

US EPA ARCHIVE DOCUMENT

DP Barcode: Dxxxxxxx

2/17/1999

MRID No.: 443206-27

DATA EVALUATION RECORD
§ 71-2(B) -- WATERFOWL DIETARY LC₅₀ TEST

1. CHEMICAL: Glyphosate

PC Code No.:

417300

2. TEST MATERIAL: Glyphosate

Purity: 95.6%

3. CITATION

Authors: Johnson, Alison and Dawe, I. Suzanna

Title: Dietary LC₅₀ To The Mallard Duck

Study Completion Date: June 16, 1998

Laboratory: Huntingdon Life Science Ltd.

Sponsor: Zeneca Ag Products

Laboratory Report ID: ZCA 23

MRID No.: 443206-27

4. REVIEWED BY: Curtis E. Laird, Fishery Biologist, EHB, EFED

Signature: *Curtis E. Laird*

Date: 2-11-99

5. APPROVED BY: Tom A. Bailey, Chief, EHB, EFED

Signature: *Tom A. Bailey*

Date: 2-17-99

6. STUDY PARAMETERS

Scientific Name of Test Organism: *Anas platyrhynchos*

Age of Test Organisms at Test Initiation: 10 days

Definitive Study Duration: Eight days

7. CONCLUSIONS: This study indicates glyphosate is practically nontoxic mallard duck with an LC₅₀ greater than 5,200 ppm. This study does fulfill the guideline requirements in support of registration for an avian dietary study.

Results Synopsis

LC₅₀: >5,200 ppm ai

NOEL: 5,200 ppm ai

95% C.I.: N/A ppm ai
Probit Slope: N/A

8. ADEQUACY OF THE STUDY

A. Classification: Core

B. Rationale: N/A

C. Repairability: N/A

9. GUIDELINE DEVIATIONS

Jan

1. None
10. **SUBMISSION PURPOSE:** This study is submitted in support of registration.
11. **MATERIALS AND METHODS**

A. Test Organisms

Guideline Criteria	Reported Information
Species: A wild waterfowl species, preferably the mallard (<i>Anas platyrhynchos</i>).	Yes
Age at beginning of test: 5-10 days old (preferably 5).	10 days
Supplier	County Game Farm, Hothford, Kent, England
Chicks appeared healthy and did not have excessive mortality before the test?	Yes
Acclimation period: As long as possible.	3 days

B. Test System

Guideline Criteria	Reported Information
Pen size: about 70 x 100 x 24 cm	1.5 M
Brooder temperature: about 35°C (95°F)	not mentioned
Room temperature: 22-27°C (71-81°F)	26 to 29 degree C
Relative humidity: 30-80%	72%
Adequate ventilation?	Yes
Photoperiod Minimum of 14 h of light.	

Guideline Criteria	Reported Information
Diet: A commercial waterfowl feed.	Standard HRC chick diet

C. Test Design

Guideline Criteria	Reported Information
Range finding test?	Not Reported
Definitive Test Nominal concentrations: Four minimum, 5 or 6 strongly recommended, in a geometric scale, unless LC ₅₀ > 5000 ppm.	5 levels
Controls: Control group tested with diet containing the maximum amount of vehicle used in treated diets?	Yes
Number of birds per group: 10 (strongly recommended)	10
Vehicle: Distilled water, corn oil, propylene glycol, 1% carboxymethylcellulose, or gum arabic.	None
Vehicle amount (% of diet by weight): Not more than 2%.	0%
Test durations: 5 days with treated feed and at least 3 days observation with "clean" feed.	Yes
No mortality during last 72 hr of observations?	No

12. REPORTED RESULTS

Guideline Criteria	Reported Information
Quality assurance and GLP compliance statements were included in the report?	Yes
Body weights measured at beginning and end?	Yes
Estimated consumption per pen reported for pretreatment, treatment, and observation periods?	Yes
Control Mortality: Not more than 10%	0%
Raw data included?	Yes
Signs of toxicity (if any) were described?	No

Mortality

Conc. (ppm)		No. of Birds	Cumulative Number of Dead								
Nominal	Mean Measured		Day of Study								
			1	2	3	4	5	6	7	8	
Control	ND	10	0	0	0	0	0	0	0	0	0
325	309	10	0	0	0	0	0	0	0	0	0
650	631	10	0	0	0	0	0	0	0	0	0
1300	1320	10	0	0	0	0	0	0	0	0	0
2600	2520	10	0	0	0	0	0	0	0	0	0
5200	5160	10	0	0	0	0	0	0	0	0	0

Other Significant Results: N/A

Statistical Results: No statistics were performed due to lack of mortality.

Statistical Method: Visual

LC₅₀: >5,200 ppm

95% C.I.: N/A ppm

DP Barcode: Dxxxxxxx

MRID No.: 443206-27

NOEL: 5,200 ppm

Probit Slope: N/A

13. Verification of Statistical Results

Statistical Method: None

LC₅₀: 5,200 ppm

95% C.I.: N/A ppm

NOEL: 5.200 ppm

Probit Slope: N/A

Adjusted for active ingredient:

LC₅₀: No ppm ai

95% C.I.: No ppm ai

NOEL: No ppm ai

14. REVIEWER'S COMMENTS: This study indicates glyphosate is practically nontoxic to mallard duck with an LC50 greater than 5,200 ppm. This study does fulfill the guideline requirements in support of registration for a waterfowl species.