SHAUGHNESSEY NO. 122804

REVIEW NO.

EEB BRANCH REVIEW

DATE: IN 6-29-84 OUT JUL 16 1984

FILE OR REG. NO. 84-FL-14

PETITION OR EXP. PERMIT NO.

DATE OF SUBMISSION 6-14-84

DATE RECEIVED BY HED 6-28-87

RD REQUESTED COMPLETION DATE 7-16-84

EEB ESTIMATED COMPLETION DATE 7-16-84

RD ACTION CODE/TYPE OF REVIEW 505/Section 18

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

DATA ACCESSION NO(S).

PRODUCT MANAGER NO. D. Stubbs (41)

PRODUCT NAME(S) Avermectin 0.15EC

COMPANY NAME Florida Dept of Agriculture & Consumer Services

SUBMISSION PURPOSE Proposed Section 18 for use on Ornamental Flowers and Foliage

SHAUGHNESSEY NO.	CHEMICAL, & FORMULATION	% A.I.

Avid 0.15EC

100 Submission Purpose

100.1 Nature and Scope of the Emergency

The serpentine leafminer, Liriomyza trifolii, is a problem pest on several ornamental crops grown in Florida. This pest is apparently resistant to all previously used insecticides.

100.2 Target Organisms

Serpentine leafminer, Liriomyza trifolii

100.3 Formulation

Avid 0.15EC is 2.2% Avermectin B1

100.4 Application Methods, Directions and Rates

Apply up to 17 ounces of Avid per acre at 7 day intervals or as necessary up until harvest. Seventeen ounces of Avid is 0.374 oz a.i. (0.0234 lb a.i.)

100.5 Treatment Areas

2,837 acres of flowers and foliage in Florida

100.6 Precautionary Labeling

This pesticide is toxic to fish and wildlife. Keep out of lakes, ponds, or streams. Do not contaminate water by cleaning of equipment or disposal of wastes. Runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not apply this product when weather conditions favor drift from target areas. This product is highly toxic to bees exposed to direct treatment. Do not apply this product while bees are actively visiting the treatment area.

101. Hazard Assessment

101.1 Discussion

Application by ground vehicle only. Application rate is low, 0.0234 lbs a.i. per acre. Ornamental flowers and foliage are grown throughout Florida on scattered plots. The maximum anticipated use area is 2,837 acres, which is considered to be a minor use.

101.2 Likelihood of Adverse Effects to Non-target Organisms

Exposure would be limited because of the low use rate, limitation to ground application only (phone conversation with Jack Housenger, 7/3/84), and low acreage.

Avermectin is very highly toxic to fish (Bluegill LC50 96 ppb; Rainbow trout LC50 = 3.2 ppb) and aquatic invertebrates (Daphnia magna LC50 = 0.34 ppb). It is moderately toxic to waterfowl (Mallard LD50 = 85 mg/kg; LC50 = 383 ppm) but practically nontoxic to slightly toxic to upland gamebirds (Bobwhite LD50 = > 2000 mg/kg; LC50 = 3102 ppm) The a.i. is highly toxic to very highly toxic to mammals. Avermectin is highly toxic to bees.

Avermectin (parent) tends to breakdown quickly in light (+ < 12 hours in water; < 1 day on soil). It is considerably more persistent in soil (+ 1/2 in sandy loam = 4 weeks; in construction sand = 10 weeks). It does not bioaccumulate in fish (Bluegill; 69 x whole fish 30 x fillet, 110 x viscera).

This use, ground spray on commercial ornamental crops (flowers and shrubs), is considered a well controlled use with little likelihood of inadvertent direct application to nontarget areas such as aquatic habitat. It should not have an unreasonable adverse effect on non-target organisms.

101.3 Endangered Species

Due to the low acreage and low use rate involved, there is limited potential for exposure to endangered species. However, if there are any endangered species near commercial ornamental crops they could be exposed and affected by the use of Avermectin.

101.4 Adequacy of Toxicity Data

The toxicity data were adequate to perform this hazard assessment.

101.5 Adequacy of Labeling

The labeling statement is sufficient for this section 18 emergency exemption.

103 Conclusions

EEB has completed a risk assessment for Florida's emergency exemption request to use Avermectin on commercial ornamental and foliage crops. Based on available data this exemption is not likely to have an unreasonable adverse effect on nontarget organisms. However, Avermectin is acutely toxic to most types of organisms and if it drifted to or otherwise transported to habitat containing endangered species it could

have an adverse effect on them. James Downing, Pesticide Administrator, Bureau of Product Data Evaluation, Florida Department of Agriculture, indicated in a telephone conversation (July 5, 1984) that endangered species were only considered if EPA indicated possible effects in response to the emergency exemption. Therefore, the Florida Department of Agriculture should be notified that Avermectin is acutely toxic to many nontarget organisms and consideration should be given to protecting endangered species. They must avoid treating areas adjacent to endangered species habitat.

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