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

MAR 18 1986

MEMORANDUM

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

SUBJECT: No Accession No. [RCB No. 274, 275]
PP3F2822 & PP3F2843: Methomyl on various RAC.

TO: J. Ellenberger, PM 25
Registration Division (TS-767)
and
Toxicology Branch
Hazard Evaluation Division (TS-769)

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

FROM: R. W. Cook, Chemist R.W. Cook
Residue Chemistry Branch
Hazard Evaluation Division (TS-769)

We have been requested by the PM to provide to TOX Branch:

1. "The amount of acetamide present as a result of the proposed pineapple and caneberry tolerances."

2. "If RCB cannot provide an estimate of the amount of acetamide residues that may be present as a result of the proposed use, please indicate what data are necessary in order for RCB to provide this information to Toxicology Branch."

The proposed tolerances are caneberries 6 ppm with a 3 day PHI, and pineapples (0.2 ppm 30 day PHI) and pineapple forage 1 ppm. There is no letter or other request / information from the petitioner.

Background:

In several recent actions, RCB has requested acetamide residue data on plants as a result of the application of the insecticide methomyl to the growing raw agricultural commodity. Additionally, we have considered the possible presence of acetamide residues in meat and milk tissues as the result of the application of another pesticide (PP F2713 and PP F3014, thiodicarb, See M. Firestone reviews of referenced petitions).

The presence of acetamide as a metabolic residue of methomyl has been discussed by R. Loranger (84-NJ-01, 2/16/84). The presence of acetamide residues as a metabolite of the insecticide thiodicarb, a condensation product analog of methomyl, has been

considered in PP0F2413 and PP3F2793 by M. Firestone. In these cases, acetamide has occurred as a metabolic residue in animal tissues. To date, we have no evidence either way which would indicate whether plants metabolize methomyl to acetamide. Biochemical pathways would seem to indicate that acetamide would occur during degradation and/or metabolism to CO_2. As stated in R. Loranger review, the amounts of acetamide present at any given time would be dependent upon the rate of formation and rate of degradation of this particular chemical species. We do not now know these rates.

Caneberries are not used for animal feedstuff and therefore the possible presence of acetamide via the animal metabolism route is unlikely. Pineapple forage is considered a minor animal feed item, since it is essentially available only in those areas where pineapples are grown.

In order for RCB to draw any final conclusions on the levels of possible residues of acetamide in or on the subject commodities, the usual battery of residue studies would be required:

1. Information on the possible plant metabolism of methomyl to acetamide and the possible metabolism of acetamide to further degradatory materials. This is usually a radiotracer study.

2. Analytical methodology, including validation data, capable of detecting and quantifying acetamide residues at a level sufficiently sensitive to satisfy Toxicological considerations.

3. Residue data for acetamide by an analytical procedure (as above) from field trials employing standard cultural practices.

4. If the RAC is processed, processing studies to determine the extent of concentration or conversion to aetamide in processed products are required. If the residue concentrates, food additive tolerances are necessary.

5. If the RAC or its byproducts or processed products are used as animal feedstuffs, then animal metabolism and feeding studies will be required.

If the petitioner intends to initiate any of these studies, we recommend that protocols detailing the studies be submitted for our review and comment prior to initiation of the test. The petitioner should refer to the Residue Chemistry Data Requirements.

cc: R.F.,Circu,Reviewer,TOX,PMSD(ISB),PP3F2822, PP3F2843
RDI:Section Head:RSQuick:Date:2/28/86:RDSchmitt:Date:2/28/86
TS769:RCB:RWCook:2/27/28:RWCook:5571879:CM#2:RM:810:3/18/86

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