PMSD/ISB

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

JUN 29 1988

Memorandum

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

Subject: 88-MN-05; Section 18 crisis exemption for sethoxydim on lupines; Record No. 223686; RCB No. 3941.

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Calvin E. Blanchard, Pesticide Regulatory Advisor, Minnesota Department of Agriculture, has declared a Section 18 crisis exemption for the use of POAST Postemergence Grass Herbicide to control quackgrass, wild proso millet, and volunteer corn in lupine fields.

POAST Postemergence Grass Herbicide, EPA Reg. No. 7969-58, is a registered trademark of BASF Wyandotte Corp. The herbicide contains 18% sethoxydim, 2-[1-(ehtoxyimino)butyl]-5-[2-(ethylthio)propyl]-3-hydroxy-2-cyclohexen-1-one, as its active ingredient.

The metabolic nature of sethoxydim in plants and animals is adequately understood (PP#3F2904). The residues of concern are the parent compound, per se, and its metabolites containing the 2-cyclohexen-1-one moiety.

Tolerances are established (40 CFR 180.412) for combined residues of sethoxydim and its metabolites containing the 2-cyclohexen-1-one moiety (calculated as parent) in and on several raw agricultural commodities. Tolerances range from 0.05 to 40 ppm.

No tolerances are established or pending for lupine. However, 40 CFR 180.412 tolerances for alfalfa forage and hay at 40 ppm; soybean and soybean hay at 10 ppm; meat, fat, and meat by-products of cattle, goats, hogs, horses, poultry, and sheep at 0.02 ppm; and milk at 0.05 (N) are translatable to this Section 18 emergency exemption.

Analytical Method No. 30, described in PAM II, 2-[1(ehtoxyimino)butyl]-5-[2-(ethylthio)propyl]-3-hydroxy-2-cyclohexen-1-one, Method I, should be adequate for enforcement purposes.

88-MN-05 call for ground or aerial application (2 maximum) of 1 - 2.5 pints (ca. 0.4 to 1.0 lbs a.i./A/season) of Poast per acre. Treatment will be made when: quackgrass is 6 to 10 inches high, volunteer corn is 6 to 20 inches high, or wild proso millet is 4 to 10 inches high. Final application will be in mid June, with harvest in September (PHI = ca 90 days). Not more than 9,000 acres in southern Minnesota are to be treated.

Lupine, alfalfa, and soybeans are all classified as forage legumes (Pesticide Tolerance Commodity Index), therefore, we will translate residue data submitted in support of alfalfa and soybeans tolerances to estimate anticipated residues resulting from this Section 18 use.

Residue data submitted in PP#3F2904 (reflecting 2 applications of 0.5 lbs. a.i./A to soybeans and a PHI of ca. 90 days) show total sethoxydim/methamidophos residues in or on soybean hay ranging from <1.17 to 2.88 ppm. Residue data in PP#3F2904 (reflecting a single treatment at 1.0 lbs a.i./A, and a 70 day PHI) show total sethoxydim/methamidaphos residues in or on alfalfa seeds ranging from 0.2 to 0.5 ppm.

Treated lupine fields will not be grazed (telephone conversation, C. Blanchard and F. Suhre, 6-28-88).

Meat, Milk, Poultry, and Eggs

Lupine hay is a cattle feed item, and can account for up to 25 and 80% of the diet of beef and dairy cattle, respectively (<3.0 ppm in feed).

A cattle feeding study, conducted in connection with PP#3F2904, reflects daily ingestion (31 consecutive days) of feed dosed with 50 ppm sethoxydim. No residues were detected (<0.01 ppm) in muscle tissue. Total residues in liver, kidney, and milk ranged from <0.05 to 0.16 ppm, <0.05 to <0.11 ppm, and <0.05 to 0.05 ppm, respectively.

The dietary burden from the proposed use is insignificant compared with feed items containing tolerance level residues

(40 ppm for alfalfa forage and hay), consequently residues of sethoxydim/methamidophos are not expected to exceed the established tolerances for meat, fat, and meat by-products of cattle, goats, hogs, horses, poultry, and sheep at 0.02 ppm; and milk at 0.05 (N).

Conclusions

1. The metabolic nature of sethoxydim in plants and animals is adequately understood. The residues of concern are the parent compound, per se, and its metabolite methamidophos.

2. Analytical Method No. 30, described in PAM II, 2-[1(ehtoxyimino)butyl]-5-[2-(ethylthio)propyl]-3-hydroxy-2-cyclohexen-1-one, Method I, should be adequate for enforcement purposes.

3. Residues of sethoxydim/methamidophos are not expected to exceed: 3.0 ppm in or on lupine hay (90 day PHI); and 0.5 ppm in lupine seeds (beans) as a result of this Section 18 exemption.

4. Secondary residues of sethoxydim/methamidophos are not expected to exceed established tolerances in meat and milk as a result of this Section 18 exemption.

5. Reference standards for sethoxydim are available from the EPA Pesticide and Industrial Chemical Repository in RTP, N.C.

Recommendation

TOX considerations permitting, we have no objections to the issuance of this Section 18 exemption. An agreement should be made with FDA regarding the legal status of the treated commodity in commerce.

cc:R.F.,S.F.,RCB's TAS staff,Circu,Reviewer, § 18, PMSD/ISB
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