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

APR 5 1994

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

MEMORANDUM

SUBJECT: PP#1F3995 (CBTS #13342; Barcode #D200171). Fenbuconazole on Pecans. Amendment dated 2/25/94. (No MRID #).

✓ FROM: Nancy Dodd, Chemist *Nancy Dodd*
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THROUGH: Debra Edwards, Ph.D., Chief *Debra Edwards*
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TO: Cynthia Giles-Parker, PM #22
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and

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Health Effects Division (7509C)

Rohm and Haas has formally submitted additional data to support its fenbuconazole petition on pecans. The additional data concern the conjugated metabolite RH-4911 in the metabolism studies and residue field trials. These data are submitted in response to a conclusion of the HED Metabolism Committee. The committee determined on 3/1/94 that the residues of concern on stone fruit, pecans, almonds, wheat, apples, and bananas from use of fenbuconazole are parent (RH-7592) and the metabolites RH-9129 and RH-9130, provided that the petitioner shows that RH-4911 is only a minor residue in these crops (PP#1F3995, N. Dodd and W. Wassell, 3/16/94).

CONCLUSION

Considering the low residues expected to occur in pecans as a result of the proposed use, the available data are sufficient to indicate that RH-4911 is a minor residue in pecans. (RH-4911 was a minor component of the residue in the metabolism studies on peach

fruit and wheat straw and was not detected in the two residue studies on pecans.) The metabolism of fenbuconazole in pecans is adequately understood. The residues of concern in pecans are parent (RH-7592), RH-9129, and RH-9130. For other uses involving higher residues on pecans or any other crop, raw data and storage stability data would be needed to show that RH-4911 is a minor residue.

RECOMMENDATION

CBTS recommends against the proposed tolerance for fenbuconazole on pecans since other deficiencies in PP#1F3995 (which are not discussed in this review) remain outstanding. Those deficiencies will be addressed in a separate memo in the near future.

DETAILED CONSIDERATIONS

Plant Metabolism

Peanut vines, peach fruit, and wheat straw from metabolism studies have been reexamined for the glucose conjugate of RH-4911. The glucose conjugate in peanuts which was previously identified as RH-6648 has now been identified as RH-4911. RH-4911 was identified by TLC, HPLC, and mass spectroscopy. The glucose conjugate of RH-4911 was found in small quantities in peach fruit and wheat straw. It was identified in peach fruit and wheat straw by comparative chromatography.

Residues from the triazole label were reported as follows:

Triazole label- % TRR (ppm)

Compound	peanut vines	peaches	wheat straw
RH-7592	47.88 (6.727)	15.5 (0.020)	60.2 (8.81)
RH-9129	4.44 (0.624)	4.3 (0.006)	7.5 (1.10)
RH-6467	8.74 (1.228)	NF	4.2 (0.62)
glucose conjugates of RH-4911	23.59 (3.315)	4.4 (0.006)	2.98 (0.43)
RH-4098	NF	6.7 (0.009)	NF
RH-3968	6.51 (0.914)	47.5 (0.062)	NF

The proposed metabolic pathway for RH-7592 is attached (Attachment 1).

Residue Data

Some of the pecan nutmeats from two of the previously reviewed pecan residue trials (PP#1F3995, N. Dodd, 3/10/93) were reanalyzed for the glucose conjugate of RH-4911. No detectable residues (<0.04 ppm) were found. Results were reported as follows:

<u>Sample #</u>	<u>Total Applied</u> <u>lbs. ai/A*</u>	<u>PHI</u>	<u>ppm RH-4911</u>
90-0175-003	0.00	7	ND
90-0175-005	2.50	7	ND
90-0175-008	2.50	14	ND
90-0250-016	0.00	14	ND
90-0250-014	2.50	7	ND
90-0250-020	2.50	14	ND
90-0250-023	2.50	28	ND

*The proposed use allows a maximum application rate of 0.125 lb ai/A/application, 8 applications, and a 28-day PHI. The samples listed above reflect 10 applications at 0.25 lb ai/A/application.

The analytical method is described as soxhlet extraction with acidic methanol to simultaneously extract and hydrolyze the glucose conjugate of RH-4911. The extract is purified by liquid/liquid partition and silica gel column chromatography. Residues are quantitated by GLC with a thermionic specific detector optimized for nitrogen. Recoveries for controls fortified at 0.04 ppm were 89% and 75%.

Raw data and storage stability data have not been submitted to support the reanalysis of the samples. (The field trials on pecans were conducted in 1990 and analyzed by March 1991. The report of the reanalysis is dated 2/17/94. The available storage stability data on pecans indicate that residues of RH-7592, RH-9129, RH-9130, and RH-6467 are stable for 18 months.)

Conclusion

Considering the low residues expected to occur in pecans as a result of the proposed use, the available data are sufficient to indicate that RH-4911 is a minor residue in pecans. (RH-4911 was a minor component of the residue in the metabolism studies on peach fruit and wheat straw and was not detected in the two residue studies on pecans.) The metabolism of fenbuconazole in pecans is adequately understood. The residues of concern in pecans are parent (RH-7592), RH-9129, and RH-9130. For other uses involving higher residues on pecans or any other crop, raw data and storage stability data would be needed to show that RH-4911 is a minor residue.

Attachment 1: Proposed Metabolic Pathway for RH-7592 in Peanuts,
Wheat, and Peaches

cc with Attachment 1: RF, Circu., N. Dodd (CBTS),
E. Haeberer (CBTS), W. Wassell (CBTS), PP#1F3995, PM #22,
A. Kocialski (CCB)

RDI:E. Haeberer:4/4/94:R. Loranger:4/4/94
7509C:CM#2:Rm 804F:305-5681:N. Dodd:nd:4/5/94

Figure 1

**Proposed Metabolic Pathway for RH-7592
in Peanuts, Wheat and Peaches**

