9-27-89

Accession No. 409958-03

DATA EVALUATION RECORD

1. **CHEMICAL:** Ametryn.
Shaughnessey Number: 80801.

2. **TEST MATERIAL:** Ametryn Technical. FL # 862730. 99.0% active ingredient.

3. **STUDY TYPE:** Avian Dietary LC50 Test.
Species Tested: Bobwhite quail (Colinus virginanius).

4. **CITATION:** Grimes, J., and M. Jaber. 1988. Ametryn: A Dietary Toxicity Study with the Bobwhite. Submitted by Ciba-Geigy Corporation, Greensboro, North Carolina. Study performed by Wildlife International Ltd., Easton, Maryland. Laboratory Study No. 108-289. EPA Accession No. 409958-03.

5. **REVIEWED BY:**

Michael L. Whitten, M.S.
Wildlife Toxicologist
KBN Engineering and
Applied Sciences, Inc.

Signature: Michael L. Whitten
Date: 4-21-89

6. **APPROVED BY:**

James R. Newman, Ph.D.
Project Manager/
Principal Scientist
KBN Engineering and
Applied Sciences, Inc.

Signature: James R Newman
Date: 4/21/89

Henry T. Craven, M.S.
Supervisor, EEB/HED
USEPA

Signature: Henry T. Craven
Date: 9/27/89

7. **CONCLUSIONS:** With an LC50 value greater than 5620 ppm, Ametryn is considered practically non-toxic to bobwhite chicks. The no-observed-effect concentration was 1780 ppm based on a reduction in body weight gain at 3160 ppm. The study is scientifically sound and meets the requirements for an avian dietary LC50 test.

8. **RECOMMENDATIONS:** N/A

9. **BACKGROUND:**

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10. DISCUSSION OF INDIVIDUAL TESTS: N/A.

11. MATERIALS AND METHODS:

A. Test Animals: The birds used in the study were 14-day old Bobwhite quail (Colinus virginanius), obtained from Wildlife International Ltd.'s own colony at Easton, MD. All birds were acclimated to the facilities for 14 days prior to initiation of the study. Birds exhibiting abnormal behavior or physical injury during acclimation were not used in the test.

B. Test System: All birds were housed indoors in 90 cm x 72 cm x 23 cm high wire pens. Fluorescent lights provided 16 hours of light per day. The temperature in the brooding compartments was 37°C ± 1°C. Average ambient room temperature was 22°C ± 1°C with an average relative humidity of 41%.

C. Dosage: Acute dietary LC50 test. The diets were prepared by mixing the test substance into the food with corn oil and acetone. Diets were prepared on the day of study initiation. Based on "known toxicity data" nominal dietary concentrations selected for the study were 562, 1000, 1780, 3160, and 5620 parts per million (ppm).

D. Design: Groups of ten birds were randomly assigned to each of the five treatment groups and five control groups. The birds were too immature to differentiate by sex. The birds were fed a game bird ration formulated to Wildlife International Ltd.'s specifications. Food and water were supplied ad libitum. Each group was fed the appropriate test or control diet for five days. During the exposure period the control groups received an amount of carrier in their diet equivalent to the greatest amount used in the treatment diets. Following the five day exposure period all groups were given untreated food for three days. All birds were observed at least twice each day during the test for mortalities and abnormal behavior. Birds were weighed by group at test initiation, on day 5, and at termination of the test on day 8. Group food consumption was determined at the end of the five-day exposure period and at the end of the three-day recovery period.

E. Statistics: The LD50 was not calculated, since no birds died during the study. No statistical analyses of body weight or food consumption were reported.

12. REPORTED RESULTS: There were no mortalities in any group during the study.

There were no signs of toxicity at any concentration tested. All birds in all treatment and control groups were normal in appearance and behavior throughout the study.

When compared to controls, there appeared to be a slight reduction in body weight gain in the 3160 ppm group with a more marked reduction in the 5620 ppm group during days 0-5. There was no effect on food consumption at any of the treatment concentrations.

13. STUDY AUTHOR'S CONCLUSIONS/QUALITY ASSURANCE MEASURES: The bobwhite dietary LC50 for Ametryn was determined to be greater than 5620 ppm, the highest concentration tested. The no-observed-effect concentration was 1780 ppm based on a reduction in body weight gain at 3160 ppm.

The study was designed and conducted in conformance with Good Laboratory Practice regulations. The data were inspected and the final report signed by the Quality Assurance Officer of Wildlife International Ltd.

