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

JAN 29 1988

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

MEMORANDUM

SUBJECT: EPA Reg. No. 7969-58. Poast® (sethoxydim) on peanuts. Amended registration request to reduce the PHI from 70 days to 40 days. MRID No. 40391201. RCB No. 3157.

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

THRU: Andrew R. Rathman, Section Head
Special Registration Section 1
Residue Chemistry Branch
Hazard Evaluation Division (TS-769)

TO: Robert Taylor, PM 25
Fungicide-Herbicide Branch
Registration Division (TS-767)

The Agricultural Chemicals Group of the BASF Corporation Chemicals Division is requesting an amended registration for Poast® on peanuts by reducing the pre-harvest interval from 70 days to 40 days.

Tolerances have been established for the combined residues of the herbicide 2-[1-(ethoxyimino)butyl]-5-[2-(ethylthio)propyl]-3-hydroxy-2-cyclohexene-1-one and its metabolites containing the 2-cyclohexene-1-one moiety (calculated as the herbicide) in or on peanuts at 25 ppm and in or on peanut hulls at 5.0 ppm (40 CFR 180.412).

The currently registered use allows for Poast® to be applied to peanuts once at a rate of 1 to 2 pints (0.2 to 0.4 lb. a.i.)/A, or twice at rates of 1 to 1.5 pints (0.2 to 0.3 lb a.i.)/A for the first application and 1 pint (0.2 lb a.i.)/A for the second application.

All applications must include the use of an EPA-approved oil concentrate at a rate of 2 pints/A. Application can be made by ground equipment using a volume of 5 to 20 gallons of spray solution per acre, or by aerial equipment using a volume of 5 to 10 gallons of spray solution per acre.

The current label imposes a 70 day pre-harvest interval and limits the total amount to be applied per season per acre to 2.5

pints of Poast® (0.5 lb. a.i.). There is a restriction against feeding treated peanut forage or hay to livestock.

The proposed label for Poast® on peanuts is identical to the currently registered label with the exception that the pre-harvest interval has been shortened from 70 days to 40 days.

Included with this amended registration request were residue data on peanut samples (peanuts, peanut hulls, and peanut hay) treated with Poast® from twenty-five field trials conducted in the states of Georgia, Texas, North Carolina, Virginia, South Carolina, and Oklahoma. Split applications were made with rates ranging from a minimum of 0.2 + 0.2 lb. a.i. per acre to a maximum of 0.5 + 0.3 lb. a.i. per acre (maximum 1X recommended = 0.3 + 0.2 lb. a.i. per acre).

The maximum residue on peanuts reported was 16.1 ppm resulting from 0.3 + 0.2 lb. a.i. per acre and a 45 day interval from the day of the second application until harvest. The maximum residue reported for peanuts receiving the exaggerated rate of 0.5 + 0.3 lb. a.i. per acre was 6.8 ppm occurring 37 days after the second application.

The highest residues reported for peanut hulls and peanut hay were 3.1 ppm and 18.1 ppm, respectively. Again these maximum residues were detected from the peanuts which were treated with 0.3 + 0.2 lb. a.i. per acre and were harvested 45 days later. The highest residues reported on peanut hulls and peanut hay receiving 0.5 + 0.3 lb a.i. and a pre-harvest interval of 37 days were 0.57 ppm and 6.1 ppm, respectively.

The analytical method used to determine residues of sethoxydim (parent plus metabolites containing the 2-cyclohexene-1-one moiety) in or on peanuts and peanut hulls is designated BWC Agricultural Chemicals Method No. 30. A similar method designated Method No. 30H was used to determine residues in peanut hay. Method 30 was successfully tried out in conjunction with PP#3F2670 on soybeans, milk, and liver (see M. Nelson memo of 4/22/83).

Briefly, an initial aqueous soaking procedure was followed by methanol extraction. The extracts were concentrated and either extracted with dichloromethane (peanuts and hulls) or oxidized directly with basic hydrogen peroxide (peanut hay). For peanuts and hulls the dichloromethane extract was concentrated and oxidized as above. The oxidation products were esterified and the ester mixture purified by silica gel chromatography.

Method 30, as utilized for peanuts and hulls, has a limit of quantitation of 0.05 ppm of sethoxydim (parent plus metabolites containing the 2-cyclohexene-1-one moiety) Method 30H, utilized for peanut hay, has a limit of quantitation of 0.5 ppm.

Conclusions and Recommendations

From the residue data submitted with this amended registration, RCB concludes that the tolerances established for the combined residues of sethoxydim and its metabolites containing the 2-cyclohexene-1-one moiety (calculated as sethoxydim).

RCB has no objections to reducing the pre-harvest interval from 70 days to 40 days.

cc: Reading File, Circulation, Reviewer, Subject File, Amended Use File, PMSD/ISB
RDI: A. R. Rathman, 1/29/88; R. D. Schmitt, 1/29/88
TS-769:RCB:LSP:lsp:CM-2:Rm803C:557-7324:1/29/88