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

OCT 20 1983

OFFICE OF  
PESTICIDES AND TOXIC SUBSTANCES

MEMORANDUM:

SUBJECT: EPA Reg. No. 241-243. Amended registration for  
pendimethalin on tobacco.

FROM: Linda S. Propst, Chemist  
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Hazard Evaluation Division (TS-769)

*Linda S. Propst*

THRU: Charles L. Trichilo, Chief  
Residue Chemistry Branch  
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*[Signature]*

TO: Robert J. Taylor, Product Manager #25  
Herbicide-Fungicide Branch  
Registration Division (TS-767)

American Cyanamid is requesting an amended registration for the herbicide PROWL® to allow post-directed layby applications in tobacco.

PROWL® [pendimethalin or N-(1-ethylpropyl)-3,4-dimethyl-2,6-dinitrobenzeneamine] is currently registered for a preplant soil incorporated use in transplanted tobacco at rates of 0.75 to 1.5 lbs active/acre.

Proposed Use

The proposed label recommends for PROWL® to be applied at rates up to 1.0 lb active/acre usually 4 to 6 weeks after transplanting tobacco in a 16 to 24-inch band in the row middles and between the crop rows.

Methodology

The analytical methods used to generate the residue data were Cyanamid's Procedures M-550 in cured tobacco and M-576 in cigarette smoke condensate. These procedures are essentially the same as the methodology reviewed in PP5F1556 which established the PROWL® tolerances in or on cottonseed. Residues of PROWL® are extracted from tobacco with aqueous, acidic methanol. Cleanup of the residue extract is done by liquid partitioning into hexane, then into acetonitrile, and adsorption chromatography on Florisil. Final quantitation of PROWL® is effected by gas chromatography using an electron capture detector. The validated sensitivities of the methods are 0.10 ppm. Recoveries in green tobacco ranged from 71.1 to 109.2% at fortification levels of 0.10 to 20.00 ppm. Recoveries in cured tobacco ranged from 75.6 to 117.3% at fortification levels of 0.10 to 20.00 ppm. Recoveries in cigarette smoke condensate using Method M-576 ranged from 75.9 to 119.7% at fortification levels of 0.10 to 1.00 ppm.

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Data from two residue studies conducted in North Carolina were submitted with this proposed amended registration. Both reflect residues on transplanted tobacco treated with a preplant soil incorporation (0.5 lb ai/A) followed by a sequential post-directed layby application (0.5 or 0.75 lb ai/A) to the row middle. In the first study samples were taken 148 days after preplant incorporated treatment (95 days after layby treatment). Samples in the second study were collected 137 days after preplant incorporated treatment (91 days after layby treatment). After curing control tobacco samples contained 0.021 and 0.024 ppm of PROWL®. All treated samples showed residues <0.10 ppm, the validated limit of sensitivity of the method.

There were no data submitted for residues of pendimethalin in the smoke from treated tobacco since residues in the cured tobacco were <0.1 ppm.

Although the submitted data do not reflect the maximum dosage of 1.0 lb active/A recommended for the post-directed layby application, we do not anticipate an increase in residue levels and conclude that residues of pendimethalin resulting from the proposed use in or on treated tobacco will be less than the sensitivity of the method, 0.1 ppm. We further conclude that residues of pendimethalin in the smoke from tobacco treated as proposed will be considerably lower than 0.1 ppm.

#### Conclusions and Recommendations

Residues of pendimethalin in or on tobacco treated as proposed will be less than 0.1 ppm. Residues in the cigarette smoke would be even lower.

We have no objections to the proposed use.

TS-769:RCB:L.Propst:cdw:CM#2:Rm810:X77324:10/20/83  
cc: R.F., Circu, Reviewer, Subject S.F., Amended use File  
RDI: R. Hummel, 10/20/83; R. Schmitt, 10/20/83

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