

US EPA ARCHIVE DOCUMENT

DATA EVALUATION RECORD

(1) CHEMICAL: Trichlorfon

(2) TYPE OF FORMULATION: Active ingredient

(3) CITATION: Buruiana, L.M., Lozinschi, A., and Badescu, C.
1972. The persistence in the blood of hens of organo-
phosphoric compounds, applied by different ways. Wiad.
Parazytol. 18:697-702

(4) REVIEWED BY:

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(32A-0101)

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(6) TOPIC: This study has information pertinent to discipline
toxicology, topic metabolism. It relates to the Proposed
Guidelines data requirement 163.85-1.

- (7) CONCLUSION: Although the quantitative data in this manuscript cannot be relied upon, evidence is presented that suggests that trichlorfon and/or its metabolites that inhibit acetylcholinesterase persist in the blood of hens for 2-3 days after oral dosing and for 14-21 days after external application.

CORE CLASSIFICATION: Not applicable

- (8) MATERIALS AND METHODS:

Three groups of crossbred Plymouth hens, 3 months old, were used. Assays of trichlorfon and its active metabolites were accomplished by measuring the inhibition of acetylcholinesterase according to a published procedure (Buruiana and Lozinschi. 1970. Simp. de Organofosforice, Cluj (IDT), 1-4 October; Buruiana, Lozinschi, and Badescu. 1970. Conf. Nat. de Alim., Galati, 21-23 September).

Experiment A: Trichlorfon was fed with the food, as a single dose, to two groups of 10 hens. In the first group, the dose was 50 mg/kg, in the second 100 mg/kg.

Experiment B: Trichlorfon (100g) was mixed with 500 g talcum and used to dust 10 hens.

Experiment C: A 1% solution of trichlorfon in water was used to spray 10 hens, their cages, and the hall in which they were kept.

- (9) REPORTED RESULTS:

Experiment A: Acetylcholinesterase-inhibitory material could be detected in the blood of hens for 48 hours after

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dosing with either 50 or 100 mg/kg. None was present at 72 hours. At 2, 8, and 24 hours, the inhibition was stronger after the higher dose.

Experiments B and C: After dusting or spraying hens with trichlorfon, acetylcholinesterase-inhibitory material was present in the blood for 14 days. None could be detected at 21 days.

No overt toxicity was noted in either experiment.

- (10) DISCUSSION: The following points make the quantitative data in this study suspect: The purity of the trichlorfon used in this study was not reported; the assay used is not specific (metabolites of trichlorfon inhibiting cholinesterase would also be measured); and it is difficult to estimate the dose applied externally to the hens.

Nevertheless, there is an indication that trichlorfon and/or its metabolites that inhibit acetylcholinesterase remain in the blood of hens for 2-3 days after an oral dose and for 14-21 days after external application.

- (11) TECHNICAL REVIEW TIME: 4.0 hours