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RECORD NO.

100601
SHAUGHNESSEY NO.

REVIEW NO.

EEB REVIEW

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PETITION OR EXP. NO.

DATE OF SUBMISSION 01-03-89

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RD ACTION CODE/TYPE OF REVIEW 510

TYPE PRODUCT(S) Insecticide/Nematicide

DATA ACCESSION NOS.

PRODUCT MANAGER NO. D. Stubbs (41)

PRODUCT NAME(S) Nemacur 3 EC (Fenamiphos)

COMPANY NAME Oregon Dept. of Agriculture

SUBMISSION PURPOSE Proposed Sec. 18 for use on strawberries

SHAUGHNESSEY NO.	CHEMICAL AND FORMULATION	% AI
100601	Fenamiphos	

4 pages

EEB REVIEW

Chemical: Nemacur 3EC (Fenamiphos)

100 Submission Purpose and Label Information

100.1 Submission Purpose and Pesticide Use

The State of Oregon is requesting an emergency exemption (Section 18) for the use of Nemacur 3EC to control Pratylenchus (root lesion) nematodes in established strawberries. No new data were submitted with this request.

100.2 Formulation Information

Active Ingredient:
Fenamiphos 35%
Inert Ingredients 65%

Contains 3 lb ai per gallon.

100.3 Application Methods, Directions, Rates

For emergency use in existing (established) strawberries in western Oregon, 1.3 to 2 gallons of Nemacur 3EC Insecticide/Nematicide will be applied in 20 to 40 gallons of water per acre as a broadcast spray to the soil surface. Nemacur 3EC will be applied with a conventional ground sprayer and incorporated thoroughly into the soil by rainfall or irrigation to insure uniform distribution. Nemacur 3EC will be applied between January 10 and February 12, 1989. The maximum rate will be applied in fields with high populations of nematodes or in fields having a history of serious nematode damage. Only one application will be made with a 110-day preharvest interval.

100.4 Target Organism

Target organism is Pratylenchus (root lesion) nematode.

101 Hazard Assessment

101.1 Discussion

The State of Oregon is requesting an emergency exemption for the use of Nemacur to control root lesion nematodes in established strawberries. Maximum application rate is 6 lb ai per acre, with one application allowed. Pesticide is to be applied to the soil surface. This request is for use on 3000 acres of bearing strawberries in the following western Oregon counties: Clackamas, Columbia, Marion, Multnomah, Washington, and Yamhill.

101.2 Likelihood of Adverse Effects on Nontarget Organisms

Terrestrial Organisms

Data reviewed under the fenamiphos registration standard (R. Felthousen, Feb. 13, 1987), indicate that fenamiphos is highly toxic to birds on acute and dietary bases. Long-term studies showed reproductive impairment in bobwhites at levels as low as 2 ppm. Rat data show that fenamiphos is also highly toxic to mammals.

Application at the maximum rate of 6 lb ai/acre would produce residues in the range of 42 ppm (fruit) to 1440 ppm (short rangegrass) on avian food items. These levels are of acute and chronic concern, as they exceed unacceptable risk criteria for endangered and nonendangered species. Hazard to birds and small mammals may be mitigated to some extent by the application being made to the soil surface. Also, according to the application information, the pesticide will be "incorporated thoroughly into the soil by rainfall or irrigation." Although irrigation is a controllable operation, "thorough" incorporation by rainfall is unpredictable, at best. In view of the above, EEB believes that application under the proposed exemption will result in hazard to birds and small mammals feeding in treated areas.

Aquatic Organisms

Data reviewed under the fenamiphos registration standard indicate that fenamiphos is extremely toxic to freshwater fish, with LC50's in the range of 0.009 to 0.072 ppm. No data are available on toxicity to freshwater aquatic invertebrates. According to the fenamiphos registration standard, the freshwater EEC from use at 6 lb ai/acre (lentic ecosystem, 6 ft. depth), exceeds fish LC50 values. Thus, use of Nemacur as proposed represents significant hazard to freshwater fish.

101.3 Endangered Species Considerations

On the basis of information in EEB's Endangered Species files, EEB does not anticipate hazard to any endangered species from use under the proposed exemption. The only species listed as occurring in the subject counties in Oregon are raptors (bald eagle, peregrine falcon) and the Columbia white-tailed deer. Use of Nemacur on 3000 acres of strawberries should not impact these species.

101.4 Adequacy of Toxicity Data

The existing database is adequate to assess hazards to nontargets under the proposed exemption, with the exception of aquatic invertebrates.

103 Conclusions

EEB has reviewed the proposed emergency exemption for the use of Nemacur 3EC on strawberries in Oregon. EEB concludes that the proposed use will result in hazard to nontarget organisms, including birds feeding in treated fields and freshwater fish in nearby aquatic habitats.

There are no federally listed endangered species in Oregon that will be adversely affected by this use.

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