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

NOV 13 1986

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

MEMORANDUM

SUBJECT: PP#6E3360 (RCB No. 1351). Permethrin on Collards, Mustard Greens, Turnip Greens, and Turnip Roots. Amendment Dated August 5, 1986. Record No. 179392.

FROM: Nancy Dodd, Chemist *Nancy Dodd*
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THRU: Charles L. Trichilo, Ph.D., Chief
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TO: Hoyt Jamerson, PM 43
Registration Support and Emergency Response Branch
Registration Division (TS-767C)

and

Toxicology Branch
Hazard Evaluation Division (TS-769C)

The petitioner, IR-4, has now submitted an amendment to PP#6E3360. This amendment consists of a letter dated August 5, 1986, revised Sections B and F, and responses to deficiencies listed in RCB's review of PP#6E3360 dated April 16, 1986 (N. Dodd).

The deficiencies listed in the April 16, 1986 review are outlined below, followed by the petitioner's responses and RCB's discussions/conclusions.

RCB's Deficiency #1

A revised Section B/label should be submitted that specifies application by ground equipment only, since available residue data reflect ground applications only.

Petitioner's Response to Deficiency #1

The petitioner submits a revised label. The revised label contains a heading "Ground Application."

RCB's Conclusion #1

Since the petitioner has submitted a revised label with the heading "Ground Application," deficiency #1 is resolved.

RCB's Deficiency #3b

The petitioner has presented or referenced residue data generated in PP#4F3136. Deficiency #3a from PP#4F3136 (M. Firestone, December 26, 1984) concerning analytical method GRAM - 1/I for generating residue data for the parent compound is still outstanding. Since some residue data for the parent compound were obtained by method GRAM - 1/I, the petitioner will still need to address that deficiency (#3a) so that EPA can validate the residue data which is also pertinent in this IR-4 petition. Deficiency #3a is still not resolved.

Petitioner's Response to Deficiency #3b

The petitioner resubmits and references information that was previously submitted in connection with PP#4F3136 (M. Firestone, June 5, 1986).

RCB's Discussion of Deficiency #3b

Deficiency #3b (relating to the analytical methodology) of PP#6E3360 is related to deficiency #3a in a review of PP#4F3136 (M. Firestone, December 26, 1984). In a March 12, 1986 amendment to PP#4F3136, the petitioner provided an adequate explanation for discrepancy in the calculation of recovery values. Also, fortification/recovery data for permethrin using method GRAM-1/I were generated on kale, mustard greens, and turnips. That deficiency was resolved (see PP#4F3136, M. Firestone, June 5, 1986).

RCB's Conclusion #3b

Deficiency #3b of this petition is also resolved since it was related to deficiency #3a of PP#4F3136.

RCB's Deficiency #5

Geographic representation is not adequate for mustard greens. Additional residue data from Florida, and from Michigan, Ohio, or Indiana are needed. These data should reflect the maximum number of applications intended at the rate of 0.1 lb ai/A and the proposed 1-day PHI. Of the limited data that are available, the data from Georgia (four applications at the rate of 0.1 lb ai/A showing residues of 17.11 ppm) indicate that the number of applications may have to be limited to four so that the 20 ppm proposed tolerance is not exceeded. If the petitioner (IR-4) finds that he is unable to satisfy the requirement for residue data on mustard greens, he may want to consider proposing the establishment of a tolerance with regional registrations. However, such a tolerance would not be appropriate for establishing a crop group tolerance as sought in PP#4F3136.

Petitioner's Response to Deficiency #5

The petitioner has withdrawn the request for a tolerance on mustard greens. The petitioner has deleted mustard greens from the revised label and Section F (both dated June 26, 1986); Collards and turnips remain.

RCB's Conclusion #5

Deficiency #5 is resolved since there will not be any further consideration given to establishing a permethrin tolerance on mustard greens.

RCB's Deficiency #6

Adequate geographic representation is not available for collards. Additional residue data are needed from Florida (see Residue Data section of this review for further details).

Petitioner's Response to Deficiency #6

The petitioner has decided to restrict the use of permethrin on collards to the states of North Carolina, South Carolina, Georgia, Arizona, Texas, and Oklahoma. A revised label (dated June 26, 1986) is submitted which specifies North Carolina, South Carolina, Georgia, Arizona, Oklahoma, and Texas for collards. A revised Section F (dated June 26, 1986) indicates that the proposed use on collards is a regional use tolerance for the states of North Carolina, South Carolina, Georgia, Arizona, Oklahoma, and Texas.

