Shaughnessy Number: 128997

Date out of EFGWB: AUG 29 1991

To: S. Lewis/J. Fairfax
Product Manager 21
Registration Division (H7505C)

From: Akiva Abramovitch, Section Head
Environmental Fate Review Section #3
Environmental Fate and Ground Water Branch
Environmental Fate and Effects Division (H7507C)

Thru: Hank Jacoby, Chief
Environmental Fate and Ground Water Branch
Environmental Fate and Effects Division (H7507C)

Attached, please find the EFGWB review of...

Reg./File #: n.a.

Chemical Name: te(r)buconazole

Type Product: fungicide

Product Name: various

Company Name: Bayer AG

Purpose: evaluation of laboratory audit report

Date Received: 3/27/91

Total Reviewing Time (days): 0.5

EFGWB#(s): 91-0504

Deferrals to:

___Ecological Effects Branch, EFED

___Dietary Exposure Branch, HED

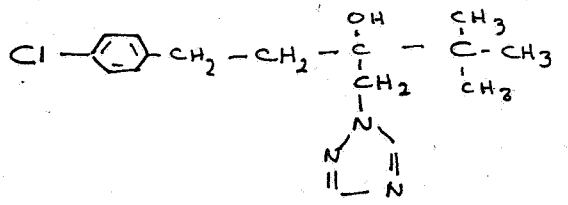
___Toxicology Branch, HED

___Non-Dietary Exposure Branch, HED

___Science Integration and Policy Staff, EFED

1. CHEMICAL:

chemical name: a-[2-(4-Chlorophenyl)ethyl]-a-(1,1-dimethylethyl)-1H-1,2,4-triazole-1-ethanol
common name: te[r]buconazole, folicur
trade name: Elite
structure:



CAS #: unknown
Shaughnessy #: 128997

2. TEST MATERIAL: n.a.

3. STUDY/ACTION TYPE: review of lab audit for soil dissipation study

4. STUDY IDENTIFICATION: n.a.

5. REVIEWED BY:
Typed Name: E. Brinson Conerly-Perks
Title: Chemist, Review Section 3
Organization: EFGWB/EFED/OPP

E.B. Conerly-Perks 6/27/91

6. APPROVED BY:

Typed Name: Akiva Abramovitch
Title: Section Head, Review Section 3
Organization: EFGWB/EFED/OPP

Akiva Abramovitch
AUG 27 1991

7. CONCLUSIONS:

The findings reported by the auditors do not appear to be serious, or indicate a pattern or bias, or affect the interpretation of the data. As a new study will be performed, the status of this study does not greatly affect the status of the chemical in any case.

8. RECOMMENDATIONS:

The study appears not to require re-examination at this time. The laboratory should be encouraged to avoid these deficiencies in future.

9. BACKGROUND:

In addition to the study discussed here, a field study has been received and is currently in secondary review. It appears at this time to be supplemental.

The EN-CAS Analytical Laboratory was subjected to an audit 8/10/89. There were several findings reported:

1) Receipt, distribution, composition, and disposal records were not found. Also it is not known whether the test Folicur is from a production batch or prepared especially for the study.

2) No expiration date was provided by the sponsor for the analytical standard used in the study.

3) Several errors occurred in transcribing data from the chromatograms to the appendixes.

4) Several rounding errors occurred in the calculations of gross residues.

5) - No MS or NMR analysis was done on the analytical standard before or during the study.

Available data indicate persistence but low soil mobility. Some plant uptake occurs.

The status of data requirements is as follows:

hydrolysis -- fulfilled 6/9/89 (MRID# 407009-57), stable at pH 5, 7, and 9 -- no hydrolysis after 28 days incubation

photolysis in water -- fulfilled 6/9/89 (MRID# 407009-58) -- no photodegradation detected; extrapolated $t_{1/2}$ of 600 days

soil photodegradation -- fulfilled 6/9/89 (MRID# 407009-58) -- slow reaction; extrapolated $t_{1/2}$ ca 191 days, producing 2 unidentified degradates (<3% of applied)

aerobic soil metabolism -- fulfilled (MRID# 407009-59) -- additional data on product identification was required 6/9/89, but a reevaluation of available information indicates that the previously submitted study should be accepted -- resistant to metabolism -- extrapolated $t_{1/2}$ 610 days in sandy loam soil. Residues at 1 year were tebuconazole at 67.4%, unextractables at 29.1% [ca. 20% of this (3% of the total applied) was parent compound], an unidentified extractable material at 2.1%, extractable polar compounds at 1.1%, and CO_2 at less than 0.7%.

anaerobic soil metabolism -- fulfilled (see aerobic soil study) -- extrapolated $t_{1/2}$ ca 400 days

leaching/adsorption/desorption -- fulfilled as of 6/9/89 (MRID# 407009-60) -- in column leaching studies on sand, sandy loam, silt loam, and silty clay loam, little leaching occured below 6 cm.

terrestrial field dissipation -- EFGWB has required a *turf field dissipation study* because of this compound's use pattern. A recent study of supplemental quality indicates that folicur persists but is not mobile.

confined accumulation on rotational crops -- fulfilled (MRID 415958-01; EBC 4/17/91) -- uptake occurs at the exaggerated rates tested

accumulation in field rotational crops -- partially fulfilled (MRID# 409959-23); materials were only analyzed for parent -- spinach, turnips, and wheat or sorghum were planted 30 and 120 days post-treatment in soil which had received seven applications of terbuconazole at 3.5 ppm at 10 - 25 day intervals. Except for 0.11 ppm of terbuconazole in straw from wheat planted at approximately 120 days posttreatment, terbuconazole detected in the crops from the treated plots did not significantly exceed the apparent limits of determination of terbuconazole in the various plant matrices. In the 0- to 6-inch soil depth from plots treated for the 30-day plant-back, terbuconazole was 0.17-0.41 ppm immediately following the final application of terbuconazole; 0.07-0.19 ppm at 31-33 days posttreatment, and 0.04-0.12 ppm at harvest (87-308 days posttreatment). From plots treated for the 120-day plant-back, terbuconazole in the soil (0- to 6-inch depth) was 0.21-2.42 ppm

immediately following the final application, 0.19-0.35 ppm at 124-126 days posttreatment, and 0.01-0.10 ppm at harvest (171-245 days posttreatment).

fish bioaccumulation -- study has been submitted and is under review at this time

10. DISCUSSION OF INDIVIDUAL TESTS OR STUDIES: see DER

11. COMPLETION OF ONE-LINER: no information added

12. CBI APPENDIX: n.a.