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EE BRANCH REVIEW

DATE: IN 3/24/80 OUT 3/31/80

FILE OR REG. NO. 3125-EUP-RTU, -RTG

PETITION OR (EXP. PERMIT NO.)

DATE DIV. RECEIVED

DATE OF SUBMISSION

DATE SUBMISSION ACCEPTED

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

DATA ACCESSION NO(S).

PRODUCT MGR. NO. (21) Jacoby

PRODUCT NAME(S) Nemacur

COMPANY NAME Mobay Chemical Corporation

SUBMISSION PURPOSE Experimental Use Permit (Grapes)

CHEMICAL & FORMULATION Ethyl 3-methyl-4-(methylthio)phenyl(1-methylethyl) phosphoramidate

5 pages

Pesticide Name Nemacur 3 and Nemacur 15% Granular

100 Experimental Use Label Information

100.1 Pesticide Use

The purpose of the proposed experimental program is to evaluate Nemacur 3 and Nemacur 15% Granular for control of nematodes infesting grapes in California only.

100.2 Formulation Information

Nemacur 3 -- emulsifiable compound (liquid) with 35% active ingredient.

Nemacur 15% Granular -- granular compound with 15% active ingredient.

100.3 Application Methods, Directions, Rates

NEMACUR 15% Granular is recommended for evaluation of the control of nematodes infesting grapes when applied as directed below.

RECOMMENDED APPLICATIONS

CROP	PEST	DOSAGE NEMACUR 15% G. BAND	DOSAGE NEMACUR 15% G. Broadcast	REMARKS
Grapes (California only)	Nematodes	120 lbs. per treated acre	120 lbs. per acre	Broadcast: Apply specified dosage per acre broadcast on the soil surface.* Band: Apply specified dosage per treated acre in a band on the soil surface.* Center the treated band on the vine row using a minimum band width equal to 50% of the row spacing.

*Note: For optimum soil incorporation and nematode control this product should be applied when adequate rainfall (1/4 inch or more) can be reasonably expected within 48 hours, or when the soil can be mechanically incorporated 1 to 2 inches deep, or when irrigation water can be applied over the treated soil. Control of nematodes is best obtained when there is adequate rainfall or irrigation after application to move the product into the root zone.

The proposed use rate for testing under the experimental use permit is 18 pounds active ingredient per acre. On this basis, a total of 1,800 pounds active ingredient will be used in the experimental program on grapes as indicated below:

Nemacur 3 (80 acres x 18 lb. = 1,440 lb. AI) = 480 gallons

Nemacur 15% Granular (20 acres X 18 lb. = 360 lb. AI) = 2400 pound

Tests are to be conducted on side-by-side replicated plots. Plot size and actual layout will be in accordance with accepted procedures for evaluation of nematicides.

Experimental use permits are requested for the period from April 1, 1980 to December 31, 1982.

101 Physical and Chemical Properties

See review by L. Touart (December 28, 1979).

102/103 See the reviews by T. F. O'Brien, amended by L. Turner for Nemacur on citrus (November 25, 1977) and non-bearing fruit trees (November 29, 1977). Also, see the review by L. Touart (December 28, 1979).

104 Hazard Assessment

104.1 Discussion

Nemacur is an organophosphate compound used as a nematicide. It degrades to sulfoxide and sulfone metabolites which affords additional protection because these products are picked up systemically by plants. Sulfoxide and sulfone are persistent and bind readily to soil particles.

104.2 Likelihood of Adverse Effects to Non-Target Organisms

Also see review by L. Touart (December 28, 1979).

Nemacur is highly toxic to fish and wildlife and can be expected to have an adverse effect on organisms exposed to it. The limited nature of the experimental use (just 100 acres) should not result in any more reductions in non-target populations than those experienced by the respective local populations of the treated areas.

NEMACUR 3 is recommended for evaluation of the control of nematodes infesting grapes when applied as directed below.

RECOMMENDED APPLICATIONS

CROP	PEST	DOSAGE NEMACUR 3 BAND	DOSAGE NEMACUR 3 Broadcast	REMARKS
Grapes (California only)	Nematodes	6 gal. per treated acre	6 gal. per acre	Broadcast: Apply specified dosage in 20 to 40 gallons of spray solution per acre to the soil surface.* Band: Apply specified dosage in 20 to 40 gallons of spray solution per treated acre to the soil surface.* Center the treated band on the vine row using a minimum band width equal to 50% of the row spacing.

*Note: For optimum soil incorporation and nematode control this product should be applied when adequate rainfall (1/4 inch or more) can be reasonably expected within 48 hours, or when the soil can be mechanically incorporated 1 to 2 inches deep, or when irrigation water can be applied over the treated soil. Control of nematodes is best obtained when there is adequate rainfall or irrigation after application to move the product into the root zone.

100.5 Precautionary Labeling

This product is toxic to fish and wildlife. Keep out of lakes, streams, or ponds. Birds feeding on treated areas may be killed.

100.6 Proposed EUP Program

Tests under these permits will be conducted in California. For Nemacur 3 a total of 80 acres is proposed for treatment. For Nemacur 15% Granular a total of 20 acres is proposed for treatment. These figures represent actual treated acres. Since some testing will be conducted with band applications (covering one-half the soil surface), the total acreage involved under these experimental use permits will be somewhat larger, but the total treated area will not exceed 80 acres for Nemacur 3 and 20 acres for Nemacur 15% Granular.

Grape vineyards are utilized by wildlife. Songbirds make tremendous use of vineyards for nesting sites, nest building materials, brood rearing, feeding and loafing. Other birds and mammals utilize vineyards to varying degrees for feeding, cover and loafing.

Primarily birds and insectivorous mammals feeding in vineyards would be the most adversely affected wildlife by the use of Nemacur on grapes. Field monitoring studies would be useful in more precisely defining the hazard of Nemacur under actual field conditions.

104.3 Endangered Species Considerations

Any endangered species exposed to a Nemacur treated vineyard would be adversely affected. Therefore, the test plots used in this experimental program should be in areas not frequented by endangered or threatened plants and wildlife.

105 Conclusions

The Ecological Effects Branch conditionally concurs with the proposed experimental use of Nemacur on grapes. The registrant must verify with either the California Department of Fish and Game or the Office of Endangered Species of the U.S., Fish and Wildlife Service that the field plots treated, and adjacent areas are void of endangered or threatened species.

105.6 Recommendations

The Ecological Effects Branch recommends that the registrant undertakes field monitoring studies as a part of the experimental use program. The registrant may contact EEB for acceptable field monitoring protocols.

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