108801

DATA EVALUATION RECORD

1. CHEMICAL: Metolachlor (108801)

2. FORMULATION: Technical

3. CITATION: Truslow Farms Incorporated (1974a). Eight-Day Dietary LC_{50} -- Mallard Ducks, Technical CGA-24705: Project No. 108-111. Received Sept. 26, 1974 under 5G1553. (Unpublished report prepared for CIBA - GEIGY Corp., Greensboro, N.C.; CDL: 112840-0).

4. REASON FOR REVIEW: Generic Standard for Metolachlor

5. REVIEWED BY: John S. Leitzke
   Ecologist
   Ecological Effects Branch
   Criteria and Evaluation Division

6. DATE REVIEWED: December 15, 1977

7. TEST TYPE: Avian Subacute Dietary LC_{50} (Wild Waterfowl)

   A. Test ID: ES. E.1.

   B. Test Species: Mallards (Anas platyrhynchos)

   C. Test Material: Technical (CGA-24705)

   D. Reported Results: Dietary LC_{50} 10,000 ppm. No symptoms were noted in ducklings receiving even the highest dietary level (10,000 ppm), while at 4,640 ppm and 10,000 ppm decreased weight gain and at 10,000 ppm decreased feed consumption were noted; no mortality at all occurred in ducklings receiving metolachlor in their diet.

   E. Summary of Conclusions: The study was adequately done and has shown little dietary toxicity of metolachlor to mallards.

F. Materials and Methods:

1) Test Procedure: Test procedures followed generally accepted guidelines. Fourteen-day old mallard ducklings were randomly assigned to test groups and exposed to levels of metolachlor, dieldrin(as a positive control) or no toxicant (as a negative control) in a standard diet for 5 days with an additional 3 days of observation on the standard toxicant-free diet. Initial and final body weights, estimated feed consumption, symptoms and mortality were noted.

2) Statistical Analysis: No statistical analysis was necessary, although if so the method of Litchfield, J.T., Jr. and Wilcoxon, F. 1949. A simplified method of evaluating dose-effect experiments. J. Pharmacol. Exptl. Therap. 96:99-113 would have been used.

G. Discussion/Results: The dietary LC_{50} for mallard ducklings of metachlor was greater than 10,000 ppm; the LC_{50} value of dieldrin was 100.6 ppm. The latter is less than a standard dietary LC_{50} value reported by:

Hill, E.F., R.G. Heath, J.W. Spann and J.D. Williams. 1975. Lethal dietary toxicities of environmental pollutants to birds. Fish Wildl. Ser., Spec. Sci. Rep. - Wildl. No. 191.

There are some deviations from normally expected figures, however, in body weights and effeciency of feed utilization. Initial body weights averaged 173.4g in the metolachlor group, 187.2g in the dieldrin group and 180.8g in the negative controls. The normally expected weight of 14-day old mallard ducklings is about 150g. The final body weight of the negative controls averaged 376g as opposed to a normally expected 200,. Efficiency of feed utilization in the negative controls was from 50 to 66%, which is rather on the high side. These discrepancies, while not enough to totally invalidate the study, do cast some doubt on the accuracy of the study.

H. Reviewer's Evaluation:

1) Test Procedures: Test procedures followed generally accepted guidelines.

2) Statistical Analysis: No statistical analysis was necessary.

3) Validation:

a) Category: Core

b) Rationale: Test procedures followed generally accepted guidelines.

4) Conclusions: The study has shown little dietary toxicity of metolachlor to mallards.

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FORMULATION:			IA	IB	T	FW	EC	R		
% a.i.	SC #	CHEMICAL NAME	Validator: Labuda					Date: 02 December, 1977		
Tech.		CGA-24705 (Metolachlor)	Test Type: Avian Subacute Dietary LC_{50}							
			Test ID.# ESE2							

CITATION: Fink, R. 1974. 8-day Dietary LC_{50} - Mallard Duck - Tech. CGA-24705 - Final Report. Truslow Farms, Inc.

VALIDATION CATEGORY: Core

RESULTS: Acute LC_{50} of Metolachlor for 14 day old mallards was reported to be greater than 10,000 ppm (95% C.I. not reported). No mortality was reported at any treatment levels (up to 10,000 ppm).

VALIDATION CATEGORY RATIONALE: N.A.

CATEGORY REPARIABILITY/RATIONALE: N.A.