

DATA EVALUATION RECORD

1. Chemical: Sethoxydim (Poast)
2. Test Material: Technical, 98.9% ai;  
NP-55 20% EC
3. Study Type: Honey bee acute contact LD50  
  
Species tested: Apis mellifera
4. Study ID: Anon. 1981. Effects of NP-55 on Honey Bees.  
Nippon Soda Company, Ltd. BASF Reg. Doc. No. 81/9013.  
Submitted by BASF Corp., Research Triangle Park, NC.  
EPA Acc. No. 41510607.

5. Reviewed By:

Allen W. Vaughan  
Entomologist  
EEB/EFED

Signature: Allen W. Vaughan

Date: 1-2-91

6. Approved By

Norman J. Cook  
Supervisory Biologist  
EEB/EFED

Signature: Norman J. Cook

Date: 1-1-91

7. Conclusions:

This study is scientifically sound, and shows sethoxydim to be practically nontoxic to honey bees. In acute contact tests, mortality was insignificant at 10 micrograms per bee or at 2000 ppm.

This study fulfills the guideline requirement for an acute contact toxicity test on honey bees.

8. Recommendations: N/A
9. Background: This study was submitted in support of registration for sethoxydim.
10. Discussion of Individual Tests: N/A

11. Materials and Methods:

Worker bees collected from an apiary in Oiso, Japan, were used in the experiments. Honey bees were anesthetized with carbon dioxide before treatment. Five bees were kept in a cylindrical cage after the application and twenty bees were tested in each plot. Toxic symptoms and mortality were observed for 24 hours after treatment.

Test bees were exposed to the chemical via three routes of application: topical drop application using a microapplicator (10 micrograms per bee); spray application (1000 and 2000 ppm); oral exposure in 20% sucrose (500 and 1000 ppm).

The mortality pattern in this study was not conducive to calculating the LD50 value.

12. Reported Results:

The study authors found that sethoxydim was practically nontoxic to honey bees, with an LD50 greater than 10 ug per bee.

13. Study Authors' Conclusions/ OA Measures

48-hr. LD50 greater than 10 ug per bee (practically nontoxic).

14. Reviewer's Discussion and Interpretation of the Study

A. Test Procedures: Procedures were in accordance with protocols recommended in the guidelines, except that the technical material should have been tested at least to 25 ug per bee.

B. Statistical Analysis: Due to the nature of the data, no analysis was conducted.

C. Discussion/Results: Setoxydim tested practically nontoxic to honey bees.

D. Adequacy of Study:

1. Classification: Core

2. Rationale: Guidelines protocol

3. Reparability: N/A

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

16. CBI Appendix: N/A