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

JAN 15 1987

MEMORANDUM

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

SUBJECT: EPA File No 87-CA-12. Proposed \$18 Specific Exemption for Use of Methidathion (Supracide) on Kiwi. No Accession Number. RCB No 1794.

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TO: Don Stubbs/Jim Thompkins, PM Team #41
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and
Toxicology Branch
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The California Department of Food and Agriculture (CDFA) is requesting a \$18 exemption for use of methidathion to control San Jose scale, oleander scale and greedy scale on kiwi. Tolerances for residues of this insecticide, O,O-dimethyl phosphorodithioate, S-ester with 4-(mercaptomethyl)-2-methoxy-delta-2-1,3,4-thiadiazolin-5-one, have been established on various raw agricultural commodities at 0.05-12 ppm [40CFR\$180.298]. Tolerances for combined residues of methidathion, its oxygen analog, sulfoxide and sulfone metabolites have been established at 0.05 ppm on milk, eggs, and meat, fat, meat by-products of cattle, goats, hogs, horses, sheep and poultry as a result of PP7F1983.

Supracide 2E (EPA Reg No 100-501) will be applied by ground sprayer once at 1.5-2 lbs ai/A during the dormancy period. No other restrictions are imposed. CDFA has requested to treat an estimated 4000 acres during winter dormancy for scale control.

Metabolism studies of methidathion on kiwi are not available. Studies on alfalfa, beans, cotton, oranges, tomatoes and artichokes using ¹⁴C or ³²P labeled methidathion and its desmethyl compound had previously been submitted in PP6F1782. Methidathion is absorbed by plants but only a limited amount is translocated. The composition of the residue of methidathion in plants appears to be dependent on the type of plant. In alfalfa, beans, cotton and oranges, the residue consists mainly of the parent and its

water soluble desmethyl metabolite. The oxygen analog comprises less than 5% of the level of the parent. In tomatoes and artichokes, however, ca 90% of residue consists of two or three unidentified metabolites and the remainder is a mixture of the parent, oxygen analog and the desmethyl metabolite. For the purpose of this \$18 request, we consider the residue of concern in/on kiwi to be the parent compound.

No residue data on kiwi were submitted.

Residue data on peaches were submitted in PP4F1522. When peaches were treated at the dormant/delayed dormant stage at 2 to 4X the maximum rate (0.5 lb ai/100 gal as a full cover spray of 300-600 gal/A), less than 0.05 ppm methidathion residues were obtained at maturity (PHI's of 141-190 days).

Based on the above data, we conclude that residues of methidathion in/on kiwi are not likely to exceed 0.05 ppm since typically the fruit are not harvested until October.

Method I in PAM II using GC with flame photometric detector is suitable for enforcement. Recoveries averaged 94% on citrus (0.05-10 ppm), 92% on tomatoes (0.01-1 ppm), and 93% on potatoes (0.02-1 ppm).

Since kiwi is not a feed item, we expect no transfer of secondary residues in meat, milk, poultry and eggs.

CONCLUSIONS AND RECOMMENDATION

1. Residues of methidathion are not likely to exceed 0.05 ppm from this emergency use on kiwi.
2. We expect no transfer of secondary residues in meat, milk, poultry and eggs.
3. Method I in PAM II is available for enforcement. The standard is available from the Pesticides and Industrial Chemicals Repository.
4. A restriction against grazing or feeding of cover crops grown in treated orchards should be imposed on the label.

Toxicological considerations permitting, and provided the restriction specified in Conclusion 4 is imposed on the label, we do not object to the issuance of this \$18 exemption. An agreement should be made with FDA regarding the legal status of the treated kiwi in commerce.

cc: Circ, RF, \$18 F, TOX, Cheng, PMSD/ISB
RDI:EZager:1/13/87:RDSchmitt:1/13/87
TS-769:RCB:LCheng:CM#2:RM810:557-7484:1/14/87:2