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

OCT 17 1989

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

Memorandum

Subject: Diazinon. Residue Study protocol for Banded Applications to Pecan Trees.
No Accession Number / No MRID Number
DEB #5746

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To: George Larocca, PM 15 Team
Registration Division (H7505C)

DEB has been asked to comment on a residue field trial protocol for banded applications of diazinon-containing latex paints to pecan trees, and on whether residue data are required for this use considering available residue data and current registrations.

Residue data are required for this use. In the proposed use all of the pesticide is applied directly to the trees as opposed to foliar or soil applications for which only an indeterminate portion of the pesticide reaches the tree. For this reason, a comparison of the amount of active ingredient available to the tree between the paint use and other types of applications is not possible, and translation of available residue data to the proposed use is not appropriate. The submitter states that the active ingredient is not available to the tree because it is tied up in the paint matrix. Although this may be true, data showing the amount of active ingredient which could leach into the tree are not available, and potential maximum residues in pecan nutmeats, therefore, cannot be estimated.

The proposed protocol calls for banding of a minimum of 5 trees as directed on the label. Two-inch diameter plugs will be taken from at least 3 locations relative to the painted band: at the center of the band and at 5 cm above and below the band. These plugs will be divided into inner and outer sections which will be

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analyzed separately for diazinon (method not specified). If the inner portion of either the plug above or below the center (painted) plug shows detectable residues, a second plug 5 cm above or below this plug will be taken and similarly analyzed. If the inner portion of this plug(s) shows detectable residues, then ten randomly obtained fruit shall be obtained, shelled, and the nutmeat analyzed for residues of diazinon.

This protocol is not acceptable for the following reasons:

(1) Diazinon residues found in the plug will not necessarily indicate whether residues will be found in the fruit because residues could concentrate in the fruit relative to the plug. Therefore, the protocol should be modified to include initial sampling of the fruit, whereas the plugs need not be samples.

(2) Nutmeat samples should be obtained at various time intervals after application. The time intervals between treatment and harvest should be sufficiently long so that the maximum residue likely to be found in pecan nutmeats at any time after the proposed PHI (= zero days if not specified) can be determined. The maximum application rate on the proposed label should be utilized.

(3) The residue data should be representative of the various conditions under which pecans can be grown (particularly conditions such as temperature which might influence leaching of the active ingredient from the paint).

(4) The analytical method to be used should be capable of determining all components of the total toxic residue. We note that the Diazinon Registration Standard (Residue Chemistry Chapter) concluded that the nature of the residue has not been adequately delineated for residues of diazinon in plants. The nature of the residue should be delineated prior to performing the field trial in order to assure that all components of the total toxic residue are determined.

(5) The analytical method used should have a sufficiently low limit of detection so that combined residues of diazinon and its metabolites in pecan nut meats, when considered together with diazinon residues from other sources which could get into the food chain, will not be of toxicological concern at the limit of detection.

(6) The submitter should consult Subdivision O (Residue Chemistry) of the Pesticide Assessment Guidelines for additional information regarding crop field trials, analytical methodology, storage stability data, and other information.

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We note that diazinon is currently in Special Review due primarily to unacceptable risks to birds and endangered species. Agency actions resulting from the Special review may affect registrations of diazinon.

Conclusions and Recommendations

Residue data are required to register the proposed use of diazinon on pecans. The residue field trial protocol submitted should be revised as described above. The submitter should be referred to Subdivision O (Residue Chemistry) of the Pesticide Assessment Guidelines for additional information.

cc: M. Metzger, S. Hummel (DEB), Diazinon S.F., Reg. Std. S.F., R.F., E. Eldredge (PMSD/ISB), Circu (7), Schmitt
RDI:L.Cheng:LC:10/13/89:REZ:10/13/89
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