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SHAUGHNESSEY NO.

REVIEW NO.

EEB REVIEW

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PETITION OR EXP. NO. _____

DATE OF SUBMISSION August 27, 1987

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RD ACTION CODE/TYPE OF REVIEW 760

TYPE PRODUCT(S) : I, D, H, F, N, R, S Insecticide/nematicide

DATA ACCESSION NO(S). _____

PRODUCT MANAGER NO. W. Miller (16)

PRODUCT NAME(S) Terbufos 20G AC 301, 467

COMPANY NAME American Cyanimid

SUBMISSION PURPOSE EUP for grain sorghum, corn and sugar beets

SHAUGHNESSEY NO. _____ CHEMICAL, & FORMULATION _____ § A.I. _____

EXPERIMENTAL USE PERMIT

Counter (AC 301,467) 20% ai G

100. SUBMISSION PURPOSE AND LABEL INFORMATION

100.1 Submission Purpose and Pesticide Use.

Test Material- Terbufos
S-(((1,1-diethylethyl)thio)methyl)-
0,0-diethylphosphorodithioate

Study Material- Terbufos 20 G.

EUP Applicant.

American Cyanamid Company
Agricultural Research Division
Box 400
Princeton, NJ 08540

Principal Investigator- Dr. Guy R. Zummo

Purpose.

Field efficacy of a new formulation (granular).

Study Objectives.

The objectives are to evaluate the formulation as an insecticide/nematicide in field corn, sugar beets and grain sorghum in five to ten acre plots in 26 states.

100.2 Formulation Information- Granular.

W/W %
20.0 Terbufos
80.0 Inert ingredients

100.3 Application Methods, Rates and Directions for Use.

Methods.

Various (unspecified) combinations of banded, in-furrow and knifed-in application methods.

considers the change in the formulation to greatly modify the non-target hazards.

If a Terbufos 20G granule is .3 mg (a typical granule weight), then a songbird would get an LD₅₀ by eating 1.75 granules; if the granule weight is .066 mg (as is Terbufos 15G), then an LD₅₀ would be contained in 7.95 granules.

The lowest rate of application would provide 170 LD₅₀s (for a songbird) per square foot of corn planting. The highest would provide 340 LD₅₀s per square foot. Urban and Lyon (in preparation) of the EEB have proposed standards for granular pesticides that consider more than one LD₅₀ per square foot to be a "high risk of significant mortality to birds".

These calculations indicate a significant potential danger to non-target birds. The applicants should know that, if they wish to continue toward registration, they will have to conduct (at least) a Level I field trial.

101.3 Endangered Species.

The U.S. Fish and Wildlife Service has declared that the use of Terbufos 15G in major corn and sorghum growing areas causes jeopardy to certain endangered species (mostly aquatic) in the following counties of the following states:

Alabama

Colbert, Greene, Jackson, Lamar, Lauderdale, Limestone, Madison, Marshall, Morgan, Pickens and Sumter

Arizona

Graham, Maricopa, Mohave, Pima, Pinal and Santa Cruz

Arkansas

Benton, Clay, Clark, Cross, Lawrence, Lee, Poinsette, Polk, Randolph, Sharp and St. Francis

California

Butte, Colusa, Glenn, Imperial, Kern, Merced, Modoc, Riverside, Sacramento, Solano, Sutter, Tehama and Yolo

Florida*

Broward, Dade, Glades and Palm Beach

sites are so that the endangered species hazard can be assessed. EEB, therefore, opposes the use of Terbufos 20G in the above cited counties due to possible adverse effects to endangered species.

102. Conclusions.

Since this is a relatively low-acreage field study, the hazard to non-target species will not have to be evaluated. However, since the change of formulation does affect that hazard, protocols for later field studies will have to include this evaluation. Granular Terbufos (15%) has exceeded levels of concern for certain endangered species in the corn and sorghum clusters (see section 101.1). It must be assumed that the hazards from a 20G formulation would be at least as great.

EEB cannot analyze this EUP application without the plans for endangered species protection. The locations of the experimental sites are essential to that evaluation. They should be submitted in detail. Specify the application rates and methods by plot type and location so that EEB can evaluate the hazards to endangered species. In the absence of this information, the registrant should not be permitted to conduct testing in the counties previously identified as having endangered species that would be jeopardized by the use of Terbufos.

In order to evaluate future EUP applications, EEB will need the following information: 1) the location of the experimental sites by at least county, 2) the application method and 3) the size of the granules.

Prior to future registration considerations in the use of Terbufos 20G on corn and sorghum, EEB must formally consult with the U.S. Fish and Wildlife Service regarding possible impact to endangered species.

103. REVIEW BY:

James J. Goodyear Signature: James J. Goodyear
Biologist, Section 1
Ecological Effects Branch Date: April 11, 1988
Hazard Evaluation Division (TS796C)