14. REVIEWER'S DISCUSSION AND INTERPRETATION OF STUDY RESULTS:

A. Test Procedure: The test procedures were in accordance with SEP guidelines except for the following deviations:

Body weights were measured by group. Individual body weights should have been measured.

The SEP recommends that gross necropsies be performed on some survivors. This was not done.

B. Statistical Analysis: Since no birds died during the study, the LD50 can not be calculated and is assumed to be greater than 5620 ppm, the highest concentration tested.

C. Discussion/Results: Samples of test diets were not analyzed for confirmation of chemical concentrations. However, the test chemical was mixed into the food with a vehicle. The nominal concentrations are therefore probably close to the actual concentrations.

When compared to controls, there was a slight reduction in body weight gain in the 3160 ppm group with a more marked reduction in the 5620 ppm group during days 0-5

(Tables 3 & 4, attached). Food consumption between groups during the same period was not affected. It is noted that Table 3 contains entries for only four of five control groups.

The acute oral LD50 of Ametryn was determined to be greater than 5620 ppm, the highest concentration tested. This value classifies Ametryn as practically non-toxic to bobwhite chicks. The no-observed-effect concentration was 1780 ppm based on a reduction in body weight gain at 3160 ppm.

The study is scientifically sound and meets the requirements for an avian dietary LC50 test.

D. Adequacy of the Study:

(1) **Classification:** Core

(2) **Rationale:** N/A

(3) **Repairability:** N/A

15. COMPLETION OF ONE-LINER: Yes; April 20, 1989.

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RIN 4475-95 P.C. 080801

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Pages _____ through _____ are not included.

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____ Description of quality control procedures.

____ Identity of the source of product ingredients.

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Shaughnessey No. 80801 Chemical Name Ametryn Chemical Class ____ Page 1 of 1

Study/Species/Lab/ Accession	Chemical % a.i.	Results	Reviewer/ Date	Validat Statu
14-Day Single Dose Oral LD_{50} Species ____ Lab Acc.		LD50 = mg/kg (95% C.L.) Contr. Mort.(%)= Slope= # Animals/Level= Age(Days)= Sex = 14-Day Dose Level mg/kg/(% Mortality) ( ), ( ), ( ), ( ), ( ) Comments:	____	____
14-Day Single Dose Oral LD_{50} Species ____ Lab Acc.		LD50 = mg/kg. (95% C.L) Contr. Mort.(%)= Slope= # Animals/Level= Age(Days)= Sex = 14-Day Dose Level mg/kg/(% Mortality) ( ), ( ), ( ), ( ), ( ) Comments:	____	____
8-Day Dietary LC_{50} Species Bobwhite Colinus virginianus Lab Wildlife International Ltd Acc. # 409958-03	99.0%	LC50 = * ppm (95% C.L. N/A) Contr. Mort.(%) = 0 Slope = N/A # Animals/Level = 10 Age(Days) = 14 Sex = UNK. 8-Day Dose Level ppm/(%Mortality) 562 (0%), 1000 (0%), 1780 (0%), 3160 (0%), 5620 (0%) Comments: * LC50 GREATER THAN 5620 ppm	M.L. WHITTEN 4-20-89	CORE
8-Day Dietary LC_{50} Species Lab ____ Acc.		LC50 = ppm (95% C.L) Contr. Mort.(%)= Slope= # Animals/Level= Age(Days)= Sex = 8-Day Dose Level ppm/(%Mortality) ( ), ( ), ( ), ( ), ( ) Comments:	____	____
48-Hour L_{50} Species Lab ____ Acc.		LC50 = ___ (95% C.L.) Contr. Mort.(%)= Sol. Contr. Mort.(%)= Slope= # Animals/Level= 48-Hour Dose Level /(%Mortality) Temperature = ( ), ( ), ( ), ( ), ( ) Comments:	____	____
96-Hour LC_{50} Species Lab ____ Acc.		LC50 = pp___ (95% C.L.) Con. Mor.(%)= Sol. Con. Mor.(%)= Slope= # Animals/Level= 96-Hour Dose Level pp /(%Mortality) Temp.= ( ), ( ), ( ), ( ), ( ) Comments:	____	____
96-Hour LC_{50} Species Lab ____ Acc.		LC50 = pp___ (95% C.L.) Con. Mort.(%)= Sol. Con. Mort.(%)= Slope= # Animals/Level= 96-Hour Dose Level pp /(%Mortality) Temp.= ( ), ( ), ( ), ( ), ( ) Comments:	____	____