57

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

JUL 8 1987

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

Memorandum

Subject: 87-WA-15: Asana 1.9 EC (fenvalerate) on Cranberries. MRID No. 198013; RCB No. 510.

From: Francis B. Suhre, Chemist
Special Registration Section II
Residue Chemistry Branch
Hazard Evaluation Division (TS-769)

Thru: Edward Zager, Section Head
Special Registration Section II
Residue Chemistry Branch
Hazard Evaluation Division (TS-769)

To: D. Stubbs/L. Pemberton, PM-41
Registration Support and Emergency
Response Branch
Registration Division (TS-767)

and

Toxicology Branch
Hazard Evaluation Division (TS-769)

Mary M. Toohey, Chief of Registration and Services, Washington State Department of Agriculture has requested a section 18 emergency exemption for use of Asana 1.9 EC to control Black Vine Weevil on cranberries.

Asana 1.9 EC, EPA Reg. No. 352-502, is a registered trademark of E.I. Dupont de Nemours Co. Inc.; the insecticide contains 1.9 lbs. Asana per gallon.

Technical Asana contains 75% (SS Isomer) fenvalerate [cyano (3-phenoxyphenyl) methyl-4-chloro-a-(methylethyl)benzeneacetate]; while technical Pydrin contains a racemic mixture of four fenvalerate isomers in equal concentrations (Shell ASANA Insecticide, S. Hummel memo dated 10-22-86). Since the SS isomer of fenvalerate is the insecticidally active component, each unit of Asana (75% SS isomer) is insecticidally equivalent to 3 units of Pydrin (25% SS isomer).

Established tolerances (40 CFR 180.379) are based on fenvalerate residues resulting from the use of the Pydrin formulation.

Tolerances are established (40 CFR 180.379) for residues of fenvalerate on several raw agricultural commodities; tolerances range from 0.02 ppm in and on corn grain and potatoes to 50 ppm in or on corn forage and fodder. The tolerance expression includes all 4 isomers. No fenvalerate tolerances are established for small fruits.

87-WA-15 calls for maximum use of 8.5 lbs. fenvalinate a.i. to treat 300 acres of cranberries. Treatment will be limited to areas where weevil investation has been confirmed by a licensed pest control consultant. 3.4 fl. ozs. of Asana 1.9 EC are to be applied per acre (0.05 lbs. fenvalerate a.i. or 0.04 lbs. SS isomer) in 100 to 300 gallons of water utilizing ground spray equipment. The product should be applied to the point of drip. A second application may be made if necessary (maximum treatmemt is 0.1 lbs. fenvalerate per acre per season). Use restrictions include: use only on cranberries bogs which are not flooded for the purpose of irrigation or harvest; do not apply within 30 days of harvest; make no more than 2 application per year; and do not apply through any chemigation system.

The metabolic nature of fenvalerate in plants is adequately understood, the parent compound is the residue of concern.

Fenvalerate residue data from an IR-4 draft petition on cranberries were provided in support of this Section 18 request. Field trials were conducted in MA(1), WI(1), and WA(1) using the Pydrin formulation. The field studies conducted in WI and WA reflect dry field cultivation practices (as proposed in 87-WA-15), while the studies conducted in MA reflect wet field cultivation practices. We will consider only the WI and WA residue data in our review of 87-WA-15.

Residue data were generated using a gas chromatography/ECD method entitled, "Determination of SD43775 Residues in Crops", Shell Method MMS-R-456-1. This method was most recently reviewed by RCB in connection with PP#4F3003 (see R. Perfetti memo of 5-1-84). The method's limit of sensitivity is 0.02 ppm. Recovery of fenvalerate from cranberries fortified at 0.16 ppm was 95%. The method is considered adequate for enforcement purposes.

The IR-4 generated residue data provided in support of 87-WA-15 reflect treatment of cranberries with Shell's Pydrin formulation. For the purpose of this Section 18 emergency exemption, we will consider the Pyridin and Asana formulations of fenvalerate to be equivalent. The IR-4 data reflect application rates 2x (0.2 lb. ai.) the Section 18 proposed rate (0.1 lb.ai.). Data most closely reflecting the proposed use are summarized below:

Fenvalerate residues in or on cranberries:

Field trial	Application Rate Lbs. a.i./A	PHI	Residue Range (ppm)
WA	CK	--	<0.02
WA	0.2[a]	14	0.21 to 0.22
WA	0.2	21	0.11 to 0.18
WA	0.2	32[b]	0.10 to 0.19
WA	0.2	39	0.08 to 0.11
WI	CK	--	<0.02
WI	0.2	13	0.58 to 0.85
WI	0.2	20	0.44 to 0.65
WI	0.2	24	0.51 to 0.57
WI	0.2	28[b]	0.43 to 0.50
WI	0.2	35	0.29 to 0.53

a. 0.2 lbs. a.i. per acre per season reflects 2x the Section 18 proposed application rate.

b. PHIs which most closely reflect the 30 days stipulated in the Section 18.

Cranberries are not considered an animal feed item, therefore, we do not expect secondary residues in animal commodities to occur as a result of this Section 18 use.

Conclusions

1. The metabolic nature of fenvalerate in plants is adequately understood. The residue of concern is the parent compound.

2. The gas chromatography/ECD method entitled "Determination of SD43775 Residues in Crops" is adequate for enforcement purposes.

3. Residues of fenvalerate are not expected to exceed 0.3 ppm in or on cranberries as a result of this Section 18 use.

4. Secondary residues in animal commodities are not expected to occur as a result of this Section 18 use.

5. Analytical standards are available from the Pesticide and Industrial Chemical Repository in RTP (FTS-629-3951).

Recommendations

TOX considerations permitting, we have no objection to the issuance of this Section 18. An agreement with FDA should be reached regarding the legal status of the treated commodity in commerce.

cc:R.F.,S.F.,Circu,Reviewer,Section 18 file,PMSD/ISB
RDI:SH:7/8/87:RDS:7/8/87
TS-769:RCB:FBS:fbs:557-1883:CM#710:7/8/87