



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

JUL 6 1982

OFFICE OF  
PESTICIDES AND TOXIC SUBSTANCES

MEMORANDUM

Subject: PP#1F2620/FAP2H5331. Chlorpyrifos on apples. Ammendment dated 12/11/81.

From: K.H. Arne, Ph.D., Chemist *Blair V. Erwin Jr*  
Residue Chemistry Branch  
Hazard Evaluation Division (TS-769)

Thru: Charles L. Trichilo, Chief  
Residue Chemistry Branch  
Hazard Evaluation Division (S-769) *CT*

To: Jay Ellenberger, PM No. 17  
Registration Division (TS-767)

and

Toxicology Branch  
Hazard Evaluation Divison (TS-769)

In our original review of this petition we had recommended against the proposed 1 ppm tolerance for chlorpyrifos on apples. For a favorable recommendation, we required a revised Section F in which the following tolerances were proposed:

apples	4 ppm
apple pomace	30 ppm
meat, fat, and	
meat by products of	
goats, horses and sheep	1.5 ppm
	1.5 ppm

The petitioners had proposed a tolerance 1 ppm for apples. Based on a New York residue study we concluded that a higher tolerance was needed. This conclusion had been given earlier in our review of PP# 9F2221 (chlorpyrifos on apples, cucumbers, pumpkins and seed and pod vegetables, see memo of 2/8/80, E. Leovey). In response the petitioner contended that the New York data was invalid because apparent residues on control apples were high and a decline curve indicated that contamination occurred between days 14 and 21. We considered these arguments to be tenuous and required additional residue studies to show that these data should be discarded (see PP# 9F2221, memo of 7/29/80, E. Leovey).

With this amendment, a residue study from New York is submitted.

Chlorpyrifos was applied to replicated plots of ten year old McIntosh apple trees at petal fall followed by six cover sprays made at two to three week intervals during the season up to harvest. The maximum proposed use is 8 applications per season at a rate of 2 lbs./A and a 14 day PHI. LORSBAN 50W was applied as a conventional dilute spray using 16 oz/100 gal of spray and applying the spray at the rate of 400 gallon per acre. A 10X concentrate, 16 oz/10 gal, was applied at the rate of 40 gallons per acre following the same schedule to another set of plots. In both cases, the application rate was four pounds of LORSBAN 50W (2 lb a.i.) per acre. Apple samples were collected at random from each tree at 0, 7, 14, 21 and 28 days after the last application and placed in frozen storage within 12 hours of collection.

The combined residues at a 14 day PHI resulting from the dilute application ranged from 0.40 to 0.66 ppm; for the concentrate application the range was 0.40 to 0.43 ppm. At day 0 the highest residues found were 1.9 ppm (dilute) and 1.8 ppm (conc.); at day 7 these values were 0.83 ppm (dilute) and 0.71 ppm (conc.). The residues seemed to dissipate in a linear manner; there was little difference in residues found as a result of the dilute spray or as a result of the concentrate spray.

These data support the petitioners contention that 1 ppm tolerance is adequate. However we cannot easily discard the data submitted earlier that shows higher residues. The reasons the petitioner gives for discarding these data, i.e., that contamination occurred and that control values were high, are plausible but are insufficient grounds for discarding the 1974 New York study. We also note that an earlier North Carolina study gave residues of greater than 1 ppm (1.26 ppm) from the proposed use.

Our further rationale for including studies that the petitioner would discount is that we believe these studies represent the vargaries of "real" use and that the wide range of residue values represented in the several submitted studies is not at all unreasonable.

Recommendation

We continue to recommend against the proposed tolerances. For a favorable recommendation we require a revised Section F in which the following tolerances are proposed.

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|--|---------|
| 1. apple   | 4 ppm   |
| 2. apple pomace  | 30 ppm  |
| 3. Meat, fat, and meat<br>by-products of goats<br>horses and sheep | 1.5 ppm |

Note: The cattle and hog meat and the milk tolerances already established will accommodate any expected secondary residues in these items resulting from the proposed use.

TS-769:RCB:Arne:vg:CM#2:Rm810:X77377:6/28/82

cc: RF, Circ., Arne, Thompson, FDA, TOX, EEB, EFB, PP#1F2670/FAP 2H5331

RDI: Quick, 6/22/82; Schmitt, 6/22/82