adding an insecticide to the ration. The chemical passes through the digestive tract and effectively controls fly larvae in the manure. It may also influence animal performance. We added an insecticide at 50 p.p.m. to a high roughage growing ration and to an all-concentrate finishing ration and measured performance by growth, feed intake, and feed efficiency in steers and heifers.

For the high roughage ration 10 steers were divided into two equal weight groups and fed a basal ration of corn silage, rolled milo, and soybean meal (see table 33 for ration composition). The steers were individually fed twice daily with free access to block salt and water for 56 days. Five were controls; five received the insecticide* hand mixed at the bunk.

Twenty-four heifers were fed an all-concentrate finishing ration. They were divided into four groups by weight and fed a mixture of 96% whole corn and 4% protein supplement (see table 36 for ration composition). Two groups were controls; two groups received a supplement containing the same insecticide. Each ton of pelleted supplement contained 2270 gm of a 50% premix of the insecticide (50 p.p.m.). All animals had free access to water. One control and one treated group had access to block salt; the others got only sodium that occurs naturally in feedstuffs. Animal performance was determined by gain, feed intake, and feed efficiency.

High-roughage data are in table 40. Rabon^(R) had no statistical influence on animal performance, but it tended to lower gains. The nonsignificant trend of greater feed efficiency for the control group may have resulted from differences in weight between the two groups because feed intake as a percentage of body weight was near the expected for individually penned animals (table 40).

The lower average daily gain of animals fed the insecticide in whole corn diets was not significant

*Rabon (R) kindly supplied by Shell Chemical Co., San Ramone, Calif.

statistically. No statistically significant differences ($P < .05$) were observed in feed intake or feed efficiency between insecticide-fed and control cattle. Salt blocks had no influence on gain, feed intake, or feed efficiency. Salt voluntarily consumed was less than is usually added to animal rations (table 41).

Adding 50 p.p.m. Rabon^(R) to growing and finishing rations resulted in slightly lower average daily gains but had no influence on feed consumption. Our results indicate that adding such an insecticide to the ration is a possible method to control flies.

Table 40. Growth, feed intake, and feed efficiency of steers individually fed a high roughage ration with or without 50 p.p.m. insecticide.

Item	No insecticide	Insecticide
No. of animals	5	5
Days on feed	56	56
Initial wt., lbs.	561	688
Final wt., lbs	696	800
Observed gain, lbs./day	2.41	2.00
Expected gain, lbs./day	2.00	1.89
Observed/expected gain ratio	1.20	1.06
Daily feed intake (as fed), lbs.	28.70	31.33
Daily feed intake (dry), % of body wt.	2.16	1.99
Silage (dry), lbs./day	9.77	10.80
Milo (dry), lbs./day	2.56	2.60
Protein supplement (dry), lbs./day	1.28	1.30
Feed/gain ration (dry matter basis)	5.64	7.35

Table 41. Growth, feed intake, and feed efficiency of heifers fed a concentrate ration with or without 50 p.p.m. insecticide.

Item	No insecticide		Insecticide	
	No salt	Salt	No salt	Salt
No. of animals	6	6	6	6
Initial wt., lbs.	714	715	714	715
Final wt., lbs.	968	965	955	950
Gain, lbs./day	2.99	2.95	2.86	2.76
Daily feed intake, lbs.	17.98	17.59	17.50	17.73
Feed/gain ration	5.41	5.35	6.12	6.42
Daily salt intake, gm	--	12.24	--	8.46
Salt intake, % of ration	--	0.15	--	.10