FMSD/LSIS

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

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OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

MEMORANDUM

Subject: Dicofol. Request for Residue Field Trials and Brewing Studies on Tea.

From: Jane S. Smith, Chemist
Dietary Exposure Branch
Health Effects Division (H-7509C)

Thru: Andrew R. Rathman, Section Head
Dietary Exposure Branch
Health Effects Division (H-7509C)

To: J. Housenger
Special Review Branch
Special Review and Reregistration Division (H-7508C)

Special Review and Reregistration Division (SRRD) has requested that DEB develop a tea brewing study protocol for Dicofol treated dried tea in order to determine a reasonable dietary assessment. A tolerance of 45 ppm is established (40 CFR 185.410) for residues of the insecticide dicofol, 1,1-bis(p-chlorophenyl)-2,2,2-trichloroethanol in/on dried tea as a result of its application to growing tea. The most efficient way to approach conducting a tea brewing study would be to use dried tea fortified with dicofol at reasonable residue levels determined from field trial data previously submitted. Currently, DEB has no residue field trial data available reflecting the use of dicofol on tea. Therefore, as a place to start, we recommend that a tea brewing study be conducted on dried tea fortified at 45 ppm, then, since residue field trial data are not available, we recommend a field trial be conducted to provide data for reassessment of the established tolerance level.

Recommendations for how these studies should be conducted are described below.

Tea Brewing Study

The brewing study should be conducted on already processed and dried green tea (unfermented) and black tea (fully fermented).

The samples of dried tea should be fortified at 45 ppm with dicofol. Enough tea should be fortified to conduct the study in multiples. The samples to be brewed should approximate that amount used in tea bags appropriate to the type of tea (green or black) and should be placed in an appropriate quantity of boiling hot water. The tea should be allowed to **steep** for a minimum and maximum period of time (e.g., 2 minutes and 5 minutes). The brewed teas should be analyzed for dicofol and its metabolites immediately.

Field Trial Residue Data

Field trials should be conducted on tea treated according to the label directions at the maximum recommended rate with the maximum number of applications permitted, and harvested within the minimum pre-harvest interval.

For each field trial conducted there should be a crop of tea that remains untreated to serve as controls for the individual trials.

Fortified controls should be analyzed at the time the field trial samples and controls are analyzed to provide evidence the analytical method is adequate.

We recommend that the studies be conducted throughout geographically representative areas.

Following harvest, the treated and untreated tea should be processed by general commercial practices to produce both green tea (unfermented) and black tea (fully fermented). Caution should be exercised during processing to prevent contamination of the green and black tea, treated and untreated by using separate trays and washing the trays and rollers at the appropriate times during and after processing. Sifting should be conducted by hand.

At the conclusion of processing when the tea would ordinarily be ready for packaging, the green and black tea treated and untreated samples should be analyzed in multiples for residues of dicofol and all the metabolites currently identified in the previous plant metabolism studies using the most current Pesticide Analytical Manual method for dicofol applicable to tea. If immediate analysis is not possible, the samples should be frozen until analysis. If storage of the samples is required, then submission of storage stability data will also be necessary. The data submitted from the storage stability study should be generated from green and black tea samples fortified at levels reflecting residue levels determined in the field trial data and the fortified samples should be stored under the conditions reflective of the conditions on which the field trial samples were stored.

Should the residue data from these new field trials exceed the established tolerance of 45 ppm, an additional brewing study will be required on tea from the field trials.

For details concerning requirements and recommendations for crop field trials, storage stability, and processing studies consult the Subdivision O Pesticide Assessment Guidelines, Subdivision O, Residue Chemistry and Addenda #2 and #4.

Note: Tea is a relatively small contribution to the dietary risk compared with the other commodities on which dicofol is registered. For further information on the relative importance of dicofol residues in tea, please contact Bob Tomerlin (DRES).

cc: circ., Subject File, Tobacco File, J. Smith, PMSD/ISB.
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