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

NOV 25 1988

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

MEMORANDUM

SUBJECT: PP#8E3690, PP#8E3691, PP#8E3692, PP#8E3693.
Inadvertent Residues of Diazinon, Methidathion, Chlorpyrifos and Ethyl Parathion. MRID No. 408284-00, -01, 408285-00, -01, 408286-00, -01, 408287-00, -01.
DEB Nos. 4434, 4432, 4431, 4433.
HED Project #s 8-1268, 8-1269, 8-1272, 8-1274

FROM: Martha J. Bradley, Chemist MJ Bradley
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TO: Hoyt Jamerson, PM 43
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and

Toxicology Branch
Health Effects Division (TS-769C)

THRU: Charles L. Trichilo, Ph. D., Chief
Dietary Exposure Branch
Health Effects Division (TS-769C)

Technology Services Group Inc. on behalf of Ratto Bros., Inc., letter of July 8, 1988, is requesting crop group tolerances of 0.4 ppm each for inadvertent residues of diazinon, methidathion, chlorpyrifos and ethyl parathion on leaves of root and tuber vegetables, leafy vegetables, brassica leafy vegetables, fruiting vegetables and herbs and spices.

The State of California sampled and analyzed a number of crops, mostly leafy type vegetables, grown on the Ratto Bros., Inc. four ranches. Although none of the four subject pesticides had been applied to the Ratto Bros. sampled crops, the four ranches were adjacent to orchard crops such as almonds and walnuts. Residue levels found on the leafy type vegetables were methidathion, non-detected (ND) to 0.15 ppm; chlorpyrifos, ND to 0.24 ppm with one value of 7.9 ppm; diazinon, ND to 0.4 ppm; and parathion, ND to 0.55 ppm. Crops of oats, alfalfa and wheat grown in areas ranging from 13.5 to 21 miles from the Ratto

Bros. ranches were also sampled. The oats and alfalfa had residue levels of up to 0.1 ppm chlorpyrifos and diazinon and up to 0.13 ppm parathion while the wheat samples had no residues of the four pesticides.

The petitioner states that the state of California is of the opinion that the residues found in the crops grown by the Ratto Bros., Inc. do not result from direct use, spray drift, runoff or misuse of the pesticides in question and that the residues cannot be avoided by changes in agricultural practices. The apparent source of the residues is "atmospheric transport" from legal pesticide uses throughout the region. The Food and Drug Administration is reluctant to establish action levels in this case because the courts have invalidated the use of action levels for enforcement purposes.

The submitted residue data are inappropriate for determining whether the residues occurred from direct use, spray drift, runoff, misuse or could have been avoided by changes in agricultural practices. No data supporting the contention that the apparent source of the residues is "atmospheric transport" have been submitted.

In a second letter from Technology Services Group Inc., November 3, 1988, the petitioner acknowledges that the granting of the requested tolerances does not really solve the problem as other illegal residues may follow when the California crop monitoring program expands. The letter also acknowledges that better information is needed, i. e. what residues can be expected of what pesticides on what crops and that the residues are truly inadvertent.

The state of California is preparing to conduct studies, starting January 1989 to show whether such residues are truly inadvertent by air and crop sampling during and between fog events occurring during normal application of these pesticides to orchard crops. We will await the results of these studies before proceeding with this petition.

Tolerances have already been established for many members of the requested crop groups except herbs and spices for chlorpyrifos (180.342), diazinon (180.153) and ethyl parathion (180.121). There are no tolerances on members of the requested crop groups for methidathion (180.298).

Conclusions

1. The submitted residue data are inappropriate for determining whether the residues occurred from direct use, spray drift, runoff, misuse or could have been avoided by changes in agricultural practices.

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2. No data supporting the contention that the apparent source of the residues is "atmospheric transport" have been submitted.

Recommendations

RCB recommends against the proposed tolerances of 0.4 ppm on the crop groups requested for diazinon, methidathion, chlorpyrifos and ethyl parathion because the data are not sufficient to show the residue is inadvertent and is caused by "atmospheric transport".

For further consideration of this proposal, the results of the controlled studies to be conducted by the state of California should be submitted to determine the source, cause and magnitude of the residues and if they are truly inadvertent.

Should the residues prove to be truly inadvertent, changes in agricultural practices or formulation (microencapsulation, granules, sticker agents, etc.) of the pesticides to lessen the volatility and atmospheric transport should be considered.

We would be glad to give an opinion on the design of the studies the state of California is planning should the petitioner request it.

cc: M. Bradley, RF, Circu, PP8E3690, PP8E3691, PP8E3692, PP8E3693 PMSD/ISB
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