244177
RECORD NO.

122804
SHAUGHNESSEY NO

REVIEW NO.

EEB REVIEW

MAY 17 1989

DATE: IN 5-03-89 OUT

FILE OR REG. NO. 89-1D-07

PETITION OR EXP. NO.

DATE OF SUBMISSION 4-12-89

DATE RECEIVED BY EFED 4-28-89

RD REQUESTED COMPLETION DATE 5-11-89

EEB ESTIMATED COMPLETION DATE 5-11-89

RD ACTION CODE/TYPE OF REVIEW 510

TYPE PRODUCT(S) MITICIDE

DATA ACCESSION NO(S)

PRODUCT MANAGER, NO. D. Stubbs (41)

PRODUCT NAME(S) Avermectin

COMPANY NAME State of Idaho

SUBMISSION PURPOSE Proposed Sec. 18 for use on pears

SHAUGHNESSEY NO.	CHEMICAL	% A.I.

Ecological Effects Branch Review

Pesticide Name

Avermectin

100.0 Submission Purpose and Label Information

The Idaho Department of Agriculture is requesting a Section 18 emergency exemption for the use of Avid 0.15 EC (avermectin) to control two-spotted spider mite, Yellow spider mite and McDaniel spider mite on pears. The Idaho pear industry is experiencing a serious economic emergency situation this season due to inability to control the mites because of the resistance problem. Severe mite infestation affects the pear tree by causing defoliation. Subsequently, defoliation will cause the damage to the pear fruit by exposing it to the sun and result in fruit burn, misshapen fruit, undersized fruit, and fruit drop. Application will be limited to pear growing areas of southwestern Idaho (ca. 400 acres).

100.2 Formation Information

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

100.3 Application Methods, Directions, Rates

Apply 10-20 ounces of product (0.012-0.024 lbs. ai) per acre using ground equipment. Apply in 100-400 gallons of water per acre. Apply when mite population reach an infestation level of 2 mites per leaf. Maximum of two application will be made per season. A total of 400 acres of pears may be treated and 0.005 ppm of total Avid residue on pear is expected.

100.4 Target Organisms

Two-spotted spider mite (Tetranychus urticae); Yellow spider mite (Eotetranychus borealis); and McDaniel spider mite (T. mcdanieli).

100.5 Precautionary Labeling

No precautionary labeling was provided.

101.0 Hazard Assessment

101.1 Discussion

Avermectin will be applied at 0.012-0.024 lbs. ai per acre. Maximum of two applications.

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 0.024 lb. ai/acre, residues on terrestrial food items are expected in the range of 0.03 to 5.5 ppm. 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 pear is unlikely to caused 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 drift. The application rate of 0.024 lb. ai/A will produce Estimated Environmental Concentration (EEC) of 0.07 ppm in one acre pond 6-feet deep.

0.02 lb. ai/A x 0.05 (5 % drift) x 61 ppb (EEC per lb. in 6 'deep pond) = 0.07 ppb

The EEC does not exceed acute effects levels for fish and aquatic invertebrate (Their LC50's are 3.2 ppb, 0.22-0.34 ppb, and 0.2 ppb for rainbow trout, Daphnia and shrimp, 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 endangered aquatic species in Idaho that will be adversely affected by this use.

103.0 Conclusions

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

Richard M. Lee 5/16/89

Richard M. Lee, Entomologist
Ecological Effects Branch
Hazard Evaluation Division (H-7507C)

H.T. Craven 5/16/89

Harry T. Craven, Head-Section 4
Ecological Effects Branch
Hazard Evaluation Division (H-7507C)

for Jim Akerman, Chief Raymond W. Mathany 5/16/89
Ecological Effects Branch
Hazard Evaluation Division (H-7507C)