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DETERMINATION OF AN OPTIMAL SINGLE DOSE OF FAMPHUR ADMINISTERED IN COMBINATION WITH LEVAMISOLE IN A PASTE FORMULATION FOR GRUB CONTROL IN BEEF CALVES

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Summary

Eighty-nine bull and heifer crossbred beef calves were utilized in five treatments to determine the effect of famphur administered as a paste for grub control. The five treatments were (1) experimental paste-0% famphur or control (A), (2) experimental paste-14.4% famphur (B), (3) experimental paste-21.6% famphur (C), (4) experimental paste-28.8% famphur (D) and (5) Warbex famphur pour-on plus tramisol levamisole gel (E). In all treatments in which famphur was administered (B, C, D and E) effective control of grubs was accomplished. Weight gains were 355, 360, 384, 355 and 356 lb for bulls in groups A, B, C, D and E, respectively, and 214, 212, 217, 226 and 201 lb for heifers in groups A, B, C, D and E, respectively.

(Key Words: Cattle, Grubs, Paste Formulation, Anthelmintic.)

Introduction

Warbex famphur has been used for several years as a single application pour-on for the control of grubs on cattle at a dose level of 40 mg famphur/kg body weight. Data have also shown famphur is effective by oral administration as a drench and when given in feed or a mineral supplement. Single oral dose data are very limited, but a dose of approximately 25 mg/kg body weight appears to have reasonable efficacy. Feeds or supplements providing 10 mg/kg body weight for 5 days or 5 mg/kg body weight for 10 to 90 days provided excellent grub and lice control. Tramisol levamisole is used for helminth control in cattle with a single oral dose rate of 8 mg levamisole/kg body weight. This product is available in various oral formulations including a gel. The purpose of this study was to determine the optimal dose level of famphur for the control of grubs in cattle when administered as a single oral dose in combination with levamisol in a paste formulation.

Materials and Methods

Forty-six bull and 43 heifer crossbred calves from western South Dakota were randomly assigned to five famphur treatments to determine the effect of famphur administered orally for grub control. The five treatments were (1) experimental paste-0% famphur or control (A), (2) experimental paste-14.4% famphur (B), (3) experimental paste-21.6% famphur (C), (4) experimental paste-28.8% famphur (D) and (5) Warbex famphur pour-on plus tramisol levamisole gel (E). In each treatment A, B, C and D, the experimental paste contained 8 mg levamisole (HCL equiv.)/kg body weight when given to provide the stated famphur doses. Titrated dose levels of famphur were 0, 20, 30 and 40 mg/kg body weight for groups A, B, C and D, respectively. The experiment was initiated November 11 and continued

until March 27. All animals were weighed at the beginning of the trial, at 28-day intervals and at trial termination. Average weights for the bull and heifer calves were 544 and 482 lb, respectively, at trial initiation. All animals were closely observed for evidence of adverse effects following product administration. During the grub emergence season all animals were examined three times at approximately 3-week intervals. Grub counts were performed by palpating the backs of the cattle while they were restrained. The number of grubs for each animal at each count was recorded. All calves were maintained initially on 80% alfalfa hay and 20% whole shelled corn and then gradually changed to 80% corn and 20% alfalfa hay plus mineral supplementation.

Results and Discussion

Grub control and weight gains of calves are presented in table 1. Each of the three experimental levels of famphur (14.4, 21.6 and 28.8%) effectively controlled grubs in this study. When famphur was administered in the conventional method (Warbex pour-on), similar control to the three oral famphur administrations was present. In the control group (0% famphur and 8 mg levamisole/kg body weight) considerably more ($P<.05$) grubs were present. Actual counts for oral famphur administration ranged from 0 to .4 grubs per animal at the three counting periods compared to 2.7 to 4.6 grubs per animal for the control group. Weight gains for the five groups are also presented in table 1. There was no difference ($P>.05$) in weight gain between the groups.

These data demonstrate the effectiveness of famphur when administered orally at the three levels utilized in this study for grub control in cattle.

TABLE 1. GRUB NUMBERS AT THREE INSPECTIONS AND WEIGHT GAIN OF BEEF CATTLE TREATED WITH VARYING LEVELS OF FAMPHUR

		No.		Grubs per animal 3-12		3-30		4-27		Gain (1b)	
		B[a]	H[b]	B	H	B	H	B	H	B	H
Control	(A)	9	8	2.7	3.0	4.2	4.6	3.7	4.0	355	214
14.4% famphur	(B)	9	9	.0	.1	.0	.0	.0	.0	360	212
21.6% famphur	(C)	9	9	.3	.0	.2	.0	.2	.0	384	217
28.8% famphur	(D)	10	8	.0	.0	.1	.0	.4	.0	355	226
Warbex/tramisol	(E)	9	9	.0	.0	.0	.1	.0	.1	356	201

[a] Bull.
[b] Heifer.