



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

JAN 9 1986

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

MEMORANDUM

SUBJECT: PP#3E2861 (RCB#316). Permethrin on Pumpkins.
Evaluation of Amendment Dated December 3, 1985
(Accession Number 260582).

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

TO: Hoyt L. Jamerson
Minor Uses Officer
Registration Division (TS-767C)

and

Toxicology Branch
Hazard Evaluation Division (TS-769C)

THRU: John H. Onley, Ph.D., Section Head *John H. Onley*
Tolerance Petition Section II
Residue Chemistry Branch
Hazard Evaluation Division (TS-769C)

Interregional Research Project No. 4 (IR-4) has submitted this amendment, consisting of a cover letter from IR-4 National Coordinator, G. M. Markle, to H. L. Jamerson of EPA and a supplemental Section D (residue data), in response to the following deficiency stated in the Residue Chemistry Branch (RCB) review of the original petition (see J. Onley memo of July 22, 1983):

The petitioner has submitted residue data for four trials/samples. The two samples harvested in Illinois contained 0.25 and 0.32 ppm total residues, and the two samples harvested in California contained 1.49 and 1.82 ppm total residues. RCB concludes that an appropriate tolerance on pumpkins cannot be drawn from such a small data base. The petitioner should

submit more residue values on pumpkins grown in the same two above areas (Illinois and California) and should also include residue data on pumpkins grown in one of the eastern States.

IR-4's Response

Additional residue data have been generated on permethrin-treated pumpkins grown during the 1984 growing season in Delaware, California, and Illinois.

Pumpkins were treated with 4 applications of permethrin at a rate of 0.2 lb ai/A/application, and harvested either the same day as the last application or 1 day later (note: proposed use dictates a maximum of 4 applications at a rate of 0.2 lb ai/A/application with a minimum 1-day PHI).

The samples (3 from each location) were kept frozen prior to analysis for residues of permethrin and its metabolites DCVA and 3-phenoxybenzalcohol (3-PBA1c).

Recoveries of permethrin, DCVA and 3-PBA1c from fortified pumpkin fruit samples (fortification levels = 0.39 to 1.14 ppm) ranged from 79 to 111 percent (average = 94%), 81 to 106 percent (average = 96%), and 91 to 111 percent (average = 100%), respectively. All control values were reportedly < 0.01 ppm for all three residues of concern.

The reported results, corrected for analytical recoveries, are tabularized below:

Residue Level (ppm) - Range

Location	Permethrin	DCVA	3-PBA1c	Total
Delaware	0.07-0.14	0.02-0.03	0.01- 0.01	0.11-0.17
Illinois	0.11-0.30	< 0.01-0.04	< 0.01-< 0.01	0.11-0.33
California	0.19-0.35	0.01-0.02	< 0.01- 0.02	0.23-0.37

RCB's Comments/Conclusions

Based on the residue data originally submitted, and the supplemental data included in the current amendment, RCB now concludes that the proposed 2 ppm permethrin on pumpkins tolerance is adequately supported. Thus, this deficiency is now considered resolved.

Other Considerations

An International Residue Limit Status sheet is included with this review as Attachment 1. No limit/tolerance has been established for permethrin on pumpkins by Codex, Canada, or Mexico, although Codex has established a 0.5 ppm limit (parent compound only) on winter squash. In a proposed Codex classification, pumpkins would be considered winter squash. Thus, the proposed U.S. tolerance for pumpkins (2 ppm - parent plus DCVA and 3-PBA1c) and the established Codex winter squash limit are by definition, as well as numerically, incompatible.

Recommendation

At this time, RCB recommends for establishment of the proposed 2 ppm permethrin tolerance for pumpkins, TOX and EAB considerations permitting.

Attachment 1: International Residue Limit Status Sheet

cc: R.F., Circu, MPFirestone, EAB, EEB, PMSD/ISB, FDA,
PP#3E2861
RDI:JHOnley-1/6/86:RDSchmitt:1/6/86
RCB:TS-769:MPFirestone:CM#2:Rm800b:557-1991
typed by Kendrick Contractor-1/8/86:edited by mpf-1/9/86

Attachment 1:

1. Rev
12/30/85

INTERNATIONAL RESIDUE LIMIT STATUS

CHEMICAL: permethrin

PETITION NO.: 3E2861

CCPR NO.: 120

REVIEWER: Michael P. Firestone

Codex Status

☐ No Codex Proposal Step
6 or above

Residue (if Step 9): _____

parent only

Proposed U.S. Tolerances

Residue: permethrin plus its
metabolites DCVA and
3-phenoxybenzylalcohol (see
40 CFR 180.378)

<u>Crop(s)</u>	<u>Limit (mg/kg)</u>
<u>none (on pumpkins)</u>	<u>*</u>

<u>Crop(s)</u>	<u>Tol. (ppm)</u>
<u>pumpkins</u>	<u>2.0</u>

CANADIAN LIMIT

Residue: _____

<u>Crop(s)</u>	<u>Limit (ppm)</u>
<u>none (on pumpkins)</u>	

MEXICAN TOLERANCIA

Residue: _____

<u>Crop(s)</u>	<u>Tolerancia (ppm)</u>
<u>none</u>	

Notes: * There is a 0.5 ppm limit on squash (winter squash). In a proposed Codex classification winter squash are not distinguished from other "pumpkins".