R.F.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

JUL 2 1991

MEMORANDUM

SUBJECT: 91-IL-0005. Propiconazole (Tilt) on Corn Grown for Seed.
No MRID No. DEB No. 8081 DP BARCODE: D164935

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The state of Illinois Department of Agriculture requests a Sec. 18 specific exemption for the use of Tilt 3.6 E, EPA Reg. No. 100-

617, on seed corn to control foliar diseases (leaf spot, leaf blight, eyespot and rust). The active ingredient in Tilt is propiconazole(1-[[2-(2,4-dichlorophenyl)-4-propyl-1,3-dioxolan-2-yl]methyl]-1H-1,2,4-triazole.

TOLERANCES

Tolerances are established for the residues of propiconazole and its metabolites determined as 2,4-dichlorobenzoic acid and expressed as propiconazole, in/on numerous RACs including barley grain, rice grain, rye grain and wheat grain at 0.1 ppm, barley straw, rye straw and wheat straw at 1.5 ppm, rice straw at 3.0, meat, fat and meat byproducts (except kidney and liver at 2 ppm) of cattle, goats, hogs and sheep at 0.1 ppm, poultry meat and fat at 0.1 ppm, poultry liver and kidney at 0.2 ppm, milk at 0.05 ppm and eggs at 0.1 ppm (40 CFR 180.434). Tolerances are pending for residues of propiconazole in/on sweet corn (K + CWHR) and corn grain at 0.1 ppm, corn forage and fodder at 10 ppm (PP8F3674). No Registration Standard is on file for propiconazole.

PROPOSED USE

The proposed use calls for the application of Tilt 3.6 E (3.6 lbs. ai/ gal.) to seed corn crops prior to the appearance of corn silk at rates up to 0.1125 lbs. ai/A (equivalent to 51 g ai/A), by aerial or ground equipment, in no more than two applications for a total of 102 g ai/A per season. A pre-harvest interval is not specified. **Restrictions** include: No applications of Tilt are permitted after corn silks are visible.

METABOLISM

The metabolism of propiconazole in plants and animals is adequately understood for the purposes of this Sec. 18 emergency exemption. The residues of concern in plants and animals are propiconazole and its metabolites determined as 2, 4-dichlorobenzoic acid.

RESIDUES

No residue data were submitted with this Sec. 18, for propiconazole use on corn crops grown for seed.

However, residue data are on file for the use of propiconazole on corn crops at up to 400 g ai/A (PP8F3674). Residue data which most closely approximate the proposed use in this Sec. 18 are summarized below:

RAC	Total ai Applied/A	PHI (days)	Residue (ppm)
Corn grain	174g	56-78	ND <0.05
Forage	175g	30-43	0.42-3.42
Fodder	175-200g	56-78	0.16-4.12

Therefore, residues of propiconazole and its metabolites from the use proposed in this Sec. 18 are expected to be less than ND (<0.05 ppm) in corn grain, 4.0 ppm in forage and 5.0 ppm in fodder, with a minimum PHI of ~~100~~ 70 days.

Since finite residues (ND<0.05 ppm) of propiconazole are not expected to occur in/on corn grain as a result of this proposed Sec. 18 use, CBRS concludes that propiconazole residues will not be present (ND<0.05 ppm) in food/feed items from processed corn grain.

Meat, Milk, Poultry and Eggs

Livestock diets may contain up to the following quantities of corn commodities: cattle (80% grain, 25% forage, 25% fodder and 25% silage); poultry (70% grain); and swine (85% grain). Therefore, the dietary burden of propiconazole and its metabolites from the proposed use is not likely to exceed 4 ppm for cattle, 0.05 ppm for poultry and 0.05 ppm for swine.

Data on file for a feeding study in which propiconazole was fed at 15 ppm to cattle resulted in the following residue findings: milk ND (<0.05 ppm), meats ND (<0.05 ppm), fat ND (<0.05 ppm), kidney 0.56-0.63 ppm, and liver 0.05-0.81 ppm. A poultry feeding study conducted with propiconazole at 7.5 ppm resulted in the following residue findings: ND (<0.05 ppm) for eggs, meat, fat and skin, and 0.10 ppm for liver (PP4F3074). Therefore, residues of propiconazole and its metabolites from the proposed use in this Sec. 18 are not likely to exceed the levels reported in these feeding studies, which were conducted with higher amounts of propiconazole than the expected dietary burden from the proposed use in this Sec. 18.

Adequate methodology is available to determine residues of propiconazole and its metabolites in: Method AG-454A, Determination of Total Residues of Propiconazole in Crops as 2,4-Dichlorobenzoic Acid by Capillary Gas Chromatography; and Method AG-517, Determination of Total Residues of Propiconazole in Meat, Milk and Eggs as 2,4-Dichlorobenzoic Acid by Capillary Gas Chromatorgraphy. Both methods were validated (PP4F3074).

CONCLUSIONS

1. The metabolic nature of propiconazole in plants is adequately understood for the purposes of the Sec. 18 specific exemption. The residues of concern are propiconazole per se and its metabolites determined as 2,4-dichlorobenzoic acid.

2. Residues of propiconazole and its metabolites from the proposed use in this Sec. 18 are expected to be : ND(<0.05ppm) in/on corn seed (grain), <4.0 ppm in/on corn forage and ND(<5.0 ppm) in/on corn fodder and ND(<0.05 ppm) in milled corn commodities, crude and refined corn oil, and corn grain dust.

3. Secondary residues of propiconazole in meat, milk, poultry and eggs are not expected to exceed established tolerances, as a result of this proposed Sec. 18 use.

4. Reference standards for propiconazole are available from the EPA Pesticide and Industrial Chemicals Repository in RTP, NC.

5. Data referenced in this review were not generated by Craven Laboratories.

RECOMMENDATION

TOX considerations permitting, CBRS has no objections to this Sec. 18 exemption. An agreement should be made with FDA regarding the legal status of the treated corn in commerce.

CC: R.F., TILT S.F., Circu, AIKENS, Sec. 18, SACB (E. Saito), PIB/FOD (C. Furlow)
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