6-15-90 R.T.

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

JUN 15 1990

MEMORANDUM

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

SUBJECT: 90-PR-02. Triadimefon. Bayleton DF on Coffee.
No MRID #. DEB # 6704.

FROM: Leung Cheng, Chemist
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THRU: Francis Suhre, Section Head
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TO: R. Cool/L. Pemberton, PMT 41
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and

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The Puerto Rico Department of Agriculture has requested a Section 18 specific exemption for additional drench use of Bayleton DF on coffee. The active ingredient is 1-(4-chlorophenoxy)-3,3-dimethyl-1-(1H-1,2,4-triazol-yl)-2-butanone or triadimefon.

DEB has been informed that a specific exemption was authorized for the 1989 season but only 1 of the 4 authorized applications was made due to hurricanes in 1989. A specific exemption was again authorized in 1990 with the provision that the acreage (coffee trees) treated last year would only be treated 3 times so as not exceed the 4 applications originally approved. 90-PR-02 is currently in effect and expires on 8/31/90. Now Puerto Rico wishes to add DF applications to the same acreage which may already have been treated up to 4 times with the WP formulation. DEB has been asked to comment on this additional use of triadimefon.

DEB concluded that residues of triadimefon and its metabolites containing the chlorophenoxy and triazole moieties would not exceed 0.1 ppm on green coffee beans as a result of the proposed use (89-PR-03, F. Toghrol, 4/5/89). The 89 proposed foliar use called for

a maximum of 4 x 3.6 oz ai/A per season and a PHI of 30 days.

The use directions for Bayleton 50DF applied as a soil drench follow. 1) PREVENTATIVE TREATMENT: Mix 1.0 lb Bayleton 50DF in 14 gallons of water. Apply 2.0 fl ounces of this solution around the base of each tree at the start of the spring or fall rainy season. The application must be made to the soil, not to vegetation which might be growing under trees. Applications must be made before disease symptoms are present on the leaves of coffee trees. A second application can be made 4 months later if needed. The fall application should be made either after harvest, or 30 days before harvest. Rainfall is required to carry Bayleton into the root zone for uptake by the roots. Therefore, application of Bayleton 50DF to the soil must be made at the beginning of either the spring or fall rainy seasons, or at both times. 2) CURATIVE TREATMENT: Where coffee rust infection is present on trees, a soil application should be made only after a foliar spray of 7.2 oz/A Bayleton 50DF has been used to control the existing infection. A soil application as described above can be made 4 weeks after the rust infection has been brought under control with 1-2 foliar sprays.

The proposed label is not clearly written and subject to interpretation as to how many drench applications may be applied in one season. For the purposes of this review, we interpret the label to allow up to 4 drench treatments per season.

In our 4/5/89 review, residue data reflecting 2-4 foliar applications of 3.6 oz ai/A were discussed and combined residues of triadimefon ranged <0.01-0.05 ppm in green coffee beans from these treatments at PHI's of 1-28 days. In addition, 5 foliar applications of 3.6 oz ai/A also resulted in similar levels (0.01-0.04 ppm) of triadimefon residues when sampled at a 30-day PHI (PP3E2938, MRID # 407140-01).

No drench residue data were submitted. Based on the information that there are 1000 coffee trees in an acre, the proposed drench treatment would be equivalent to a rate of 9 oz ai/A (0.009 oz ai/tree x 1000 trees). Translating from foliar residue data, this would lead to a residue level of 0.03 ppm per drench application (9 x 0.05 ppm / 4 x 3.6). On the premise that 4 drench treatments would be made (one in the spring with a single follow-up, and one in the fall with a single follow-up; 4 x 0.03 = 0.125 ppm) on top of the 4 foliar treatments already applied (0.05 ppm), DEB estimates that total residues of triadimefon are not likely to exceed 0.3 ppm on coffee beans.

Furthermore, assuming all residues survive the roasting process and transfer to the brewed beverage, and 5 grams of coffee beans per 250 mL of beverage, then at most 5 g x 0.3 ppm = 1.5 micrograms per 250 mL or 0.006 ppm would be in the brewed beverage (PP#3E2938, R. Cook, 1/27/84). DEB estimates that residues of

triadimefon are not likely to exceed 0.01 ppm in brewed and instant coffee.

There are no feed items involved. Therefore, secondary residues are not expected to occur in meat, milk, poultry and eggs.

CONCLUSIONS AND RECOMMENDATION

1. The residues of concern in coffee are triadimefon and its metabolites containing chlorophenoxy and triazole moieties.

2. The GC/MS method as described in PAM II is adequate for enforcement purpose.

3. The proposed label is not clearly written and subject to interpretation as to how many drench applications may be applied in one season. Provided no more than 4 drench applications will be made, combined residues of triadimefon and its metabolites are not expected to exceed 0.3 ppm in coffee beans, and not expected to exceed 0.01 ppm in brewed and instant coffee as a result of this Section 18 use.

4. Since no animal feed items are involved, secondary residues of triadimefon are not expected to occur in meat, milk, poultry and eggs as a result of this Section 18 use.

5. Reference standards of triadimefon are available at the EPA Pesticides and Industrial Chemicals Repository, RTP, NC.

TOX considerations permitting and provided no more than 4 drench applications will be made, DEB has no objections to this Section 18 request. An agreement should be made with the FDA regarding the legal status of treated coffee beans in commerce.

cc:Circ, RF, Section 18 F, Cheng, DRES, FOD/PIB
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