

US EPA ARCHIVE DOCUMENT

SHAUGHNESSEY NO. _____

EEB BRANCH REVIEW

DATE: IN 3-7-84 OUT 4-11-84

FILE OR REG. NO. 49849-EUP-1

PETITION OR EXP. PERMIT NO. _____

DATE OF SUBMISSION 1-31-84

DATE RECEIVED BY HED 2-3-84

RD REQUESTED COMPLETION DATE 4-23-84

EEB ESTIMATED COMPLETION DATE 4-16-84

RD ACTION CODE/TYPE OF REVIEW 744/EUP

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

DATA ACCESSION NO(S). _____

PRODUCT MANAGER NO. W. Miller (16)

PRODUCT NAME(S) Compound 1080

COMPANY NAME USDA

SUBMISSION PURPOSE Proposed change in EUP to Test Against

Prairie Dogs

SHAUGHNESSEY NO. CHEMICAL, & FORMULATION 8 A.I.

Environmental Safety Review
Fish and Wildlife

100.0 Submission Purpose; The U.S. Department of Agriculture is requesting an extension of their Experimental Use Permit (49849-EUP-1) to test compound 1080 against prairie dogs. They indicate, that no experimental applications were made under this permit because the date when it was issued was beyond the optimal application period. They also indicate the proposed experimental program has been substantively modified, with the U.S. Fish and Wildlife Service, Denver Wildlife Research Center, their principal cooperator.

100.4 Proposed EUP Program

100.4.1 Objectives

Grain bait treated ^{at} a rate of 2 oz of 1080 per 100 pounds of grain has been used for control of prairie dogs in the past. However recent research has indicated that lower levels may be as efficacious. Therefore, the proposed research is designed to evaluate the efficacy of 1080 baits at two lower concentrations, .0352 and .022 percent in comparison to the generally used concentration of .11 percent.

100.4.2 Duration/Date/Amount Shipped

Between 140 to 300 lbs. of treated grain (4.17 to 8.93 oz a.i.) applied on 450 to 900 acres is estimated to be needed to complete the proposed research. The permit is requested for the period July 15 through October 31, 1984.

100.4.3 Application Procedures

Bait will be applied at a rate of 4.0 grams on the edge of all mounds and/or adjacent areas showing signs of recent foraging activity. The 4.0 grams of bait will be scatter to cover an area approximately 0.1 m². Baiting will begin at daybreak and will cease at noon.

100.4.4 Target Pest

Black-tailed prairie dogs
(Cynomys ludovicianus)

100.4.5 Geographical Site Features

The study site will either be on public, tribal, or private land, depending upon availability, in South Dakota. Twenty plots in prime prairie dog habitat will be selected, with each plot measuring about 30 acres (12.1 ha) in size. Counties under consideration are: Jackson, Shannon, Todd, Mollette, Corson, or Shannon.

100.4.6 Test Program Description/Features

Four treatment groups provide for the experimental design as follows:

<u>Treatment Group</u>	<u>Total Plots</u>
0.022 percent 1080	5
0.0352 percent 1080	5
0.11 percent 1080	5
0.00 percent 1080	5

Each 1080 formulation will contain a different color of tracerite.

Each of the four treatments will be randomly assigned to 5 of 20 plots ($4 \times 5 = 20$). The 20 plots will be grouped into five replicates such that each replicate will contain one plot from each of the four treatments. Application of treatment and measurements will be done on one replicate per day (control and treatments 0.022, 0.0352, 0.110 percent). Buffer zones will be treated around plots in larger (30 acres +) prairie dog colonies.

The primary estimator of efficacy will be based on the fate of 170 prairie dogs equipped with radio transmitters. Currently, radio transmitters, are the most effective methods known to date for evaluating the effects of treatment on experimental animals. Ten prairie dogs on each treatment plot will be trapped and four on each control plot will be trapped. Each trapped prairie dog will be eartagged, weighed, sexed, radio-equipped with 164MHZ transmitter, and released at the point of capture.

The daily position of each radioed prairie dog will be determined and marked with a wooden stake.

