

DATA EVALUATION RECORD

- 1. CHEMICAL: Strychnine Alkaloid
- 2. TEST MATERIAL: Strychnine Alkaloid
- 3. STUDY TYPE: Lowest Effective Dosage Study
- 4. CITATION AND MRID NO: Record, R.C., 1987. Tests to Determine the Lowest Effective Dosage of Strychnine Alkaloid in Whole Chicken Eggs to Striped Skunks. MRID # 402965-01
- 5. AUTHORS, STUDY DATE, TEST LABORATORY :  
Raymond C. Record, June 1987, Summit Laboratories

6. REVIEWED BY:

Richard W. Felthousen  
Wildlife Biologist  
EEB/EFED

Signature:

Date:

*Richard W. Felthousen*  
8/14/91

7. APPROVED BY:

*for*  
Norm Cook  
Supervisory Biologist  
EEB/EFED

Signature:

Date:

*Allen W. Vaughan*  
8.20.91

8. CONCLUSIONS:

The study has been found to be adequate to support the data requirement. The lowest effective dose of strychnine alkaloid that killed 100 percent of striped skunks under laboratory conditions was 31.0 milligrams per egg. This is 4.4 milligrams less than the currently registered amount of 35.4 milligrams per egg. The study can be used for the conduct of a hazard assessment.

9. RECOMMENDATIONS: N/A

10. BACKGROUND: The USEPA required Registrants of strychnine treated egg baits to provide data determining the lowest effective dosage (100 percent kill) to striped skunks.

11. DISCUSSION OF INDIVIDUAL TESTS:

12. MATERIALS AND METHODS:

- A. Test Animals: Striped Skunk (Mephitis mephitis)
- B. Dosage: 17.7, 26.6, 31 and 35.4 mg/egg.
- C. Test System: Laboratory pen study

*Not entered into database*



D. Test Design and Procedures: Test animals were captive bred striped skunks obtained from R- Zoo Inc., Neshkoro, Wisconsin. The skunks were young adults, approximately nine months old. The mean weight of the males and females at the time of testing was 3,356 and 3,255 grams, respectively. Animals were housed outdoors in individual galvanized wire cages (40 cm wide, 60 cm long by 38 cm high). Photoperiod was 12:12 L/D with temperature from 65 to 75 degrees Fahrenheit. Test animals were fed a ration of commercial fox food pellets and water when they were not on the test.

Range finding tests were performed to determine the concentrations to test. The egg baits were prepared according to the formula used by the Wyoming Department of Agriculture under the terms of their Emergency Exemption. Each of the test groups consisted of 6 animals. The animals were fasted prior to exposure to the treated eggs. Each test animal was offered one egg and no other food for a twenty-four hour period. At the end of the 24-hours (after consuming all the egg) they were again provided food and water ad libitum. Residue analysis was performed on the stomach and contents, intestines and contents liver, and a sample of muscle tissue taken from the upper thigh region.

E. Statistics: N/A

13. REPORTED RESULTS:

The lowest dose of strychnine alkaloid that killed 100 percent (six of six) of striped skunks under laboratory conditions was 31.0 milligrams/egg. This is 4.4 milligrams less than the currently registered amount of 35.4 milligrams per egg.

The highest concentrations of strychnine in the tissue analysis (from 44.9 to 290.8 ppm) were found in the stomach and none was found in the muscle tissue at the detection limit of two parts per million.

14. STUDY AUTHOR'S CONCLUSIONS/QUALITY ASSURANCE MEASURES:

No conclusions or quality assurance measures reported.

15. REVIEWER'S DISCUSSION:

A. Test Procedure: The EEB believes the test procedure was adequate to determine the lowest effective dose to kill 100 percent of the test animals.

B. Statistical analyses: N/A

C. Discussion/Results: The EEB is aware that Summit Laboratories was the subject of an EPA audit to determine if Good Laboratory Practice was adhered to

during the conduct of these tests. The conclusion was, that although GLP was not followed, for certain practices, deviations from GLP should not have significantly altered the results of the study.

D. Adequacy of the Study:

(1) Classification: Core

(2) Rationale: The study provides information relative to the lowest effective dose required to kill 100 percent of the test animals. It is important to remember that this study was conducted under laboratory conditions and may not be reflective of field situations. These data do indicate that previous egg bait formulations were relatively close to the lowest effective dose and that there may be very little to be gained (i.e., risk reduction) by reducing the dosage to 31 milligrams/egg.

(3) Repairability: N/A

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\_\_\_\_\_ Identity of product inert ingredients.

\_\_\_\_\_ Identity of product impurities.

\_\_\_\_\_ Description of the product manufacturing process.

\_\_\_\_\_ Description of quality control procedures.

\_\_\_\_\_ Identity of the source of product ingredients.

\_\_\_\_\_ Sales or other commercial/financial information.

\_\_\_\_\_ A draft product label.

\_\_\_\_\_ The product confidential statement of formula.

\_\_\_\_\_ Information about a pending registration action.

FIFRA registration data.

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