11/3/95

Double Sided

MEMORANDUM

Subject: **PP# 5E4598 - IMIDACLOPRID (ADMIRE®) ON/IN CUCURBIT VEGETABLES CROP GROUP.**
Review of Proposal for Time Limited Indirect or Inadvertent Tolerances.
(No MRID #) [CBTS #s 16422 and 16423] {DP Barcodes D220603 and D220606}

From: Francis D. Griffith, Jr., Chemist
Chemistry Branch I - Tolerance Support
Health Effects Division (7509C)

To: Hoyt L. Jamerson, Minor Uses Officer
Registration Support Branch
Registration Division (7505W)

Dennis H. Edwards, Jr. PM-19
Insecticide-Rodenticide Branch
Registration Division (7505C)

Karen Whitby, Registration Section Head
Risk Characterization and Analysis Branch
Health Effects Division (7509C)

Thru: Michael S. Metzger, Branch Chief
Chemistry Branch I - Tolerance Support
Health Effects Division (7509C)

INTRODUCTION

IR-4 and the Agricultural Experiment Stations of Texas, South Carolina, California, and Florida propose time limited indirect or inadvertent tolerances for combined residues of the insecticide imidacloprid, trade named Gaucho®, Provado® and Admire® (1-[(6-chloro-

3-pyridinyl)methyl]-N-nitro-2-imidazolidinimine) and its metabolites containing the 6-chloropyridinyl moiety, expressed as imidacloprid in or on the raw agricultural commodities in the cucurbit vegetables crop group at 0.2 ppm.

EXECUTIVE SUMMARY OF RESIDUE CHEMISTRY DEFICIENCIES

- NONE -

CONCLUSIONS

1. CBTS Conclusion on **Directions for Use**

The petitioner has proposed an adequate set of directions for use of imidacloprid formulated as Admire® 2 Flowable for controlling the use on the cucurbit vegetables crop group planted in rotation following use on the fruiting vegetables, leafy vegetables, Brassica crop group.

2. CBTS Conclusions on **Nature of the Residue - Plants**
Product Chemistry/Chemical Identity
Nature of the Residue - Livestock
Confined Rotational Crops
Residue Analytical Methods
Storage Stability
Rotational Crops - Field Accumulation Studies
Magnitude of the Residue - Processed Food/Feed
Magnitude of the Residue - Meat/Milk/Poultry/Eggs

CBTS reiterates its conclusions on these requirements from PP#s 5F4600 and 5F4522 [qv]. They are incorporated herein by reference.

3. CBTS Conclusions on **Magnitude of the Residue - Crop Field Trials and Proposed Tolerance**

CBTS concludes that the petitioner has presented an adequate amount of limited geographically representative crop field trial data for imidacloprid on squash, cucumbers, and muskmelons to show that indirect/inadvertent residues of imidacloprid and its metabolites in/on cucurbit vegetables should not exceed the proposed 0.2 ppm time limited tolerance when Admire is used as directed on the fruiting

vegetables, leafy vegetable leafy greens, and Brassica (cole) vegetables crop groups; and cucurbit vegetables are planted in rotation.

4. CBTS Conclusion on **Harmonization of Tolerances**

Since there are no Mexican, Canadian, or Codex MRLs/tolerances, compatibility is not a problem at this time.

RECOMMENDATION

TOX considerations permitting, CBTS recommends for the requested indirect or inadvertent time limited tolerance of combined residues of imidacloprid and its metabolites containing the 6-chloropyridinyl moiety, all expressed as imidacloprid, on the cucurbit vegetables crop group at 0.2 ppm.

A DRES analysis can be initiated at this time using the 0.2 ppm indirect/inadvertent tolerance for total imidacloprid on the vegetables of the cucurbit crop group. The commodities of crop group 9, cucurbit vegetables, include the following: chayote, Chinese waxgourd, citron melon, cucumber, edible gourd [hyton], bitter melon, balsam apple, cantaloupe; casaba, honeydew, casaba, crenshew, mango, and Persian melons; pumpkin; summer and winter squash, and watermelon.

DETAILED CONSIDERATIONS

BACKGROUND

CBTS has recommended for tolerances of imidacloprid and its metabolites containing the 6-chloropyridinyl moiety on mangoes at 0.2 ppm (see PP# 3F4285); on apples at 0.5 ppm, cottonseed at 6 ppm, and potatoes at 0.3 ppm, and their processed commodities, plus meat at 0.3 ppm, milk at 0.1 ppm, poultry at 0.05 ppm, and eggs at 0.02 ppm (see PP# 3F4169); lettuce at 3.5 ppm, grapes at 1 ppm, fruiting vegetables at 1 ppm and Brassica (cole) leafy vegetables at 3.5 ppm (see PP# 3F4231); hops at 6 ppm (see PP# 5E4425); and leafy vegetables crop leafy greens subgroup at 3.5 ppm. CBTS has also recommended for time limited tolerances on sorghum grain at 0.05 ppm, and sorghum forage and fodder at 0.1 ppm (see PP# 4F4415); and canola seed and its processed commodities following seed treatment (see PP# 5F4534).

There are co-pending petitions for total imidacloprid residues in/on barley, wheat, and sugarbeets and their processed commodities following seed treatment (see PP# 4F4337), pecans and citrus fruits crop group and their processed commodities (see PP# 5F4480), and pome fruits (see PP# 5F4600). These petitions are in reject status.