For post-treatment evaluation, those animals not moving will be assumed dead, and death will be confirmed by excavating the burrow system and recovering the dead animal for residue analysis. Also, survivors will be recaptured, if possible.

In addition a second method will be used to evaluate efficacy, the closed-hole technique. While, less precise, it will allow comparisons with earlier research studies and operational programs.

Pretreatment a 10 acre sampling area will be established on each experimental plot. All prairie dog entrances will be closed, either by plugging with cow chips or dirt. Each closed hole will be marked with a flag. Forty-eight hours postclosing, the number of reopened burrows will be counted.

Five days after baiting, all burrows that were closed, pretreatment will again be closed. Forty-eight hours postclosing, the number of reopened holes will be counted.

While the accompany letter from USDA indicates that assessing non-target impacts is not an objective of this study, the study proposal states that 5 days post-treatment, mortality among target and nontarget animals will be visually assessed by systematically searching all plots, *and* if time permits, the buffer zones will also be searched.

All radioed prairie dogs recovered dead on control plots will be necropsied and analyzed for 1080 and tracerile residues. Twenty percent of all dead radioed prairie dogs recovered on treated plots will be analyzed. All nontarget animals found dead will be saved and frozen for future residues analysis.

104.0 Hazard Assessment

While there have been significant changes in the study design, in general the hazards discussed in the previous review of this EUP are still applicable. Therefore, the hazard discussion will not be reiterated here.

Acreage proposed for treatment is increased to a maximum of 900 acres from the previous 75 acres. While larger, the increase in exposure is not enough to raise concerns of killing a significant percent of local populations. Therefore, as discussed in the previous review, with the exception of endangered species (see next section) hazards posed to non-targets are greatly mitigated due to the limited acreage involved.

A point which is not entirely clear from the information presented with this application is on the evaluation of impacts to non-targets. The letter to Mr. Miller from R. Max Peterson dated Jan 31, 1984 states, "We do not plan any studies designed to evaluate the impact of 1080, to non-target small mammals or birds in conjunction with the proposed experimental program". Yet the study proposal indicates that mortality among nontarget animals will be visually assessed by systematically searching all plots.

These statements appear tube somewhat complicating; however, ^{we} ~~use~~ will assumed from Mr. Peterson's comment, that this portion of the study is included only as an aside and is not considered to provide more than minor information on potential impacts to non-targets.

104.1 Endangered Species Consideration

The previous review of this EUP raised concern over potential impacts to endangered species from the proposed test. After consultation with the Office of Endangered Species (OES), it was concluded that while the use of 1080 grain baits to control prairie dogs clearly presented hazard to black-footed ferrets, the small area to be treated, the intense ferret surveys to be conducted, and if ferrets or their sign are found, 1080 bait would not be applied, the chance of exposing this species was remote.

Due to the modification of study design, (increased acreage and different areas) further consultation with OES appears necessary. The submission indicates, that a biological opinion under Section 7 of the Endangered Species Act will be filed to address potential impacts to the black-footed ferret from the proposed experimental program. Therefore, EEB will not reinstate consultation, but will request the opinion from OES be forwarded to us before 1080 bait is applied under this EUP.

(Note: During informal consultation with OES (Berry Mulder) it was agreed it would not be necessary for EEB to duplicate the consultation).

107.0 Conclusion

EEB has reviewed the proposed EUP by the US Department of Agriculture to evaluate the use of 1080 grain baits to control prairie dogs in South Dakota. With the exception of endangered species the proposed tests should not significantly impact non-target populations due to the limited acreage involved.

For endangered species the proposed study may present a "may effect" situation to at least one endangered species, the blackfooted ferret. Therefore, as specified by Section 7 of the Endangered Species Act, a formal consultation with the Office of Endangered Species is required. Hence a full evaluation of potential impacts must be deferred until this consultation is complete.

As discussed in Section 104.1 of this review, the applicants state they will request the Biological Opinion from OES. Therefore, the applicants should be informed to forward a copy of the consultation when completed, so we can complete our evaluation of the proposed research.

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