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

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OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

MEMORANDUM

SUBJECT: EPA Registration No. 359-706 Amended Registration
FOR Pineapple. Acc. No 071592

FROM: Brian Dementi, Ph.D., Chemist *Brian Dementi*
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THRU: Charles L. Trichilo, Ph.D., Chief
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TO: Henry Jacoby, Product Manager #21
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and
Toxicology Branch
Hazard Evaluation Division (TS-769)

Rhone-Poulenc Inc., Agrochemical Division, requests an amended registration for the use of Aliette fungicide (EPA Registration No. 359-706) on pineapple. Specifically, the amendment requested is the addition of foliar applications to the pineapple use directions.

Aliette is a fungicide which, when employed in concert with good cultural management practices, is effective in controlling heart rot (*Phytophthora parasitica*) on pineapple. According to the manufacturer, this fungicide's activity is systemic both upward and downward in the host plant, and is active only when the pathogen is present, ie., there is no protective action. Hence, it is important that it be applied during active periods of infestation by the fungus.

The currently registered uses are for ornamentals and pineapple. The registration permits the product's use on pineapple crows or slips as a preplant dip immediately prior to planting at the application rate of 2 lb ai/A.

A tolerance for Aliette (aluminum tris (0-ethyl phosphonate)) of 0.1 ppm has been established in or on pineapple, pineapple fodder and pineapple forage (Fed. Register, November 2, 1983) (40 CFR 180.415).

Current Use

Pineapple

Aliette is used as a preplant dip immediately prior to planting at a rate of 2.0 lb ai/A. The dip treatment is critical to insure good stands and early protection from Phytophthora parasitica.

Proposed use

Pineapple

Foliar sprays are applied to established plants when aggravating environmental conditions (i.e., excessive rainfall) occur or are anticipated. The proposed application rate is 3 lb ai/A. A maximum of 4 sprays per year may be applied. The PHI is 9 months. This proposed use is in addition to current use.

Residue Data

Four residue data studies were conducted in Honolulu, Hawaii, as reported by the Department of Agricultural Biochemistry of the University of Hawaii. These studies reflect a variety of treatments: dip, dip plus foliar and foliar only. In 15 experiments involving various Aliette application rates ranging 2-52 lb ai/A, no parent compound residue (<0.05 ppm for fruit and leaves and <0.1 ppm for bran) was detected.

For example, residue levels of Aliette in the "worst case" situation investigated, involving a pre-plant dip of 4.0 lb ai/A followed by 4 post-plant foliar sprays of 12 lb ai/A/spray applied at 3, 6, 9 and 12 months after planting, totaling 52 lb ai/A, resulted in no detectable Aliette residue. The PHI in this study was 9 months. For purposes of comparison, the maximum use of aliette permitted under the proposed label at a PHI of 9 months would include a pre-plant dip of 2 lb ai/A followed by a maximum of 4 post-plant foliar sprays of 3 lb ai/A/spray, totaling 14 lb ai/A, considerably less than the 52 lb ai/A employed in the experimental "worst case" described above.

It should be mentioned that in these trials there was an apparent dose-related increase in the non-regulated phosphonic acid equivalent in the three pineapple crop items. Residue in pineapple bran ranged up to 6.44 ppm at the highest application rate of 52 lb ai/A. The high phosphonic acid residues in pineapple fruit and leaves at this high application rate were 1.01 ppm and 1.23 ppm, respectively.

Based on the above data we conclude that residues of Aliette will not exceed the established 0.1 ppm tolerance for pineapple, pineapple fodder and pineapple forage as a result

of the proposed use. Tox should evaluate the significance of phosphonic acid residues.

Analytical methodology employed in the above trials was the same as that approved in an EPA method trial (Memo E.X. Grier, chemical operations Branch, June 29, 1983).

Conclusions

1. Residues of Aliette in or on pineapple, pineapple fodder and pineapple forage will not exceed the established tolerance of 0.1 ppm as a result of the proposed use.
2. Defer to Tox for evaluation of toxicological significance of phosphonic acid residues which may reach approximately 1 ppm in pineapple and approximately 7 ppm in pineapple as a result of the proposed use combined with the already registered treatments.

Recommendations

We have no objections to the amended registration, pending review by Tox of significance of phosphonic acid residues.

cc: Aliette SF
Amended Use
RF
Circ
Reviewer
PP2F2702.