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RECORD NO.

113501  
SHAUGHNESSEY NO.

REVIEW NO.

EEB REVIEW

DATE: IN 8-05-87 OUT 16 FEB 1988

FILE OR REG. NO 100-607

PETITION OR EXP. NO. \_\_\_\_\_

DATE OF SUBMISSION 7-27-87

DATE RECEIVED BY HED 8-04-87

RD REQUESTED COMPLETION DATE 10-19-87

EEB ESTIMATED COMPLETION DATE 10-19-87

RD ACTION CODE/TYPE OF REVIEW 336

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

DATA ACCESSION NO(S). \_\_\_\_\_

PRODUCT MANAGER NO. L. Rossi (21)

PRODUCT NAME(S) Metalaxyl

COMPANY NAME Ciba-Geigy

SUBMISSION PURPOSE Submission of bee data for review

SHAUGHNESSEY NO.	CHEMICAL, & FORMULATION	% A.I.
<u>113501</u>	<u>Metalaxyl</u>	
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EEB REVIEW

Metalaxyl

100 Submission Purpose and Label Information

100.1 Submission Purpose and Pesticide Use

The registrant (Ciba-Geigy) submitted data from an acute contact toxicity test with honey bees, in support of registration of metalaxyl for use on strawberries.

101 Hazard Assessment

101.2 Likelihood of Adverse Effects on Nontarget Organisms

Honey Bees

Data from the honey bee acute study indicate that metalaxyl is practically nontoxic to honey bees. Hazard to honey bees is not anticipated from the proposed use.

101.4 Adequacy of Toxicity Data

Data are sufficient to determine that metalaxyl is practically nontoxic to honey bees. Further testing on honey bees is not required for this compound.

103 Conclusions

EEB has reviewed the submitted honey bee acute contact test. The study was determined to be core. The data will be placed in the EEB file for future reference.

*Allen W. Vaughan* 2.11.88  
Allen W. Vaughan, Entomologist  
Ecological Effects Branch  
Hazard Evaluation Division (TS-769)

*Norman J. Cook* 2.11.88  
Norman Cook, Section Head  
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*Henry T. Craven* 2.12.88  
Henry T. Craven, Acting Chief  
Ecological Effects Branch  
Hazard Evaluation Division (TS-769)

DATA EVALUATION RECORD

1. Chemical: Metalaxyl
2. Test Material: Technical, % ai not reported
3. Study/Action Type: Honey bee acute contact LD50
4. Study ID: Metalaxyl: An Acute Contact Toxicity Study With the Honey Bee. Wildlife International Ltd. Project No. 108-282. 1987. Unpublished study submitted by Ciba-Geigy Corp., Greensboro, NC. EPA Reg. No. 100-607. EPA Acc. No. 402767-01.
5. Reviewed By: Allen W. Vaughan      Signature: *Allen W. Vaughan*  
Entomologist      Date: 2.11.88  
EEB/HED
6. Approved By: Norman Cook      Signature: *Norman J. Cook*  
Section Head      Date: 2.11.88  
EEB/HED
7. Conclusions:  

The study is scientifically sound and fulfills the guideline requirement for an acute contact toxicity study on honey bees. With an LD50 > 100 ug/bee, metalaxyl may be characterized as practically nontoxic to honey bees.
8. Recommendations: N/A.
9. Background:  

This study was submitted in support of registration.
10. Discussion of Individual Tests or Studies: N/A
11. Materials and Methods (Protocols):

Apparently healthy worker bees, one to seven days of age, were collected from research colonies. Bees were then transferred directly to the testing laboratory. Test chambers were rolled paper containers. Each container was covered with a plastic petri dish through which a glass vial containing 50% sugar-water was inserted. This food source was available to the test bees throughout the study.

Test bees were maintained in the dark except during dosing and daily observations. Test temperatures ranged from 19 to 24° C.

*BA* (1)

Five treatment levels, 13, 22, 36, 60, and 100 ug/bee were tested along with a solvent control and a negative control. Two replicates were tested at each concentration with 50 bees per replicate. The solvent control bees received a volume of acetone equal to the largest volume used during the test, i.e., 2 microliters/bee.

Recently emerged bees were immobilized with N<sub>2</sub> to facilitate handling. Each bee was individually dosed on the abdomen with the appropriate test solution. Solvent control bees were dosed with 2 ul of acetone.

Observations on mortality and signs of toxicity were made twice on the day of initiation and once on Day 1 and Day 2 after dosing. The LD<sub>50</sub> estimate for metalaxyl was determined by inspection.

12. Reported Results:

Mortality rates in all five treatment groups were similar to those observed in the control and solvent control groups. Mortality did not appear to be treatment related. Mortality at the highest rate tested (100 ug/bee) was 3%.

13. Study Author's Conclusions/Quality Assurance:

The honey bee acute contact LD<sub>50</sub> value for metalaxyl for this study was determined to be greater than 100 ug per bee, the highest concentration tested.

A quality assurance statement was included by Lee F. Doggett.

14. Reviewer's Discussion and Interpretation:

- a. Test Procedures - Test procedures complied with those outlined in the HED Standard Evaluation Procedure for the honey bee acute contact study. There were no problems in this regard.
- b. Statistical Analysis - Analysis of data was by inspection.
- c. Discussion/Results - The LD<sub>50</sub> for the honey bee is greater than 100 ug/bee, the highest concentration tested, for technical metalaxyl. This chemical may be characterized as practically nontoxic to honey bees.

d. Adequacy of the Study

1) Classification - Core

2) Rationale - SEP protocol; no major deviations noted

3) Reparability - N/A.

15. Completion of One-Liner for Study: N/A

16. CBI Appendix: N/A.