Br. file

206471
RECORD NO.

122804
SHAUGHNESSEY NO

REVIEW NO.

EEB REVIEW

DATE: IN 10-27-87 OUT 11-24-87

FILE OR REG. NO. 618-96

PETITION OR EXP. NO.

DATE OF SUBMISSION 10-20-87

DATE RECEIVED BY HED 10-27-87

RD REQUESTED COMPLETION DATE 11-24-87

EEB ESTIMATED COMPLETION DATE 11-24-87

RD ACTION CODE/TYPE OF REVIEW 352

TYPE PRODUCT(S) Insecticide/Miticide

DATA ACCESSION NO(S)

PRODUCT MANAGER, NO. G. LaRocca (15)

PRODUCT NAME(S) Abamectin

COMPANY NAME Merck Sharp and Dohme

SUBMISSION PURPOSE Proposed Protocol- soil and plant residue test

SHAUGHNESSEY NO.	CHEMICAL	% A.I.
	Abamectin	

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

NOV 30 1987

MEMORANDUM

SUBJECT: Evaluation of Proposed Residue Study on Abamectin

Daniel Rieder 11-30-87

FROM: Daniel Rieder, Wildlife Biologist
Ecological Effects Branch
Hazard Evaluation Division

THRU: Norman J. Cook, Head, Section 2 Norman J. Cook
Ecological Effects Branch
Hazard Evaluation Division

Henry T. Craven

THRU: Henry T. Craven, Acting Chief
Ecological Effects Branch
Hazard Evaluation Division

TO: George LaRocca, PM 15
Insecticide Rodenticide Branch
Registration Division TS-767C

The Ecological Effects Branch has completed evaluation of a proposed protocol by Merck Sharp and Dohme to measure residues of Abamectin in celery and soil following application. Based on this evaluation, EEB concludes that the study would provide useful supplemental information but does not fulfill any guideline requirements. We defer approval of this protocol to the Exposure Assessment Branch.

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CONCURRENCES								
SYMBOL	TS-769C	TS-769C	TS-769C					
SURNAME	Rieder	Cook	Craven					
DATE	11-30-87	11-30-87	11-30-87					

EPA Form 1320-1 (12-70)

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*U.S. GPO : 1986-159-319

122804
Shaughnessey No.

FIELD STUDY PROTOCOL REVIEW

1. Pesticide Name: Abamectin

2. Study Type: Terrestrial Residue Monitoring

3. Pesticide Use: Insecticide/Miticide

4. Study Purpose:

According to the registrant, they intend to show residue levels on celery and in soil following 10 weekly applications of Abamectin 0.15 EC at 0.02 lb ai/acre. This will also provide information on dissipation rates and potential leaching characteristics of abamectin in coarse textured California soil.

As far as EEB is concerned, this test will provide information on exposure potential to mammals, and environmental behavior of abamectin in soil. This will be of value in verifying estimated residues on terrestrial food items, reassessing the amount abamectin in the upper layer of soil available for runoff, and confirming persistence characteristics of abamectin.

5. Site Description:

The study will be conducted in Porterville, California on a single block 72 feet by 100 feet. This is large enough to accommodate normal spray practices and to have 4 replicate plots. These plots will be large enough to provide 4 celery plants for sampling, 2 on the day of the last treatment and 2 plants 7 days after this last treatment. Untreated control plots will be 36 feet by 100 feet and at least 150 feet upwind from the treated block.

6. Exposure Regime:

Abamectin will be applied at 0.02 lb. ai/acre. It will be applied 10 times at 7-day intervals. Ground spray equipment will be used.

7. Study Methods:

Whole celery plants will be collected on day 0 and day 7 after the 10th treatment for residue analysis.

Soil samples will be collected immediately prior to the first application and then immediately after each of the 10 applications. Sampling will continue on 1, 3, 7, 14, 28, 42, 60, 90, and 120 days after the 10th application. Soil will be collected with a 12-inch corer.

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8. Protocol Evaluation:

The protocol is clearly designed for purposes other than those specifically relating to EEB. However, the results will provide useful supplemental information with which exposure assessments may be verified and modified.

The results of the residue analysis on celery plants will be used to verify those levels estimated in the 9/14/87 review, page 4.

The soil residue analysis results will be used to determine how much pesticide may be available for runoff.

9. Suggested Modifications:

The following modifications would make the results of this study more useful to the Ecological Effects Branch.

a. The soil core samples should be analyzed in 1 inch layers so residues in the top layers can be distinguished from those that have leached beyond the point where they could transport with surface runoff.

b. Celery plants should be collected for residue analysis after each of the 10 treatments, and then 7 and 14 days after the last treatment.

c. Celery foliage should be analyzed separately from the stalks so residue levels on these different plant parts can be distinguished.

10. Conclusions:

Protocol is accepted as a supplemental study for the purposes of an Ecological Effects Branch risk assessment. The EEB defers approval of this protocol to the Exposure Assessment Branch since they review soil dissipation tests.

Daniel Rieder 11-30-87
Daniel Rieder, Wildlife Biologist
Ecological Effects Branch
Hazard Evaluation Division

Henry T. Craven 11/30/87
Henry T. Craven, Acting Chief,
Ecological Effects Branch
Hazard Evaluation Division