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

NOV 22 1982

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

MEMORANDUM

SUBJECT: EPA Registration No. 464-448. Chlorpyrifos on corn.

FROM: Edward Zager, Chemist
Residue Chemistry Branch
Hazard Evaluation Division (TS-769)

TO: Jay Ellenberger, Product Manager (12)
Registration Division (TS-767)

THRU: Charles L. Trichilo, Chief
Residue Chemistry Branch
Hazard Evaluation Division (TS-769)

In our review of August 2, 1982 (E. Zager) we recommended against the amended registration of Lorsban 4E Insecticide (4lbs chlorpyrifos/gallon) for control of armyworms and corn earworm on sweet and seed corn.

We list below the deficiencies cited in the above memo followed by the registrant's response and our comments.

Deficiency

Since no pre-harvest interval for sweet corn or corn grain is proposed for this use, the restriction against grazing or feeding treated corn silage, fodder or grain to meat or dairy animals for 21-days after treatment is not practical.

The Registrant's Response

The registrant has now imposed a 21-day PHI for treated corn ears.

Our Comment

We consider this deficiency resolved.

Deficiency 2

Residues of chlorpyrifos and its metabolite TCP from the proposed use on sweet corn may exceed the established tolerance of 0.1 ppm in or on fresh corn (including sweet K + CWHR) and 10 ppm on corn forage and fodder at a 0-day PHI

The Registrant's Response

The registrant increased the PHI to 21-days and added a restriction against the use of postplant broadcast foliar applications of Lorsban 15G in conjunction with the proposed use. The use is limited to Florida and Georgia.

Our Comment

Residue data for sweet corn submitted with the original request (see E. Zager's review of 8/2/82) reflect 7 studies from CA, WS, IL and FL. Following 8-11 aerial or ground applications at the rate of 1 lb act/A residues of chlorpyrifos (calculated from TCP residues) were ND(<0.05 ppm) in or on sweet corn (kernels + cob with husk removed) at a 12 day PHI and ranged from 1.9-9.9 ppm, in or on sweet corn fodder at PHI's of 10-12 days.

Since the contribution to the total residue from the registered pre-or at-plant applications of Lorsban 15G is expected to be negligible, we conclude that residues of chlorpyrifos and its metabolite TCP from the proposed sue on sweet corn will not exceed the established tolerances of 0.1 ppm in or on fresh corn (including sweet K + CWHR) and 10 ppm in or on corn forage and fodder at a 21-day PHI. We consider this deficiency resolved.

Deficiency 3

The restriction of the proposed use to seed corn only is not practical since at least some of the treated corn may be diverted for use as livestock feed.

The Registrant's Response

The registrant has not addressed this deficiency.

Our Comment

This deficiency is not resolved.

2

Deficiency 4

In the absence of data reflecting the maximum dosage that could be applied to field corn were this registration granted, we are unable to determine whether the resulting residues would exceed the established tolerances of 0.1 ppm on field corn grain and 10 ppm on corn forage and fodder.

The Registrant's Response

The registrant increased the PHI to 21-days and added a restriction against the use of post-plant broadcast foliar applications of Lorsban 15G in conjunction with the proposed use. The use is limited to FL and GA.

Our Comment

Residue data for field corn submitted with PP#1F2544 (see K Arne's review of 1/29/82) reflect studies from IL, MI, MS, and NE. Field corn received up to 6 applications of Lorsban 15G and Lorsban 4E at rate of up to 1.5 lb act/A. In most of the trials the first application was made pre-or at-plant.

Residues in field corn ranged up to 0.07 ppm at a 34-day PHI while residues ranged up to 9.3 ppm in green forage at PHI's of 17-20 days and up to 8.6 ppm in field corn fodder at PHI's of 31-34 days.

However, no residue data reflecting the proposed maximum dosage: a pre-or at plant application of Lorsban 15G followed by up to 22 applications of 0.5 lb act/A or 11 applications of 1 lb. act/A are available. Therefore, we do not consider this deficiency resolved.

Conclusions

1. Residues of chlorpyrifos and its metabolite TCP will not exceed the established tolerance of 0.1 ppm in orn on fresh corn (including sweet K+ CWHR) and 10 ppm on corn forage and fodder as a result of the proposed use.

2. The restriction of the proposed use to seed corn only is not practical since at least some of the treated corn may be diverted for use as livestock feed.

3. In the absence of data reflecting the maximum dosage that could be applied to field corn were this registration granted, we are unable to determine whether the resulting

residues would exceed the established tolerances of 0.1 ppm on field corn grain and 10 ppm on corn forage and fodder.

Recommendation

For reasons listed in Conclusions 2 and 3 we recommend against the amended registration of Lorsban 4E.

We would have no objections if the proposed use were limited to sweet corn only.

cc: Chlorpyrifos SF
Amended Use SF
R.F.
Circu
Reviewer

RDI:Section Head:RJH:Date:11/15:RDS:DATE:11/15/82
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