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

FEB 10 1986

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

MEMORANDUM

SUBJECT: 55269-EUP-R/55269-EUP-E (RCB Nos. 416 and 417) — *Pseudomonas syringae* Strains Cit7dellb (UCB PP1.1) and TLP2dell (UCB PP2.1) on Potatoes - Evaluation of Analytical Methodology and Residue Data (Accession No. 260725)

FROM: Michael P. Firestone, Ph.D., Chemist
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Michael P. Firestone

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and

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and

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THRU: Charles L. Trichilo, Ph.D., Chief
Residue Chemistry Branch
Hazard Evaluation Division (TS-769C)

Dr. Steven E. Lindow, Associate Professor of Plant Pathology at the University of California, Berkeley, requests that a waiver for the establishment of a tolerance be granted as per 40 CFR 172.4(b)(2)(iii) for any potato tubers and foliage

treated with the novel microbial pesticides (NMP's) UCB PP1.1 (Pseudomonas syringae strain Cit7dellb) and UCB PP2.1 (Pseudomonas syringae strain TLP2dell). These NMP's are genetically engineered ice nucleation negative (INA^-) bacterial strains which will be evaluated by the petitioner with regard to their suitability as frost damage biocontrol agents on potatoes.

According to the Section F:

> The University of California certifies that any potato tubers produced on test plants will be destroyed at the test site. Potato tubers and foliage will be incorporated into the soil and not used for food or feed purposes.

Steven Lindow has previously submitted a notification of intent to perform small-scale field testing of the above two bacterial strains for use on potatoes, soybeans, and tomatoes (see M. Firestone memorandum of August 14, 1985).

Until RCB is in a position to perform secondary reviews in the microbial area, the Branch will officially comment and make recommendations/conclusions only on issues directly related to chemistry.

DETAILED CONSIDERATIONS

Experimental Use Program

The petitioner is proposing a 3-year Experimental Use Program, using two plots, each occupying about 1 acre, at the University of California Tulelake Research Station, Tulelake, California.

The total quantity of UCB PP1.1 and UCB PP2.1 to be used will be 4 liters/year (active equivalent equal to 1.2×10^{13} CFU/year) for each formulation.

Manufacture and Formulation

The manufacturing process for producing the two Pseudomonas syringae strains is described in the subject Experimental Use Permit (EUP) petition. The active ingredient (ai) in both products is a bacterium, not a chemical. RCB does not review data relating to the bacterial purity of pesticide products.

The two formulated products, UCB PP1.1 and UCB PP2.1, are suspensions of viable bacterial cells (ai). A list of inert ingredients in the two formulated products can be found in the Confidential Appendix attached to this review. All inerts are cleared under 40 CFR 180.1001.

Each formulation contains 2.0 percent by weight viable bacterial cells, equivalent to 3 x 10^9 CFU/mL (colony forming units/mL).

Proposed Use on Potatoes

UCB PP1.1 and UCB PP2.1 are to be used for the biocontrol of frost damage by competing with bacteria which promote the nucleation of ice.

The use directions specify two treatments, once at the time of planting by wetting potato tubers with the undiluted product (3 x 10^9 CFU mL) and a second time at the time of emergence with a 10 percent dilution (3 x 10^8 CFU/mL) to the point of runoff.

Residue Chemistry

Since the proposed EUP application includes a crop destruct clause, there are no residue chemistry issues related to this EUP.

Recommendations/Conclusions

Since the proposed use includes a crop destruct clause, RCB considers this a nonfood use and has no objections to granting an EUP.

Attachment 1: Confidential Appendix (1 page) - Attach to: TOX, RD, SIS, MPFirestone, R.F. and PMSD/ISB copies only.

cc: Circu, S.F. (*Pseudomonas syringae*), MPFirestone, R.F., PMSD/ISB, W. Hazel

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Page 4 of this particular RCB review contains Confidential Business Information which has been deleted.

Michael Hardy