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

DATE: July 30, 1981

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

SUBJECT: U.S. Reg. No. 707-98. Kerb on lettuce. Submission of 3/5/81

FROM: Edward Zager, Chemist
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THRU: Charles L. Trichilo, Branch Chief
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Background

On January 15, 1979 the Agency issued Position Document 2/3 for pronamide. In PD 2/3, the Agency concluded that the benefits of pronamide's use outweighed the risks if, inter alia, the following modifications to the terms and conditions of registration were adopted: The tolerance on lettuce must be revised from 2 ppm to 1 ppm to lower the dietary exposure with label restrictions limiting the use to pre-emergent use only with a 60-day PHI.

In response to the publication of Notice of Determination (43 FR 3083) and PD 2/3, EPA received comments from Rohm and Haas Co. objecting to the label restrictions designed to insure that the 1 ppm tolerance would not be exceeded.

In the Federal Register Notice of Friday Oct. 26, 1979 (Vol 44, No. 209 p 61648) the Agency disagreed with the Rohm and Haas' opinion that the current label directions, which require a 35-day PHI, are sufficient to insure that a tolerance of 1 ppm will not be exceeded.

The Agency acknowledged that a 1 ppm tolerance may be supported by a label less restrictive than that proposed in PD 2/3 and required the registrant to provide residue data on "head" and "leaf" lettuce following both pre-emergent and post-emergent applications of pronamide and residue data on "transplant" lettuce following post-emergent treatment. A minimum PHI of 35 days was to be reflected in all residue trials.

The Rohm and Haas Co. responded with a residue sampling protocol. RCB reviewed (memo of E. Zager to R. Mountfort March 7, 1980) the proposed sampling program for kerb on lettuce and recommended that the program to expanded to include additional sites and varieties. RCB also recommended that wrapper (lettuce refuse) be analyzed as well.

The residue sampling protocol was futher discussed at the meeting of 4/16/80 (see Memo of Conference dated 5/16/80).

Current Submission

The current submission contains residue data reflecting only some of the originally proposed studies. The following studies were not performed although they were either included by the petitioner in the Proposed Lettuce Sampling Program or requested by the Agency (see 3/7/80 memo of E. Zager):

1). Pre-emergence applications to leaf lettuce in CA (Spring/Summer).

2). Pre-emergence applications to head lettuce in CA (Spring/Summer).

3). Post-emergence applications to transplanted leaf lettuce in N.J. (Spring/Summer).

Residue data were obtained by the method of Adler, et. al, [JOAC, 55 802 (1972]. A sample is digested with sulfuric acid and methanol to convert Kerb and its metabolites to 3,5-dichlorobenzoate (MDCB). Following distillaltion and Florisil column cleanup the MDCB is determined by gas chromatography with an electron capture detector. Residues are expressed as Kerb. The method's detection limit is approximately 0.01 ppm. Reported recoveries from lettuce at the fortification levels of 0.01-1 ppm ranged from 80-100%.

Residue Data

The results of five additional studies conducted in California are submitted. Two studies, apparently from a single location, reflected pre-emergence application to direct seeded leaf lettuce during fall/winter. A single application was made at the rate of 2 lbs act/A. Residues on lettuce at the PHI's of 36-81 days ranged from <0.01-0.21 ppm.

Two studies reflected post-emergence applications to transplated head lettuce during fall/winter. A single application was made at the rate of 2 lbs act/A. Residues on lettuce at the PHI's

of 36-79 days ranged from <0.01-0.67 ppm. One study reflected pre-emergence application to direct seeded head lettuce during fall/winter. A single application was made at the rate of 2 lbs act/A. Residues on lettuce ranged from <0.01-0.19 ppm at the PHI's of 36-81 days.

Six residue studies were conducted in New Jersey. Three reflected post-emergence applications to transplanted head lettuce. A single application was made at the rate of 2 lbs act/A. Residues on lettuce at the PHI's of 35-51 days ranged from 0.03-0.80 ppm. Three studies, apparently from a single location, reflected pre-emergence applications to direct seeded leaf lettuce. A single application was made at the rate of 2 lbs act/A. Residues at PHI's of 31-58 days ranged from 0.10-1.04 ppm. The petitioner claims that the 1.04 ppm value, obtained at a 35 day PHI was found on immature lettuce. While this may have been the case loose leaf lettuce varieties may mature as early as 40-50 days after planting. Thus the 1.04 ppm value cannot be ignored. We note again that a residue value of 1.76 ppm was obtained at 27 days following an application of 1.6 lbs act/A (PP#1F1139).

Conclusion

1. The available residue data indicate that residues of Kerb from the currently registered uses may exceed 1 ppm in or on lettuce at a 35 day PHI.

2. The available data indicate that residues of Kerb in or on head lettuce will not exceed 1 ppm from pre-emergence applications.

Recommendation

For the reason listed in Conclusion 1, we recommend that the 2 ppm tolerance for residues of Kerb on or on lettuce not be reduced to 1 ppm.

A 1 ppm tolerance would be adequate if the use of Kerb were limited to pre-emergence applications to head lettuce only.

cc: PP#1F1139
Kerb S.F.
Reading file
Circu
Reviewer

TS-769:Reviewer:E.Zager:LDT:X77324:CM#2: RM:810:Date:7/30/81
RDI:Section Head:RJH:Date:7/28/81:RDS:Date:7/28/81