238934
RECORD NO.

12.8
SHAUGHNESSEY NO

REVIEW NO.

EEB REVIEW

DATE: IN 1/31/89 OUT FEB 14 1989

FILE OR REG. NO. 89-CA-10

PETITION OR EXP. NO.

DATE OF SUBMISSION 1/10/89

DATE RECEIVED BY HED 1/30/89

RD REQUESTED COMPLETION DATE 2/15/89

EEB ESTIMATED COMPLETION DATE 2/15/89

RD ACTION CODE/TYPE OF REVIEW 510

TYPE PRODUCT(S) Miticide

DATA ACCESSION NO(S)

PRODUCT MANAGER, NO. D. Stubbs (41)

PRODUCT NAME(S) Avid 0.15 EC (Avermectin)

COMPANY NAME California Dept. of Food and Agriculture

SUBMISSION PURPOSE Proposed Sec. 18 for use in strawberries

SHAUGHNESSEY NO.	CHEMICAL	% A.I.

101.2 Likelihood of Adverse Effects to Nontarget Organisms
(A summary of nontarget organism toxicity data and environmental fate information are outlined in previous EEB review by D. Rieder, 2/19/87.)

Terrestrial Organism

At proposed application rate of 0.02 lb. ai/acre, residues on terrestrial food items are expected in the range of 0.14 to 2.5 ppm (maximum expected residues on leafy crops, forage, large insects, and fruits). These levels are well below the lowest avian dietary LC50 of 383 ppm and the avian reproductive NOEL of 12 ppm. Thus, proposed use of avermectin on strawberry is unlikely to cause acute effects in wildlife. The short half-life will preclude chronic exposure, thus adverse chronic effects are not expected.

Aquatic Organisms

Exposure to aquatic nontarget organisms is possible through surface water runoff. The application rate of 0.02 lb. ai/A will produce Estimated Environmental Concentration (EEC) of 0.122 ppb in one acre pond 6-foot deep.

0.02 lb. ai/A x 0.01 x 10* (A) x 61 ppb = 0.122 ppb
(1 % drift) (EEC per lb. in 6' deep pond)

* an area of drainage basin

The EEC does not exceed acute effects levels for fish and aquatic invertebrate (Their LC50's are 3.2 ppb, and 0.22-0.34 ppb, for rainbow trout, and Daphnia respectively). Therefore, the proposed use is not expected to adversely affect aquatic nontarget organisms.

101.3 Endangered Species Considerations

Based on EEB Federal Endangered Species files, there are no federally listed fish and wildlife endangered species expected to utilize strawberry fields in the state of California that will be adversely affected by this use.

103.0 Conclusions

EEB has reviewed this Section 18 emergency exemption requested by the State of California for use of avermectin to control mites on strawberries. Based upon the available data, EEB concludes that the proposed use will not pose significant adverse impacts to nontarget organisms.

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Ecological Effects Branch Review

Pesticide Name

Avermectin

100.0 Submission Purpose and Label Information

The California Department of Food and Agriculture is requesting a Section 18 emergency exemption for the use of Avid 0.15 EC (avermectin) to control two-spotted spider mite on strawberries. The California strawberry industry is experiencing a serious economic emergency situation this season due to inability to control the two-spotted mites because of the resistance problem. Two-spotted mites feed primarily on the strawberry foliage and reduce the plant vigor. The feeding damage reduces both the yield and quality of the developing fruit. The severe mite infestation also will cause the desiccation of foliage and death of plants.

100.2 Formulation Information

Avid 0.15 EC
Contains 0.15 lb. of avermectin ai per gallon.

100.3 Application Methods, Directions, Rates

Apply 16 ounces of product (0.02 lbs. ai) per acre using ground equipment. Apply in a minimum of 50 gallons of water per acre. Apply when mites first appear. The minimum interval between applications is seven days. Maximum of four application will be made per season. A total of 11,000 acres of strawberries will be treated statewide and 0.02 ppm of total Avid residue on strawberry is expected. All applicable directions, restrictions, and precautions on the EPA registration label will be followed.

100.4 Target Organisms

Two-spotted spider mite

100.5 Precautionary Labeling

No precautionary labeling was provided.

101.0 Hazard Assessment

101.1 Discussion

Avermectin will be applied at 0.02 lbs. ai per acre. Maximum of four applications.

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