5-9-90

IRB BRANCH REVIEW - TSS

Record Number(s)
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IN: 3/13/90 OUT 5/9/90

EFFICACY

FILE OR REG. NO. 46779-1

PETITION OR EXP. PERMIT NO. _____

DATE DIV. RECEIVED 3/12/90

DATE OF SUBMISSION 3/2/90

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TYPE PRODUCTS(S): I, D, H, F, N, R, S

DATA ACCESSION NO(S). none

PRODUCT MGR. NO. 16

PRODUCT NAME(S) SODIUM FLUOROACETATE (COMPOUND 1080) LIVESTOCK PROTECTION COLLAR

COMPANY NAME Rancher's Supply, Inc.

SUBMISSION PURPOSE Provide 1989 annual monitoring report

CHEMICAL & FORMULATION 1.04% Sodium Fluoroacetate in Livestock Protection Collar

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Efficacy Review: SODIUM FLUOROACETATE (COMPOUND 1080) LIVESTOCK PROTECTION COLLAR, 46779-1
Rancher's Supply, Inc.
Alpine, TX 79831

200.0 INTRODUCTION

200.1 Use

A 1.04% Sodium Fluoroacetate (Compound 1080) solution enclosed in a two-pouched rubber vessel attached to Velcro bands which hold the patches in place in the throat regions of sheep or goats subject to predatory attacks by coyotes.

200.2 Background Information

See efficacy reviews of 11/21/86, 7/7/87, 7/11/88, 9/9/88, 11/15/88, 3/5/89, 4/29/89, 6/13/89, and 12/19/89, along with other information in the two-volume product jacket. The product was conditionally registered on 12/1/87. Rancher's Supply is the source for all Livestock Protection Collars legally produced in this country.

The current submission consists of Texas Department of Agriculture's (TDA's) "1989 ANNUAL REPORT" on the use of Livestock Protection Collars in Texas. TDA runs the certification and training program for Livestock Protection Collars in Texas and is responsible for monitoring collar use.

201.0 DATA SUMMARY

The report consists of four pages of text plus eight pages of tables. Highlights of the report are listed below:

Persons licensed to use collars in Texas: 127
Applicators with collars in 1989: 51
Counties where applicators had collars: 32
Applicators using collars in 1989: 30 (59% of those with collars)
Collars purchased by individuals: 221
Collars purchased by "collar pool"*: 220
Collar-use days: 26,986
Applicators "suspected" of taking coyotes with collars: 12
Collars "actually used": 463
Coyotes believed to have been taken by collars: 23
Coyotes believed to have been taken by collars that were "actually found": 1
Collars reported missing: 25
Collars reported torn by vegetation: 28
Collars "ruptured from unknown causes": 7
% Collars used that were punctured by coyotes: 5.0% (23 of 463)
% Collars used that were missing or damaged by any agent: 17.9% (83 of 463)
Collared livestock killed by predators but collar not punctured: 26
% Predator-killed livestock with punctured collars: 46.9% (23 of 49)
Deaths of collared livestock from "unknown causes": 2

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* Collar pool is said to have been "managed by an agent of Rancher's Supply."

TDA reported having conducted 27 site inspections of applicators in 1989. These inspections seem to have detected instances in which one certified applicator lent collars to an undisclosed number of noncertified applicators. TDA states that "licensing privileges" for this applicator were suspended for two years.

More than one collared animal was lost without its collar having been punctured for every kill in which the collar was punctured. The average number of collar-use days per coyote-attributed collar puncture was 1173, although there was so much variation reported that the average is not a very useful datum. These data suggest that collar use in Texas in 1989 was not a very successful endeavor.

However, TDA reports that collars took problem coyotes in certain situations and that coyote-attributed punctures occurred within from one to 104 collar-use days. TDA reports that the placing of 2-10 collared lambs or kids with much larger numbers of adult animals was a successful targeting strategy. This technique was developed in Texas about a decade ago on properties managed by Charles Howard in Bosque County. For what its worth, two of the 23 coyote-attributed collar punctures in 1989 occurred in Bosque County (where some 88 collars were kept in 1989). Experimental work on Howard's facilities involved mohair goats. Prior to TDA's report, there had been no suggestions that the strategy of placing a few collared lambs with a large group of adult sheep would successfully direct coyote predation to collared animals.

TDA suggests that the "collar pool" idea is gaining momentum in Texas. This approach would appear to allow temporary use of collars by licensed applicators who are experiencing losses without requiring them to buy collars or to store them for long periods of time when circumstances do not warrant collar use. The "collar pool" idea reminds me of the "collar rental and deposit" system which I proposed many years ago as a means for saving ranchers money and encouraging proper handling and disposal of collars while, at the same time, discouraging removal of 1080 from collars for use in other ways.

Comparing the 1989 annual report to that for 1988 (see product jacket and efficacy review of 3/5/89) is interesting. A few more annual reports might be needed to show definite trends. Numbers of collars bought were down from 827 to 221 (or 441 if the "pool" collars are included). The number of ranchers using collars dropped only slightly (from 34 to 31), as did the number of persons licensed to use collars (from 128 to 127). Numbers of collars used declined from 524 to 463. Coyote-attributed collar punctures dropped from 30 to 23, but the percent of all collars used that appeared to have been punctured by coyotes was similar for the two years (5.7% in 1988, 5.0% in 1989). The percent of collars missing or damaged by any agent in 1988 was 17.0%, a figure very near to that reported for 1989 (17.9%). Proportions of damaged or missing collars that appeared to have been punctured by coyotes were 33.7% in 1988 and 27.7% in 1989. Despite a decline in the number of collars used, there were more collar-use days in Texas in 1989 than in 1988.

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These data suggest that the collar is useful in some operations and that it is "seeking its own level" in terms of prevalence as a predator management tool. The use and purchase of larger numbers of collars in 1988 than in 1989 might have resulted from eagerness among ranchers to investigate the new technique. Over time, it is likely that collar use will be limited to operations where the nature of predator problems, management methods, pasture arrangements, and management attitudes favor successful targeting.

202.0 CONCLUSIONS

With interest, we read your 1989 annual report of Livestock Protection Collar use in Texas. The concept of "collar pools" is intriguing as it might permit licensed applicators to obtain the collars they need at lower total costs and might encourage "legal" recirculation of undamaged collars that a particular operator no longer needs. In your next annual report, please include a description of how these "pools" operate and compare the fates of "pool" collars with those that are purchased by applicators.

That your inspections detected a potentially serious violation underscores the need for an inspection and monitoring program. The Livestock Protection Collar approach is a management tool that can be extremely useful on the relatively small number of operations where the nature of predator problems, management methods, pasture arrangements, and management attitudes favor successful targeting. A good inspection program may be a "must" to ensure that this technique is not abused and that it remains available to those who intend to use collars appropriately and benefit from their use.

William W. Jacobs
Principal Specialist: Rodenticides
Insecticide-Rodenticide Branch
May 8, 1990

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