5-4-5-6-85

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

MAY 6 1985

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

MEMORANDUM

SUBJECT: 85-WA-03. Section 18 exemption for the use of vinclozolin (Ronilan®) on caneberries in Washington. RCB No. 899

FROM: Kenneth W. Dockter, Chemist
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THRU: Charles L. Trichilo, Ph.D., Chief
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and

Toxicology Branch
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The Washington Department of Agriculture is requesting a Section 18 exemption for the use of vinclozolin (Ronilan®) on caneberries (including raspberries, blackberries, youngberries, boysenberries and loganberries) to control botrytis fruit rot.

Permanent tolerances are established for residues of the fungicide 3-(3,5-dichlorophenyl)-5-ethenyl-5-methyl-2,4-oxazolidinedione and its metabolites containing the 3,5-dichloroaniline moiety in or on kiwifruit, head lettuce, and strawberries at 10 ppm [40CFR180.380]. Petition 3F2934 (includes raspberries at 10 ppm) is in reject status; residue data indicate that the proposed tolerance could be exceeded.

Multiple applications of Ronilan® 50W, EPA reg. no. 7969-53 at 0.5-1.0 lb ai/A in a minimum of 100 gallons spray suspension per acre are requested at 7-10 day intervals. Application is to be restricted to all counties west of the crest of the Cascade Mountains, and also to ground application (equipment) only. The first application is to be no later than 5% bloom (ca. May 1). The PHI is to be 7 days. A maximum application rate of 9 lb ai/A/season is specified. A maximum of 1500 acres are to be treated.

Most of this acreage is planted with red raspberries with the remainder distributed among the other aforementioned berries.

Based on metabolism studies using ^{14}C ring labeled vinclozolin on grapes and strawberries RCB previously concluded that the residue of concern consists of the parent compound and its metabolites containing the 3,5-dichloroaniline moiety (PP# 1E2457, memo of 4/27/81, J. Onley).

The analytical method for residue determination of vinclozolin in crops was discussed in several petitions (PP#'s 8G2068, 9F2205, 1E2457, 3F2934, and 4F2998). The method involves an alkaline hydrolysis (10N KOH) of residues of vinclolozin and its metabolites to form free 3,5-dichloroaniline (DCA), which is quantatively isolated by steam distillation into 1N sulfuric acid. The DCA is partitioned with chloroform at pH 1 and then at pH 9, followed by derivitization with chloroacetyl chloride. The chloroacetyl derivative is determined by EC/GLC. The total residue found is expressed as vinclozolin equivalents. Confirmatory procedures available are: an alternative GLC column and/or use of an N-specific ECD. In a method tryout, EPA obtained recoveries of 94.3 and 99.6% from strawberry samples fortified at the 10.0 ppm level; recoveries were 74.0 and 94.4% at the 20.0 ppm level. Blank samples showed apparent vinclozolin residues of <0.05 ppm. The sensitivity was 0.05 ppm. RCB concludes that adequate methodology is available for regulatory purposes.

Residue data was not submitted with this request. In the previous request (82-WA-11, memo of 4/19/82, R. Loranger), RCB concluded from one study in 1981 on evergreen blackberries in Oregon together with other relevant data for strawberries (PP#'s 8G2068 and 9F2205, respective memos of 1/19/79, G. Makhijani, and 7/23/79, M. J. Nelson) that residues, "could range up to 10 ppm". That Section 18 exemption was granted. Subsequently, RCB rejected a similar request (PP# 3F2934, memo of 2/7/84, J. Mayes). At a Washington field test in that petition, residues >15 ppm were reported for red raspberries treated 3x at 1.5 lb ai/A with a 4-day PHI. Consequently, a requirement for a higher tolerance level was expressed at that time. No specific number could be specified because of the erratic data reported; contaminated controls were indicated. That deficiency remains unaddressed.

Based on the above data RCB estimates that residues of vinclozolin plus its 3,5-dichloroaniline metabolites in or on caneberries from the proposed emergency use (i.e., total of 9 lb ai and PHI 7) vs. (total of 4.5 lb ai and PHI 4) will exceed 10 ppm. In fact, residues up to ca. 30 ppm may result (theoretically) from the proposed use. Thus, a level of 30 ppm would be more appropriate in connection with this Sec. 18 request.

Since no feed items are involved with this use, there is no concern with residues in meat and milk.

Conclusions

1. For the purpose of this Section 18 exemption RCB considers the residues of concern to be vinclozolin and its 3,5-dichloroaniline metabolites.

2. Satisfactory analytical methods are available for enforcement of this Section 18 exemption. The analytical method published in PAM II as method I, may be used for enforcement.

3. Residues will exceed our previously estimated level of 10 ppm in or on caneberries as a result of the proposed use. A level of 30 ppm would be more appropriate.

4. There are no feed items involved in this use and consequently no problem with secondary residues in meat, milk, poultry and eggs.

Recommedation

TOX considerations permitting, RCB has no objections to the granting of this Sec. 18 request. An agreement should be made with FDA regarding the legal status of the treated caneberries in commerce.

cc: R.F., Circu, Dockter, S.F. Ronilan®, Section 18
RDI:ARRathman:4/30/85:RDSchmitt:4/30/84
TS-769:CM#2:RM810:X3034:KDockter:edited by:wh:5/3/85