CBTS recommended for imidacloprid Emergency Exemptions during 1993 and 1994 on broccoli, cauliflower, and cabbage, head and leaf lettuce, cotton, tomatoes, potatoes, the **cucurbits vegetable crop group**, apples, peppers, oranges and grapefruit, and hops. In 1995 additional Emergency Exemptions were recommended for use of imidacloprid on pears and on leafy and Brassica vegetables crop groups.

PRODUCT CHEMISTRY/CHEMICAL IDENTITY
NATURE OF THE RESIDUE - PLANTS
NATURE OF THE RESIDUE - LIVESTOCK
CONFINED ACCUMULATION STUDIES ON ROTATIONAL CROPS
RESIDUE ANALYTICAL METHODS
STORAGE STABILITY
ROTATIONAL CROPS - FIELD ACCUMULATION STUDIES
MAGNITUDE OF THE RESIDUE - PROCESSED FOOD/FEED
MAGNITUDE OF THE RESIDUE - MEAT/MILK/POULTRY/EGGS

Data for these requirements have been previously submitted, reviewed, and are summarized in memoranda by F. Griffith dated October 31, 1995, in PP#s 5F4600 (pome fruits) and 5F4522 (leafy vegetables) [qv]. Our discussions and conclusions are incorporated herein by reference.

DIRECTIONS FOR USE/LABELING

Imidacloprid is an insecticide used to control aphids and **whiteflies** on the leafy vegetables crop group leafy greens subgroup, fruiting vegetables, and Brassica (cole) vegetables crop groups. Admire® 2 Flowable (EPA Reg. No. 3125-422) containing 2 lbs imidacloprid ai/gallon may be used once as a soil application at planting at or below the seed line or <14 day prior to planting as a narrow band centered on the row at a rate of 10 to 24 fl ozs/acre/application (0.156 - 0.375 lb ai imidacloprid) for Brassica and leafy vegetables; and up to 1 qt (0.5 lb ai imidacloprid) on the fruiting vegetables. There is a 21 day PHI for the soil application use.

In this petition IR-4 proposes rotational crop restrictions for cucurbit vegetables planted after fruiting vegetables. No Admire

(imidacloprid) is to be applied directly to cucurbit vegetables. There is a 30 day rotational plant back interval for the cucurbit vegetables.

The petitioner has proposed an adequate set of directions for use of imidacloprid formulated as Admire® 2 Flowable for controlling the use on the cucurbit vegetables crop group planted in rotation following use on the fruiting vegetables, leafy vegetables leafy greens, and Brassica crop groups.

MAGNITUDE OF THE RESIDUE - CROP FIELD TRIALS

SQUASH

The petitioner previously presented limited total imidacloprid magnitude of the residue data on squash from 4 field trials in Texas, California, Florida, and South Carolina from the 1992 crop year (see Section 18 Exemption 94TX0004). The trials received a maximum application of 0.5 lb ai/acre in-furrow at planting, as a soil drench or sidedress 14 day after planting/transplanting.

Total imidacloprid residues on squash ranged from < 0.05 ppm to 0.15 ppm averaging 0.044 ± 0.033 ppm, n = 24.

CUCUMBER

The petitioner previously presented limited total imidacloprid magnitude of the residue data on cucumbers from 3 field trials in Texas, California, and South Carolina from the 1992 crop year. The trials received a maximum application of 0.5 lb ai/acre in-furrow at planting, as a soil drench or sidedress 14 day after planting/transplanting.

Total imidacloprid residues on squash ranged from < 0.05 ppm to 0.12 ppm averaging 0.039 ± 0.029 ppm, n = 18.

MELON

The petitioner previously presented limited total imidacloprid magnitude of the residue data on muskmelons from 4 field trials in

Texas, California, Florida, and South Carolina from the 1992 crop year. The trials received a maximum application of 0.5 lb ai/acre in-furrow at planting, as a soil drench or sidedress 14 day after planting/transplanting.

Total imidacloprid residues on muskmelon ranged from < 0.05 ppm to 0.12 ppm averaging 0.043 ± 0.031 ppm, n = 24.

PROPOSED TOLERANCE

CBTS concludes that the petitioner has presented an adequate amount of limited geographically representative crop field trial data for imidacloprid on the representatives of the cucurbit vegetables crop group squash, cucumbers, and muskmelons to show that indirect/inadvertent residues of imidacloprid and its metabolites in/on cucurbit vegetables should not exceed the proposed 0.2 ppm time limited tolerance when Admire is used as directed on the fruiting vegetables, leafy vegetable leafy greens, and Brassica (cole) vegetables crop groups; and cucurbit vegetables are planted in rotation.

HARMONIZATION OF TOLERANCES

An INTERNATIONAL RESIDUE LIMIT STATUS SHEET (IRL) is attached to this review. Since there are no Mexican, Canadian, or Codex MRLs/tolerances on the cucurbit vegetables crop group compatibility is not a problem at this time.

OTHER CONSIDERATIONS

A DRES analysis can be initiated at this time using the 0.2 ppm indirect/inadvertent tolerance for total imidacloprid on the vegetables of the cucurbit crop group.

ATTACHMENT: INTERNATIONAL RESIDUE LIMIT STATUS SHEET

cc:R.F.,Circu.,Reviewer(FDG),PP#5E4598.
7509C:CBTS:Reviewer(FDG):CM#2:Rm804C:305-5826:FDG:11/1/95:edit:11/3/95.
RDI:BrSrSci:RALoranger(GFK):11/2/95:BrCh:MSMetzger:11/2/95.