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

JAN 2 1986

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCE

MEMORANDUM

SUBJECT: PP# 4E3088. (RCB #49). Bayleton (Triadimefon) on Caneberries. Amendment of 9/4/85 proposing a tolerance of 2.0 ppm on raspberries in California only. (Accession Number 073867).

FROM: Linda L. Kutney, Chemist
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THRU: Philip V. Errico, Section Head
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TO: Hoyt Jamerson (PM-43)
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and

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In our review of June 4, 1985 (L. Kutney, PP# 4E3088), we said that before a favorable recommendation could be made for this petition, additional data would be necessary on all compounds included in the tolerance expression, we stated that the "combined residues of the fungicide Bayleton and its metabolites containing chlorophenoxy and triazole moieties should be expressed as the Bayleton fungicide." We also requested that Section B be revised

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to state, "This use is limited to California only," in place of, "based on available residue data, this use is limited to California only."

The petitioner, IR-4, has proposed several changes in Sections B, D, and F of this petition. The following directions for use have been submitted in the revised Section B:

Bayleton 50WP
EPA Reg. No. 3125-320

CROP:	Raspberries
PEST:	Powdery Mildew
DOSAGE:	4 oz product per acre (2 oz a.i./A)
DILUTION RATE:	Apply in no less than 20 gal. of water per acre.

TIMING OF APPLICATION: Apply when powdery mildew first appears and at 4 to 6 week intervals thereafter as needed. A maximum of seven (7) total applications may be made in one year with no more than two (2) applications within the same thirty (30) day period. Do not harvest within 1 day of application. Apply by ground equipment only.

Based on available residue data, this use is limited to California only.

Three changes to the proposed Section B were made with this petition. The target crop has been changed from caneberries to raspberries. The maximum number of permitted applications was increased from 4 to 7, allowing the increased use of 14 oz a.i. per season as opposed to the original use of 8 oz a.i. per season. The pre-harvest interval was also reduced to 1 day from an original value of 3 days. The restriction to application by ground equipment only was added in the previous amendment (See memo of 6/4/85, Kutney, PP# 4E3088).

Our previous review stated that Section B should be reworded to include the restriction, "This use is limited

to California only," in place of "based on available residue data, this use is limited to California only." We retract our request for this rewording of Section B. This deficiency is now resolved.

Section F reflects this most recent (revised for the third time on 8/29/85) change in the proposed target crop, to include raspberries only, and proposes a tolerance of 2.0 ppm instead of 1.0 ppm. It is quoted below:

PROPOSED TOLERANCE FOR THE PESTICIDE CHEMICAL TRIADIMEFON IN OR ON RASPBERRIES

... A tolerance for the combined residues of the fungicide 1-(4-chlorophenoxy)-3,3-dimethyl-1-(1H-1,2,4-triazol-1-yl)-2-butanone and its metabolites containing chlorophenoxy and triazole moieties (expressed as fungicide) in or on the raw agricultural commodity raspberries at 2.0 ppm.

We acknowledge the receipt of the revised Section F and note that it includes the proper tolerance expression.

In our previous amendment, dated 6/4/85, we concluded that additional data would be necessary on all compounds included in the tolerance expression, the "combined residues of the fungicide Bayleton and its metabolites containing chlorophenoxy and triazole moieties should be expressed as the Bayleton fungicide," which reflect the maximum proposed use, the maximum number of applications proposed, and the minimum PHI. In that review, we also said that all residues of concern should be measured; these include the parent compound, 1-(4-chlorophenoxy)-3,3-dimethyl-1-(1H-1,2,4-triazole-1-yl)-2-butanone and its free and conjugated metabolites beta-(4-chlorophenoxy)-alpha-(1,1-dimethylethyl)-beta-(1H-1,2,4-triazol-1-yl)-1-ethanol (KWG-0519), 1-(4-chlorophenoxy)-3,3-dimethyl-1-(1H-1,2,4-triazol-1-yl)-4-hydroxyl-2-butanone (KWG-1323), and 4-(4-chlorophenoxyl)-4-(1H-1,2,4-triazol-1-yl)-2,2-dimethyl-1,3-butanediol (KWG-1342).

