pmSP/155

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

OCT 20 1986

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

MEMORANDUM

SUBJECT: PP#5F3234/FAP#5H5464 (RCB#'s 1371 and 1372) - Poast (Sethoxydim) in/on Sunflowers and Peanuts - Evaluation of Amendment Dated August 1, 1986 (No Accession Number)

FROM: Michael P. Firestone, Ph.D., Chemist
Tolerance Petition Section II
Residue Chemistry Branch
Hazard Evaluation Division (TS-769C)

Michael P. Firestone

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

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

and

Toxicology Branch
Hazard Evaluation Division (TS-769C)

BASF Corporation has submitted an amendment dated August 1, 1986, consisting of a cover letter from D. Yoder of BASF to R. Taylor of EPA, in response to deficiencies cited in RCB's review of the original petition (see M. Firestone memo of July 17, 1985).

Two unresolved issues were cited in the above review as reasons to recommend against establishment of the proposed sethoxydim tolerances for sunflower seeds, peanuts, and their processed fractions. These issues will be discussed below:

Issue 1: Animal Metabolism and Enforcement Methodology

The first issue involves the nature of the residue in livestock and poultry, and the appropriateness of analytical methodology available to support sethoxydim tolerances for animal commodities; deficiencies regarding this issue were reiterated from RCB's review of PP#3F2904 (see K. Arne memo of June 26, 1985). Based on additional animal metabolism data submitted in conjunction with PP#3F2904, RCB now concludes that the nature of the residue in ruminants and poultry to be adequately delineated (see S. Malak memo of June 23, 1986). The residues of concern consist of the parent compound and its metabolites containing the 2-cyclohexen-1-one moiety; this conclusion is in agreement with the currently established tolerance definition-see 40 CFR 180.412.

RCB concluded in its June 23, 1986 review of PP#3F2904 that adequate analytical methodology is available for enforcement purposes. PAM-II Method I, designated BWC-30, is suitable for analysis of ruminant tissue and milk, while a variation of this method, designated the Direct Oxidation method (DO), is suitable for analysis of poultry tissues and eggs. Nor-series metabolites, those having a methyl group instead of an ethyl group attached to the sulfur atom, can be detected by the BWC-30 and DO methods. Although the enforcement methodology has not undergone a method trial for the nor-series metabolites, the petitioner has submitted fortification/recovery data for cattle tissue and milk (recoveries averaged 89 to 97% for three different metabolites). Thus, RCB has recommended not delaying the concurrence of tolerance requests provided the petitioner agrees to submit reference standards to EPA (RTP and COB) so that a method trial on the nor series metabolites can be initiated (note: the petitioner has submitted the required chemical standards and RCB has requested that a method trial be initiated (see S. Malak memo of August 15, 1986 re: PP#3F2904)).

At this time, Issue 1 (Deficiencies 3a, 3b, 4b and 6 as cited in RCB's July 17, 1985 review of the subject petition) has been resolved.

Issue 2 - Ground vs. Aerial Application

In RCB's July 17, 1985 review of the subject petition, it was requested the petitioner should describe the mode of application to sunflowers and peanuts; if the residue data do not reflect aerial application, either additional such data should be generated or a restriction against aerial application should be included in a revised Section B.

In response to the above, the petitioner cites ground vs. aerial comparative data generated on soybean seed, cottonseed, and sugarbeets (roots and tops) previously reviewed in RCB's June 23, 1986 review of PP#3F2904 in which RCB concluded the following:

> "The available comparability data between ground and aerial applications indicate that no significant differences are expected in sethoxydim residues in/on plant commodities from either ground or aerial applications at the proposed use."

Considering the above limited compatibility data, the fact that the proposed label contains a restriction against the feeding of sunflower forage or peanut forage and hay to livestock, and considering the long PHI proposed (i.e., 70 days), RCB now concludes that additional ground vs. aerial comparative data will not be required to support the proposed use on sunflowers and peanuts only. Thus, Issue 2 (Deficiencies 5a, 5b and 5c as cited in RCB's July 17, 1985 review of the subject petition) has been resolved.

However, the petitioner should be strongly advised that to lift the grazing and feeding restriction for sunflower and peanut forage/hay (Revised Section B) will require comparative side-by-side application residue data.

Other Considerations

An International Residue Limit Status sheet is attached to this review. Since no Codex, Canadian or Mexican limits/tolerances are established for sethoxdim residues in/on sunflower seeds, peanuts, or their processed commodities, RCB concludes that there are no compatibility problems.

Recommendation

At this time, RCB recommends for establishment of the proposed sethoxdim tolerances covering residues in/on sunflower seeds, peanuts and their processed commodities where grazing and feeding restrictions are implemented, TOX and EAB considerations permitting.

The petitioner should be strongly advised that to support any future crop tolerances where ground and aerial application are proposed, comparative side-by-side residue data for the specific crop(s) may be considered an absolute requirement by RCB.

Attachment 1: International Residue Limit Status Sheet

cc:R.F., Circu, MPFirestone, EAB, EEB, PMSD/ISB, FDA,
PP#5F3234/FAP#5H5464
RDI:JHOnley:9/19/86:RDSchmitt:9/19/86
RCB TS-769:MPFirestone:CM#2:RM800b:71991:wh:9/24/86

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Attachment 1:

INTERNATIONAL RESIDUE LIMIT STATUS

CHEMICAL: sethoxydim (Poast®)

PETITION NO.: 5F3234/5H5464

CCPR NO.:

REVIEWER: Michael P. Firestone

F. Use 5/22/85

Codex Status

Proposed U.S. Tolerances Confirmed 9/18/86 F.M.

☒ No Codex Proposal Step 6 or above

Residue: sethoxydim [2-[1-(ethoxyimino)butyl]-5-[2-(ethylthio)propyl]-3-hydroxy-2-cyclohexen-1-one] and its metabolites containing the 2-cyclohexen-1-one moiety (calculated as the herbicide).

Residue (if Step 9):

Crop(s)	Limit (mg/kg)

Crop(s)	Tol. (ppm)
peanuts	25
peanut hulls	5
peanut soapstock	75
sunflower seeds	7
sunflower meal	20

CANADIAN LIMIT

Residue:

Crop(s)	Limit (ppm)
none (on above commodities)	1/

MEXICAN TOLERANCIA

Residue:

Crop(s)	Tolerancia (ppm)
None	

Notes: 1/ There are Canadian 0.1 ppm negligible residue type limits on other commodities, including flax & rapeseed.