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

JAN 31 1989

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

Memorandum

Subject: 89-OR-03; Prowl Herbicide (Pendimethalin) for use on alfalfa grown for seed; No MRID No.; DEB No. 4820.

From: Francis B. Suhre, Chemist
Special Registration Section II
Dietary Exposure Branch
Health Effects Division (TS-769)

Thru: Edward Zager, Section Head
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To: J. Tompkins, PMT-41
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The Oregon Department of Agriculture has requested a Section 18 emergency exemption for the use of Prowl Herbicide to control Largeseed Dodder (Cascuta indecora), Field Dodder (C. campestris), and Smallseed Dodder (C. planiflora) in alfalfa fields grown for seed.

Prowl herbicide (EPA Reg. No. 241-243) is a registered trademark of American Cyanimid Corp.; the product contains 4lbs./gallon pendimethalin, (N-(1-ethylpropyl)-3,4-dimethyl-2,6-dinitro-benzenamine) as its active ingredient.

Tolerances are established (40 CFR 180.361a) for combined residues of pendimethalin and its metabolite 4-[(1-ethylpropyl)amino]-2-methyl-3,5-dinitrobenzyl alcohol in or on: beans (lima, forage, and hay) at 0.1 ppm; corn (fodder, forage, fresh, and grain) at 0.1 ppm; cottonseed at 0.1 ppm; peanuts (nuts, hay, and forage) at 0.1 ppm; rice grain at 0.05 ppm; soybeans (beans, hay, and forage) at 0.1 ppm; and sunflower seeds at 0.1 ppm.

Tolerances are also established (40 CFR 180.361b) for combined residues of pendimethalin and its metabolites 4-[(1-ethylpropyl)amino]-2-methyl-3,5-dinitrobenzyl alcohol and 3-[(1-ethylpropyl)amino]-6-methyl-2,4-dinitrobenzyl alcohol in or on peanut hulls at 0.025 ppm.

No tolerances are established for animal commodities.

Note to PM: The State of Washington recently Registered (SLN Reg. WA-800026) Prowl to control weeds in alfalfa grown for seed production. This SLN Registration stipulates that the treated alfalfa will not be used for animal feed and that the restriction will be enforced by the State of Washington.

A Registration Standard has been issued for pendimethalin; the Residue Chemistry Chapter is dated 5-10-84, and the Guidance Document is dated 3-85. Extensive data gaps were cited in the Residue Chemistry Chapter, to include: nature of the residue (plants and animals); magnitude of the residues (plants and animals), and storage stability (plants and animals). Since DEB has not reviewed any additional studies (submitted in response to the Pendimethalin DCI) we must assume that these data gaps are still outstanding.

For the purpose of this Section 18 emergency exemption only, we will consider the residues of concern in alfalfa and animal tissue to be pendimethalin and its metabolite 4-[(1-ethylpropyl)amino]-2-methyl-3,5-dinitrobenzyl alcohol.

89-OR-03 calls for a single preemergence application of Prowl Herbicide to dormant (established) alfalfa at 2 to 4 quarts (2 to 4 lbs. a.i.) per acre. The method(s) of application (aerial or ground) and PHI(s) were not stated. No feeding restrictions were stipulated, in fact, the Section 18 specifically states that alfalfa seed-screenings from treated fields will be fed to livestock. The Oregon Department of Agriculture estimates that a maximum of 9,700 acres of alfalfa will be treated with 9,700 gallons (38,800 lbs. a.i.) of Prowl during the 1989 growing season if this Section 18 is approved.

No residue data reflecting the proposed use (described above) of Prowl to alfalfa are available. Furthermore, residue data provided in support of established tolerances do not reflect this proposed use.

Meat, milk, poultry and eggs

Alfalfa is an important animal feed item. Alfalfa forage may account for up to 50% and 80% of the daily diet of beef and dairy cattle, respectively. Alfalfa meal may account for up to 20% of the daily diet of poultry. In addition, the state of Oregon indicates that the major reason for requesting this exemption is to allow the use of seed-screenings (from treated fields) as an animal feed.

Data reflecting potential transfer of pendimethalin residues from feed items to meat, milk, poultry, and eggs are not available to DEB for review (see Pendimethalin Reg. Std.).

Conclusions:

1. For the purpose of this section 18 only, we consider the residues of concern in or on alfalfa and animal tissue to be the parent compound (pendimethalin) and its metabolite (4-[(1-ethylpropyl)amino]-2-methyl-3,5-dinitrobenzyl alcohol).

2. Analytical method(s) adequate for detection of pendimethalin, and its metabolite 4-[(1-ethylpropyl)amino]-2-methyl-3,5-dinitrobenzyl in plants and animal commodities (at 0.05 ppm) are described in PAM Vol. II.

3. In the absence of residue data reflecting (or translatable to) this proposed Section 18 use, we are unable to estimate the combined pendimethalin/metabolite residue levels likely to occur on alfalfa forage and seed-screenings.

4. Livestock-feeding studies are not available to DEB, consequently no estimate of the potential for transfer of residues to meat and milk can be made.

6. Reference standards for pendimethalin are available from the Pesticide and Industrial Chemical Repository in RTP, N.C.

Recommendation

For the reasons stated in conclusions 3 and 4 above, we recommend against 89-OR-03. In order to receive a favorable recommendation, the registrant must provide residue and feeding studies which are germane to estimating residue levels in the treated commodity, and in meat, milk, poultry and eggs of livestock fed seed-screenings from treated alfalfa fields.

cc:R.F.,S.F.,Circu,Reviewer, SACB (Jaeger), Section 18,PMSD/ISB, Non-Food Use
RDI:EZ:1/27/89:RDS:1/27/89
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