RCB's Discussion of Deficiency #6

Residue data on collards provided in PP#6E3360 and PP#4F3136 (ICI Americas, Inc.) include the following:

State	No. of Applications	Application Rate (lb ai/A)	PHI	Residues* (ppm)
Arizona	7	0.1	0-1	8.74 - 11.27
North Carolina	8	0.1	0-1	1.66 - 2.37
Washington	7	0.1, 0.2	1, 3-5	2.0 - 4.8 (1X) 2.0 - 5.4 (2X)
South Carolina	5	0.1, 0.2	1, 3-5	6.5 - 11.3 (1X) 11.3 - 21.8 (2X)

* Reported residues in Arizona and North Carolina refer to the total of permethrin, DCVA, and 3-PBAIc. Reported residues in Washington and South Carolina refer to permethrin only.
DCVA = 3-(2,2-dichloroethenyl)-2,2-dimethylcyclopropane carboxylic acid
3-PBAIc = (3-phenoxyphenyl)methanol

RCB's Conclusion #6

Although only one location, North Carolina, used eight applications in generation of residue data on collards, RCB concludes that these residue data could be translated to the nearby states of Georgia and South Carolina. Arizona used only seven applications on collards; however, Texas, which is close to Oklahoma, did use eight applications on turnip greens (which RCB will translate to collards) wherein the proposed 20 ppm tolerance was not exceeded. RCB can therefore recommend for the use of eight applications of permethrin in the States of North Carolina, South Carolina, Georgia, Arizona, Texas, and Oklahoma. RCB concludes that total residues of permethrin, DCVA, and 3-PBAIc in collards resulting from eight applications at the rate of 0.1 lb ai/A and a 1-day PHI are not likely to exceed 20 ppm.

Deficiency #6 is resolved by the revised label which restricts use to collards in the states of North Carolina, South Carolina, Georgia, Arizona, Texas, and Oklahoma.

RCB's Deficiency #7

Adequate geographic representation is still not available for turnips. Residue data from California are needed since California is a major turnip-growing state (see Residue Data section of this review for further details).

Petitioner's Response to Deficiency #7

The petitioner has decided to restrict the use of permethrin on turnips to the states of Texas, Indiana, South Carolina, Georgia, Florida, and Washington. A revised label (dated June 26, 1986) is submitted which specifies Texas, Indiana, South Carolina, Georgia, Florida, and Washington for turnips. A revised Section F (dated June 26, 1986) indicates that the proposed use on turnips is a regional use tolerance for the states of Texas, Indiana, South Carolina, Georgia, Florida, and Washington.

RCB's Discussion of Deficiency #7

Residue data on turnips provided in PP#6E3360 and PP#4F3136 (ICI Americas, Inc.) include the following:

Turnip Greens

State	No. of Applications	Application Rate (lb ai/A)	PHI	Residues* (ppm)
Georgia	4	0.1	1	3.40
Florida	6	0.1	0-1	14.33 - 15.51
Indiana	8	0.1, 0.2	1, 3, 5	3.56 - 8.80
Texas	8	0.1, 0.2	1, 3, 5	2.04 - 8.31
Washington	4	0.1, 0.2	1, 3, 5	1.6 - 5.0
<u>Turnip Roots</u>				
Indiana	8	0.1, 0.2	1, 3, 5	0.07 - 0.39
Texas	8	0.1, 0.2	1, 3, 5	0.04 - 0.25
South Carolina	5	0.1, 0.2	1, 3, 5	< 0.1 - 0.2
Washington	4	0.1, 0.2	1, 3, 5	< 0.03 - 0.05

* Georgia, Florida, Indiana, and Texas residues include permethrin, DCVA, and 3-PBAIc; South Carolina and Washington residues include permethrin only.

RCB's Conclusion #7

For the use of permethrin on turnips, RCB concludes that the residue data indicate that eight applications are feasible only in the states of Indiana and Texas. Notice that six applications in Florida yielded residues as high as 16.0 (15.5) ppm. Since residue data from California were not provided, the residue data base is somewhat scant for proper evaluation for a permanent tolerance. If the states of South Carolina, Georgia, Florida, and Washington stay on the proposed label, then only four applications (as was also approved for watercress in PP#4E3113) would be appropriate. In either case, a revised Section B/label should be submitted.

Deficiency #7 is not resolved. A revised Section B/label as discussed above must be submitted.

Other Considerations

An International Residue Limit Status Sheet was attached to the review of PP#6E3360 dated April 16, 1986 (N. Dodd). No Codex limits or Mexican tolerances have been established on collards, turnip greens, and turnip roots. Therefore, there will not be any Codex-U.S. compatibility problem. A Canadian tolerance for permethrin on turnips at 0.1 ppm (negligible residue-type tolerance) is established.

Recommendations

At this time, RCB recommends against the proposed permethrin tolerances for collards, turnip greens, and turnip roots for reasons cited under Conclusion #7 above.

If the proposed use is restricted to collards and turnips in certain locations, the proposed tolerances for permethrin on collards and turnips should be included in a separate subsection under 40 CFR 180.378 to avoid confusion regarding future 24(c) registrations and crop-grouping eligibility. The "tolerances with regional registration" would be referenced along with future regional registration tolerances in a new subsection (n) under 40 CFR 180.1 which would define the Agency's interpretation of "tolerances with regional registration." An appropriate interpretation for 40 CFR 180.1, subsection "n," would be:

Certain tolerances are based on geographically limited residue data. These "tolerances with regional registration" are included in separate subsections under 40 CFR 180.101 through 180.999. In order to expand the

area of usage on these crops, additional residue data generated in these areas will be required. Persons seeking geographically broader registration on these crops should contact the appropriate EPA product manager concerning whether additional residue data are required.

cc: RF, Circu, Reviewer-N.Dodd, EEB, EAB, TOX, PM 43,
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