

US EPA ARCHIVE DOCUMENT

6-24-87

DATA EVALUATION RECORD  
MRID: 104264

- 1. CHEMICAL: H-9419 (Maneb)
- 2. TEST MATERIAL: Assumed to be 100 per cent active by author.
- 3. STUDY/ACTION TYPE: Avian Dietary LC<sub>50</sub>.  
Species Tested: Bobwhite Quail.
- 4. STUDY IDENTIFICATION: Fink, R. (1975). Final Report: Eight-day Dietary LC<sub>50</sub> --- Bobwhite Quail: Project No. 112-105. (Unpublished study received May 9, 1975 under 352-173; prepared by Truslow Farms, Inc., submitted by E. I. du Pont de Nemours & Co., Inc., Wilmington, Del.; CDL:165-044-C). Date - March 14, 1975.

5. REVIEWED BY:  
  
Jeffrey L. Lincer, Ph.D.  
President  
Eco-Analysts, Inc.

Signature:  
Date: 6/24/87

6. APPROVED BY:  
James R. Newman  
Senior Scientist  
KBN, Inc.

Signature: *James R. Newman*  
Date: *7/3/87*

Signature:  
Date: *Henry T. Caven*

- 7. CONCLUSIONS:
  - A. Scientific Soundness: Supplemental. The study is scientifically sound, although it should be noted that the average weights of experimental birds were consistently lower than both the dieldrin controls and the negative controls. One wouldn't expect this from birds that were randomly assigned to various groups.
  - B. Major Findings: With an LC<sub>50</sub> of greater than 10,000 ppm, Maneb is practically non-toxic to Bobwhite quail when administered through the diet.
  - C. Status of data requirement(s). This study fulfills the intent of the Guidelines requirements for an avian dietary LC<sub>50</sub> determination, with the following exception: there was no indication that both a vehicle control and a control group were run concurrently with the LC<sub>50</sub> test. It should be kept in mind, however, that this study was carried out in 1975, before current requirements were promulgated.

- D. Reasons for Rejecting the Study: N/A.
8. RECOMMENDATIONS: N/A.
9. BACKGROUND: N/A.
10. DISCUSSION OF INDIVIDUAL TESTS OR STUDIES: N/A.
11. MATERIALS AND METHODS (PROTOCOLS):
- A. Test Animals: Fourteen day old Bobwhite quail (Colinus virginianus) hatched in the laboratory from eggs collected from the production flock (of Truslow Farms, Inc., Chestertown, Maryland).
- B. Dosage: Dietary exposure. Experimental material was dissolved in corn oil and mixed into game bird starter ration.
- C. Design: Ten birds per pen. Five pens on basal diet only; five pens on Dieldrin control (one pen on each of the following: 10.0, 14.7, 21.5, 31.6 and 46.4 ppm); five pens on experimental diets (one pen on each of the following: 464, 1000, 2150, 4640 and 10,000 ppm).
- D. Statistics: Mortality was analyzed by the method of Litchfield and Wilcoxon (1949. J. Pharmacol. Exptl. Therap., 96(2): 99-133).
12. REPORTED RESULTS: "Negative Controls" - There was no mortality in the negative control groups; and the birds appeared normal throughout the study.
- "Dieldrin Controls" - Hyperexcitability was noted at the 10.0 and 14.7 ppm dosage levels. Depression, loss of the righting reflex, clonic convulsions, wing droop, and salivation preceded death at the 21.5, 31.6, and 46.4 ppm dosage levels.
- "Experimental Material" - H-9419 did not cause symptoms of toxicity or behavioral abnormalities at the dosage levels tested. There was no mortality at any dosage level."
13. STUDY AUTHOR'S CONCLUSIONS/QUALITY ASSURANCE MEASURES: "The acute LC<sub>50</sub> of H-9419 (Maneb) in Bobwhite quail is estimated to be greater than 10,000 ppm."
14. REVIEWER'S DISCUSSION AND INTERPRETATION OF STUDY RESULTS:
- A. Test Procedure(s): Test procedures were not in accordance with recommended guidelines. The following information was not provided.

- (1) Was carrier (corn oil) incorporated into control diet?
- (2) What was the basis for assuming that experimental material was "100 per cent active"?
- (3) What is the solubility of experimental material in corn oil?
- (4) Dates on which study began and ended?
- (5) What were environmental conditions under which birds were maintained (i.e., temperature, humidity, photo period, lighting, dimensions of test pens)?
- (6) Residue levels actually in diet (at beginning and end of exposure)?
- (7) Were all birds from the same hatch?
- (8) Were any antibiotics, vitamins or food additives added to food preceding or during testing?
- (9) What provisions were made to minimize food spillage and prevent air contamination by volatile chemicals?

B. Statistical Analysis: N/A.

C. Discussion/Results: With an  $LC_{50}$  of greater than 10,000 ppm, Maneb is practically non-toxic to Bobwhite quail when administered through the diet.

D. Adequacy of the Study:

- (1) Classification: Supplemental.
- (2) Rationale: Although the report leaves a number of important questions unanswered (see 14C), the study was performed, basically, according to recommended protocols.
- (3) Repairability: N/A.