DATA EVALUATION RECORD

1. **CHEMICAL:** Mon 13900, Shaughnessey Number ~~999999~~ 91596

2. **TEST MATERIAL:** Mon 13900, 96.4% active ingredient, brown particles.

3. **STUDY TYPE:** Acute oral LD_{50} toxicity study with the Bobwhite quail Colinus virginianus.

4. **CITATION:** Culotta, Jack, Kimberly Hoxter, Susan Campbell, and Mark Jaber. 1990. An acute oral toxicity study with the northern bobwhite Wildlife International Ltd. Project No.: 139-263 FIFRA Guideline 71-1. Study performed by Wildlife International Ltd., Easton, Maryland. Submitted by Monsanto Agricultural Company. MRID No. 420197-37.

5. **REVIEWED BY:**

Renee Lamb
Biologist
Ecological Effects Branch (H7507C)
Environmental Fate & Effects Division

Signature: Renee Lamb
Date: 1/15/92

6. **APPROVED BY:**

Ann Stavola
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Ecological Effects Branch (H7507C)
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Date: June 1, 1993

7. **CONCLUSIONS:** This study appears to be scientifically sound and meets the guideline requirements for an avian acute oral LD_{50} test. The acute oral LD_{50} value for the northern bobwhite exposed to Mon 13900 as a single oral dosage was greater than 2000 mg/kg. The no mortality level was 1000 mg/kg. Therefore, Mon 13900 is considered practically non toxic to upland game birds on an acute oral basis.

8. **RECOMMENDATIONS:** N/A
9. **BACKGROUND:** N/A
10. **DISCUSSION OF INDIVIDUAL TESTS:** N/A
11. **MATERIALS AND METHODS:**

A. **TEST ANIMALS:** The birds, Bobwhite quail Colinus virginianus, were 23 weeks old upon test initiation and appeared to be in good health. The birds were purchased from Fritt's Quail Farm in Phillipsburg, New Jersey 08865. The birds were pen-reared, healthy and phenotypically indistinguishable from wild birds. All birds were acclimated to the facilities 5 weeks prior to test initiation. Bobwhite ranged from 171 to 229 grams at test initiation.

B. **TEST SYSTEM:** All birds were housed indoors in pens manufactured by Georgia Quail Farm Manufacturing (Model #0010). Pens had floor spaces measuring approximately 78 x 51 cm. with ceiling heights ranging from 20-25 cm. due to the slope of the floors.

Birds were maintained in ambient room temperature, averaging 18°C ± 2°C with an average relative humidity of 37% ± 10%. Photoperiod was maintained with fluorescent lighting at 8 hours of light per day during acclimation and throughout the test with an intensity of approximately 130 lux.

C. **DOSAGE:** Nominal dosages were 62.5, 125, 250, 500, 1000, and 2000 milligrams of Mon 13900 per kilogram of body weight. The control birds received diluent only. All birds received a constant dosage volume of 6 milliliters per kilogram of body weight.

D. **DESIGN:** Each dosage group and the control was assigned 5 males and 5 females. All birds were fasted for at least 15 hours prior to dosing. At test initiation, a single dose of the test substance in diluent was intubated directly into the crop of the birds using a stainless steel cannula.

All birds were observed at least once daily during acclimation and at least twice daily throughout the test for signs of toxicity or abnormal behavior. Individual adult body weights were measured at test initiation, and by groups on days 3, 7, and 14. Average feed consumption was measured for each pen for days 0-3, 4-7, and 8-14.

E. **STATISTICS:** No statistics were used.

12. **REPORTED RESULTS:**

All birds were normal in appearance and behavior in the control group.

There were no mortalities and all birds appeared normal at the 62.5, 125, 250, and the 500 mg/kg dosage levels. There was no mortality in the 1000 mg/kg group, however, signs of toxicosis intermittent gaping, loss of coordination and lower limb weakness) were exhibited immediately following dosing. By the end of day 0 all birds appeared normal until the morning of day 2 when signs of toxicosis (reduced reaction to external stimuli, ruffled appearance and lethargy) again appeared. From the morning of day 10 until termination, all birds appeared normal.

Signs of toxicosis first appeared on the morning of day 2 at the 2000 mg/kg level. There was 20% mortality at

this level. From the morning of day 10 until termination, all surviving birds appeared normal.

There appeared to be a slight loss in body weight when compared to the control from day 0 to day 3 in males at the 62.5 mg/kg level and a marked loss in body weight in males at the 125, 500, 1000, and 2000 mg/kg levels. There was a slight loss in body weight for females at the 125 mg/kg level and a dose responsive loss in body weight for females at all higher dosages tested. A marked loss in body weight continued at the 2000 mg/kg dosage for both males and females between day 3 and day 7 with a marked increase in body weight between day 7 and day 14.

There was a corresponding reduction in feed consumption from day 0 to day 3 for males at 250 mg/kg, and at all birds at the 500, 1000, and 2000 mg/kg dosages.

13. **STUDY AUTHOR'S CONCLUSIONS/QUALITY ASSURANCE MEASURES:**

The acute oral LD_{50} value for the northern bobwhite exposed to Mon 13900 as a single oral dosage was greater than 2000 mg/kg. The no mortality level was 1000 mg/kg.

The report stated that the study was conducted under good laboratory practice standards and is signed be a quality assurance officer.

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

A. **TEST PROCEDURE:** This test is in accordance with EPA's SEP protocol with the following exception:

- Photoperiod was maintained at 8 hours of light per day, SEP recommends 10 hours of light per day.

B. **STATISTICAL ANALYSIS:** No statistics were used.

C. **DISCUSSION/RESULTS:** This study appears to be scientifically sound and meets the guideline requirements for an avian acute oral LD_{50} test. The acute oral LD_{50} value for the northern bobwhite exposed to Mon 13900 as a single oral dosage was greater than 2000 mg/kg. The no mortality level was 1000 mg/kg.

D. **ADEQUACY OF STUDY:**
(1) **CLASSIFICATION:** Core
(2) **RATIONALE:** N/A
(3) **REPAIRABILITY:** N/A