Additional data has been provided with the revised Section D for residues of the Bayleton parent and the major metabolite, Baytan, KWG-0519, found on raspberries grown in California in 1984, resulting from 8 trials at

1X the proposed application rate (2 oz. a.i. per acre) and from 8 trials at 2X the application rate (4 oz. a.i. per acre). Residue data for the other two metabolites listed, KWG-1323 and KWG-1342, were not submitted with this amendment.

As an alternative to providing all of the residue data on the parent Bayleton and its metabolites, the petitioner chose to refer to a previous submission by Mobay (a letter of authorization for use of Mobay data in support of this tolerance petition was submitted by G.E. Brussell of the Mobay Chemical Corporation to H. Jamerson, Registration Division, Office of Pesticide Programs, dated May 1, 1984, and included in PP# 4E3088). In that petition, PP# 5F3224, summary section, addition number 1, dated February 7, 1985, apparent control residues of KWG-0519 and its major metabolite, KWG-1342, were given on grapes resulting from up to 8 oz. a.i. per season foliar application of the KWG-0519 metabolite of Bayleton (Baytan), a pesticide in its own right. Although this study was performed using a different formulation, and only 4 applications were made (7 applications of Bayleton per year are proposed in the new Section B of the current petition), we agree that the information presented in PP# 5F3224 for residues of Baytan and KWG-1342 found to be present in or on grapes is relevant to the present Bayleton on raspberry petition.

Examination of the residue data presented in PP# 5F3224 shows that 19 separate trials were performed reflecting four foliar, ground applications of Baytan, at the 2.0 lb. a.i. per application rate were tested in locations in Michigan, New York, and California. Pre-harvest intervals of 0, 7, and 14 days were observed. Except for one case, the level of KWG-1342 were far lower than the level of Baytan, KWG-0519, comprising only about 1% of the total residues found on the average. Because the KWG-1342 metabolite comprises so small a percentage of the total Baytan residue, we agree with the petitioner's request that we delete the requirement for its analysis, for the purposes of this petition only.

Another study submitted by Mobay was included in PP# 5F3224, giving residue levels found on apples treated foliarly with a 50% wettable powder formulation of radiolabelled Bayleton. The following metabolites were found Baytan (KWG-0519)=48%-50%, Baytan glucosides=10%-11%, Bayleton=12%-13%, KWG-1342=2%, Metabolite "I" thought to be KWG-1342=4%-6%, bound residues and aqueous fractions=16%-19%.

Because the KWG-1323 metabolite is not identified as being a significant percentage of the total Bayleton residue in previous studies on apples, we agree with the petitioner's request that we delete the requirement for its analysis, for the purposes of this petition only.

Total residues of Bayleton and its chief metabolite, KWG-0519, were 1.5 - 1.8 ppm at 1X the maximum application rate and the proposed 1-day PHI and 1.8 - 2.0 ppm at the shorter 0-day PHI. Residues of Bayleton and its KWG-0519 metabolite were only 1.6 - 1.8 ppm at the maximum application rate, at the proposed 1-day PHI. Even if we include the expected additional 1% of KWG-1342 (as was found on grapes in PP# 5F3224 referenced earlier), and take into account that no detectable residues of the KWG-1323 metabolite were reported on apples, we would not expect residues of Bayleton and its metabolites to exceed the proposed 2.0 ppm tolerance. We conclude that the proposed tolerance for Bayleton on raspberries is appropriate.

Recommendation

Toxicological considerations permitting, RCB recommends for the proposed 2.0 ppm tolerance for Bayleton on raspberries. Any expansion of the use of Bayleton on raspberries to states other than California will require representative residue data.

TS-769:RCB:L.Kutney:CM#2:Rm710:557-1317:12/10/85
cc: R.F., Circu, Kutney, TOX, EEB, EAB, PP#4E3088, FDA, Robert Thompson, PMSD/ISB, F. Boyd
RDI: Errico (Arne), 12/30/85; Schmitt, 12/31/85