

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

DATE:

SUBJECT: Turf Uses of Diazinon - New York State Inquiry

FROM: Richard Balcomb, Wildlife Biologist, EEB, HED

RB

TO: George LaRocca, Product Manager, Registration Division

THRU: for Harry Craven, EEB, Section Head No.4

Richard B. Balcomb 6/25/81

THRU: Clayton Bushong, Chief, Ecological Effects Branch

Clayton Bushong 6/25/81

Commissioner Flacke (New York State Department of Environmental Conservation) has written that diazinon's turf uses regularly result in bird kills and that safer alternatives exist. Mr. Ward Stone, a wildlife toxicologist with the state of New York and upon whose work Flacke's letter is largely based, has written to the Agency previously on this subject (12-10-80, submission 100-Q, Record No. 28594; EEB response to G. LaRocca 2/10/81).

EEB finds that existing safety data generally support the New York position.

Based on the following we believe Registration Division should request a thorough pre-RPAR investigation by HED:

- (I) Numerous bird kills (20) have been reported for diazinon turf applications (several times the number for other turf insecticides). Our records are substantially the same as the submitted NYS summary.
- (II) Residue estimates and measured concentrations of diazinon on turf grass indicate that a possible acute RPAR trigger exists for liquid formulations:

<u>Test Bird</u>	<u>Dietary** LC50</u>	<u>RPAR Residue Trigger</u>	<u>Estimated Concentration</u>	<u>Measured Residues</u>
Mallard	191 ppm	191 ppm	440 ppm ⁽¹⁾	38.8 ppm ⁽³⁾
Jap. Quail	47	47	960 ⁽²⁾	236 ⁽³⁾
Bobwhite	245	245		117-176 ⁽⁴⁾
Pheasant	244	244		217-326 ⁽⁵⁾

1. Kenaga, E.E. 1973. Factors to be considered in the evaluation of the toxicity of pesticides to birds in their environment. In Environmental Quality and safety, vol II, Ed. Frederick Coulston, Academic Press, Inc. NY, NY. --- (long grass - unirrigated).
2. Ibid - - - (short grass - unirrigated).
3. Stone, Ward B. (present submission). 4lbs a.i./Acre - irrigated. At bird kill site.

4. Penwalt Corp. 1979. KNOX OUT 2FM insectide - simulated avian field study. Acc. No. 240993. Diazinon EC, 10.7 lbs a.i./A - unirrigated. Values shown were adjusted to a 4-6 lbs a.i./A rate.
 5. Ibid. KNOX OUT (encapsulated diazinon), 10.7 lbs a.i./A - unirrigated. Values shown were adjusted to a 4-6 lbs a.i./A rate.
- ** Hill et al. 1975. U.S. Fish and Wildlife Service, SSR No. 191.

(III) Less toxic alternatives appear to be available (as suggested in N.Y. submission):

Bird LC50 ¹ ppm				
<u>Pesticide</u>	<u>Mallard</u>	<u>Bobwhite</u>	<u>Jap. Quail</u>	<u>\bar{X}</u>
Chlorpyrifos	940		299	620
Trichlorfon	>5000	720	1901	2540
Carbaryl	>5000	>5000	>5000	5000
Methomyl	2883	1100	3124	2369
<u>Diazinon</u>	191	245	47	161

¹
Hill et al, U.S. Fish and Wildlife Service, SSR No. 191

- (IV) The Agency has received a strong inquiry from a responsible organization concerning what, at least by first inspection, is a valid wildlife concern. Diazinon has not been scheduled for a Registration Standard review through FY83. As considerable wildlife data are now available we recommend against deferring this issue.