121301

Date Out EFB: 18 MAY 1983

TO: Tim Gardner/Heyward
Product Manager 17
TS-767

FROM: Dr. Richard Moraski
Acting Chief
Review Section No. 1
Exposure Assessment Branch
Hazard Evaluation Division

Attached please find the environmental fate review of:

Reg./File No.: 100-AGR

Chemical: Cyromazine

Type Product: Insecticide

Product Name: Larvadex

Company Name: CIBA-Geigy

Submission Purpose: Review information submitted in response to previous review.

ZBB Code: other

ACTION CODE: 111

Date in: 4/11/83

EFB # 3315

Date Completed: 5/18/83

TAIS (level II) 63

Days 3

Deferrals To:

_____ Ecological Effects Branch

_____ Residue Chemistry Branch

_____ Toxicology Branch

1.0 INTRODUCTION

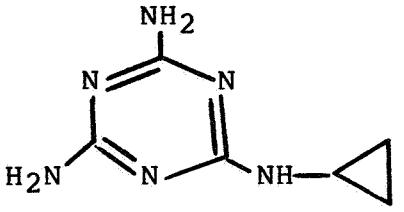
CIBA-Geigy has submitted a response to the EAB review of October 1, 1982. CIBA-Geigy had previously submitted an application for registration of technical Cyromazine (CGA-72662) and formulated Cyromazine (Larvadex) for use as a fly control agent in poultry manure.

1.1 Chemical

Common name: Cyromazine

Chemical name: N-Cyclypropyl-1,3,5-triazine-2,4,6-triamine.

Chemical structure:



2.0 DIRECTIONS FOR USE

Refer to EAB review of October 1, 1982.

3.0 DISCUSSION OF DATA

Additional information requested in the previous EAB review has been submitted. This review will give the original EAB comment followed by the CIBA-Geigy reply then the EAB response.

3.1 EAB comment: A restriction must be added (to the label) prohibiting applying more than 5 tons manure per acre when manure treated with Cyromazine is used as a soil fertilizer supplement. Residues in rotational crops may occur if higher rates are applied.

CIBA reply: CIBA-Geigy agrees to add the following label restrictions "Manure Usage: Manure from animals fed Larvadex may be used as a soil fertilizer supplement. Do not apply more than 5 tons manure per acre." This statement will be conditioned upon satisfactory resolution of the spring wheat rotational crop issue in item 2 below.

EAB response: The label restriction is adequate. This issue is resolved.

The registrant should be informed that any rates greater than 5 tons/acre must be supported by rotational crop data which show no detectable residues are found in rotational crops resulting from the higher rate.

3.2 EAB comment: A restriction must be added prohibiting the use of manure treated with CGA-72662 as a soil fertilizer supplement for small grain crops. To remove the restriction, the registrant must submit a cold field rotational crop study which show no detectable uptake of CGA-72662 and melamine, using spring wheat as the rotational crop.

CIBA reply: In lieu of proposing the restriction prohibitng manure containing Larvadex from usage on small grain crops, CIBA-Geigy agrees to conduct and submit a non-radioactive field rotational crop study, using spring wheat as the rotational crop determining CGA-72662 and melamine uptake. The spring wheat study will be conducted in 2 locations.

EAB response: EAB awaits the submission of the completed field study.

3.3 EAB comment: The registrant should be requested to submit the following additional information for the environmental studies submitted:

3.3.1. The rate of application (tons/acre) of the cyromazine containing manure treatment in the study, "Pasture Grass Residue Studies," References 45 and 46.

CIBA reply: The application rates were: Reference 45-1.46 tons manure/acre; Reference 46-3.13 tons manure/acre.

EAB response: Cyromazine levels declined to non-detectable levels in pasture grass 14 days after addition of chicken manure containing 5 ppm cyromazine. (Application rate was 3.13 T/A in reference 45 study and 1.46 T/A in reference 46 study, equivalent to 0.03 lb ai/A and 0.014 lb ai/A, respectivley.)

3.3.2. The incubation temperatures for the following studies:

(a) "Report-Soil/Manure Metabolism of ^{14}-CGA-72662," Reference 10.

CIBA reply: Temperature = room temperature 67-77° F.

EAB response: Cyromazine is stable under aerobic and anaerobic soil maintained in the laboratory at room termperature.

(b) "Metabolism of Topically Applied ^{14}C-CGA-72662 in Chicken Manure," Referencee 49.

CIBA reply: Temperature = 80-90° F (found in referrence 47).

EAB response: Cyromazine is stable in chicken manure when maintained at environmental like temperature of 80-90° F.

(c) "Metabolism of Topically Applied ^{14}C-CGA-72662 in Beef Manure," Reference 50.

CIBA reply: Temperature 80-90° F (found in reference 3).

EAB response: Cyromazine slowly degrades in beef manure when maintained at environmental like temperature of 80-90° F. No half-life can be calculated.

4.0 CONCLUSION

4.1 With the exception of the label restriciton against using manure treated with Cyromazine as a fertilizer supplement to small grain crops, the submitted information answers the EAB questions raised in the previous review.

4.2 EAB still objects to the registration of cyromazine unitl the non-radioactive field rotational crop study is submitted and favorably reviewed.

4.3 An additional data gap has been identified. No adequate field soil dissipation study has been submitted. The registrant should be informed that a field dissipation study determining field soil dissipation and leaching potential will be necessary as a condition for registration of cyromazine for the proposed use. Since the laboratory leaching studies indicate that cyromazine has a potential to leach in soils, the soil in this field dissipation study should be sampled to a depth sufficient to determine extent of leaching. Subpart N of the Guidelines should be consulted for other aspects for conducting this study.

4.3 Also, the registrant should be informed that for any application rate greater than 5 tons per acre, additional rotational crop data showing no detectable residues in rotated crops may be necessary.

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