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

MAY 31 1989

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

MEMORANDUM

SUBJECT: 239-1246. Captan on Blueberries. MRID # 410391-01. DEB # 5148.

FROM: Leung Cheng, PhD, Chemist
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THRU: Francis Suhre, Acting Section Head
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In response to a 3(c)2(B) letter (issued in connection with the Captan Registration Standard Guidance Document dated 3/86), Interregional Research Project 4 has submitted residue data for captan on blueberries.

According to EPA's captan guidance document, residue chemistry data reflecting multiple foliar applications by air and ground equipment of a WP formulation at 2.5 lbs ai/A are required. Treatment must be initiated at midbloom and continue at 7 day intervals until berries are mature. Samples must be collected on the day of the final treatment. These tests should be conducted in MI, NJ, and ME, which collectively represent 85% of 1983 U.S. blueberry production.

A tolerance of 25 ppm is established on blueberries for residues of N-trichloromethylthio-4-cyclohexene-1,2-dicarboximide or captan [40 CFR 180.103].

Field trials were conducted in MI, NJ, ME and WA in 1987. Residues of captan and its metabolite tetrahydrophthalimide (THPI) were measured using the method "Determination of Captan and THPI Residues in Crops" (Chevron RM-IN). This is a GC method that DEB previously concluded to be adequate for crop residue analyses (N. Gray, 4/22/88, Captan Registration Standard). The method's limits of detection as used were 0.05 ppm for both captan and THPI. Recoveries ranged from 70-140% at

0.05-20 ppm fortification of captan, and from 74-106% at 0.05-2 ppm fortification of THPI. Controls had <0.05 ppm captan or THPI except in the NJ trials where the control sample contained 1.46 ppm captan and 0.07 ppm THPI.

Applications were made at 2.0, 2.5 or 4.0 lbs ai/A. The number of treatments by air or ground equipment varied from 3 to 14 before harvest. Levels of captan and THPI on blueberries decline as a function of time. Residue results reflecting 0-3 days PHI are summarized below.

Rates lbs ai/A	number of applications	PHI days	captan residues	THPI in ppm
2.0	4	0	8.25	0.12
		3	5.5	0.08
2.5 (1X)	3	0	1.72	<0.05
		3	1.96	<0.05
	4	0	4.0	0.07
		3	5.4	0.08
	8	3	6.9	0.09
		0	8.2	0.11
	6	1	4.8	<0.05
		3	4.3	<0.05
	6	1	10.8	0.09
		3	14.6	0.14
	10	0	8.4	0.15
	14	0	18.3	0.17
4.0 (1.6X)	4	0	22.6	0.32
		3	16.1	0.23

A 1-day PHI has been proposed (by IR-4) because residue data at 0-day PHI are not available from the NJ trials. DEB, however, is of the opinion that there are adequate residue data at 0-day PHI from other major blueberry areas to support a 0-day PHI use pattern.

Samples were stored frozen for 6 months before residue analysis. Data indicate captan residues are quite stable (84-100% recoveries) for 6 months at frozen temperature.

On the basis of the above residue data, DEB concludes that the established 25 ppm tolerance is adequate with either an 0-day or 1-day PHI imposed.

CONCLUSIONS AND RECOMMENDATION

On the basis of the submitted residue data, DEB concludes that a 25 ppm tolerance is adequate for residues of captan on blueberries reflecting multiple applications (up to 14) at 2.5 lbs ai/A by air or ground equipment and a PHI of 0 day or 1 day.

cc:Circ, RF, Special Review F (Rathman), Cheng, Schmitt (Acting Branch Chief), PMSD/ISB
RDI:FSuhre:5/30/89:EZager:5/31/89
H7509C:DEB:CM#2:Rm810:Cheng:5/4/89:5/26/89:1:5/31/89