4-11-83.

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

APR 11 1983

MEMORANDUM

SUBJECT: 83-CA-41. Proposed Section 18 exemption for the use of iprodione on grapes in California.

TO: Emergency Response Section
Registration Division (TS-767)

and

Toxicology Branch
Hazard Evaluation Division (TS-769)

FROM: Edward Zager, Chemist
Residue Chemistry Branch
Hazard Evaluation Division (TS-769)

THRU: Charles Trichilo, Chief
Residue Chemistry Branch
Hazard Evaluation Division (TS-769)

The California Department of Food and Agriculture requests a specific exemption to use iprodione on grapes for the control of botrytis bunch rot.

PP# 3G2787/FAP# 3H5379 proposing a temporary tolerance for combined residues of iprodione its isomer [3-(1-methylethyl)-N-(3,5-dichlorophenyl)-2,4-dioxo-1-imidazolidinecaboxamide and its metabolite [3-(3,5-dichlorophenyl)-2,4-dioxo-1-imidazolidinecarboxamide in or on grapes at 60 ppm and in or on raisins at 180 ppm (food additive tolerance) is currently in reject status due to inadequacy of the proposed tolerances and the lack of a poultry feeding study and appropriate storage stability data for the available cattle feeding study).

Tolerances have been established on kiwifruit at 10 ppm and on cherries (sweet and sour), peaches, and nectarines at 20 ppm. Temporary tolerances on apricots and plums (fresh prunes) at 20 ppm and on almonds at 0.05 ppm have been

established. Proposed tolerances of 10 ppm on apricots, plums, and prunes are in reject status and an additional petition on those crops is under review. A petition for a temporary tolerance on lettuce is currently under review. Tolerances of 0.8 ppm on meat, fat, and meat by-products of cattle, goats, hogs, horses, and sheep and 0.15 ppm on milk are pending.

The proposed use is as follows: Apply 1.5-2 lbs Rovral/A (0.75-1.0 lb act/A) as a foliar spray in 50-200 gals water/A to thoroughly cover the bunches. Four applications should be made as follows: one at early to mid-bloom, one prior to bunch closing and two within one month prior to harvest. There is a 0-day preharvest interval.

The metabolism of iprodione in plants and animals was discussed in our review of PP# 3G2787/FAP #3H5379 (N. Dodd memo of 3/21/83).

The residues of concern in plants are iprodione, its isomer (RP 30228) 3-(1-methylethyl)-N-(3,5-dichlorophenyl)-2,4-dioxo-1-imidazolidinecarboxamide and the des-isopropyl metabolite (RP 32490), 3-(3,5-dichlorophenyl)-2,4-dioxo-1-imidazolidinecarboxamide.

Major extractable residues in animal tissues are iprodione and RP 32490. In milk residues are iprodione, RP 32490 and the hydroxylated metabolite: 1-(3,5-dichloro-4-hydroxyphenyl)-biuret.

The proposed Section 18 use is identical to that proposed in PP# 3G2787/FAP# 3H5379. Consequently we reiterate the residue estimates made in our review of that petition (see also the above cited memo). Residues from the proposed use will not exceed:

60 ppm in or on grapes and grape juice
300 ppm in or on raisins and raisin waste
600 ppm in or on dried grape pomace

Meat, Milk, Poultry, and Eggs

A cattle feeding study was previously reviewed in connection with PP# 2F2728 (M. Kovacs, 10/25/82). Feeding levels were 5, 15, 50, and 200 ppm for 29 days. In meat, iprodione and its non-hydroxylated metabolites were determined. Iprodione its nonhydroxylated metabolites, and its hydroxylated metabolites were determined in milk. Maximum residues in milk at the 28th day of treatment for levels of 5, 15, 50, and 200 ppm were <0.01, 0.099, 0.196, and 0.389 ppm, respectively. Maximum residues in kidney at 5, 15, 50, and 200 ppm feeding levels were <0.05, 0.16, 0.80, and 2.87 ppm,

respectively. Maximum residues in muscle at 5, 15, 50, and 200 ppm feeding levels were <0.05, <0.05, 0.07, and 0.13 ppm, respectively. Maximum residues in fat at 5, 15, 50, and 200 ppm feeding levels were <0.05, <0.05, 0.21, and 0.52 ppm, respectively. Maximum residues in liver at 5, 15, 50, and 200 ppm feeding levels were <0.05, 0.13, 0.66, and 1.95 ppm, respectively.

No poultry feeding study has been submitted.

Dried grape pomace can comprise up to 20% of the diet of dairy cattle, 30% of the diet of beef cattle and up to 5% of the diet of poultry. Raisin waste may also comprise up to 10% of the cattle diet.

The resulting dietary burden of iprodione is isomer and its metabolites in livestock diet is as follows: 120 ppm for dairy cattle, 180 ppm for beef cattle and 30 ppm for poultry.

Based on the above studies and translating residue data for cattle to other livestock we estimate that residues of iprodione, 1-(3,5-dichloro-4-hydroxyphenyl)-biuret and 3-(3,5-dichlorophenyl)-2,4-dioxo-1-imidazolinecarboxamide will not exceed 0.3 ppm in milk and that residues of iprodione and 3-(3,5-dichlorophenyl)-2,4-dioxo-1-imidazolidinecarbox amide will not exceed 3 ppm in kidney and liver and 0.4 ppm in eggs and the meat, fat and meat byproducts of cattle, goats, hogs, horses, poultry and sheep as a result of the proposed use.

Conclusions

1. Residues of iprodione, 3-(1-methylethyl)-N-(3,5-dichlorophenyl)-2,4-dioxo-1-imidazolidinecarboxamide and 3-(3,5-dichlorophenyl)-2,4-dioxo-1-imidazolidinecarboxamide will not exceed:

60 ppm in or on grapes and grape juice
300 ppm in or on raisins and raisin waste
600 ppm in or on dried grape pomace

2a. Secondary residues of iprodione, 1-(3,5-dichloro-4-hydroxyphenyl)-biuret and 3-(3,5-dichlorophenyl)-2,4-dioxo-1-imidazolidinecarboxamide will not exceed 0.3 ppm in milk as a result of the proposed use.

2b. Residues of iprodione and 3-(3,5-dichlorophenyl)-2,4-dioxo-1-imidazolidinecarboxamide will not exceed 3 ppm in kidney and liver and 0.4 ppm in eggs and the meat, fat and meat byproducts of cattle, goats, hogs, horses, poultry, and sheep as a result of the proposed use.

Recommendation

TOX considerations permitting we have no objections to the granting of this Section 18 exemption. An agreement should be made with FDA and USDA regardinvg the legal status of the treated commodities in commerce.

cc: R.F.
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Section 18, SF.
RDI:Section Head:RJH:Date:04/06/83:RDS:Date:04/06/83
TS-769:RCB:EZ:pad:RM:810:CM#2x77324:04/06/83
REVISED:04/07/83:pad:RCB-18
REVISED:04/11/83:pad:RCB-18