H7505C

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

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OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

MEMORANDUM

SUBJECT: The Need for Risk Mitigation Measures with a Proposed Use of Chlorpyrifos on Caneberries

FROM: Janet L. Andersen, Chief
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Biological and Economic Analysis Division

TO: Susan T. Lewis, Acting Chief
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The use of netting as a risk mitigation method to protect birds from chlorpyrifos treatments applied to caneberries has been reviewed. The relatively short development period for caneberry fruit, the low crop value with respect to the high cost of netting, and the fact that birds are not considered an economic problem in commercial caneberry plantings in the Pacific Northwest would indicate that the use of netting is not cost effective. There is also a question of whether a significant risk to birds exists from the use of this insecticide on caneberries under the conditions outlined below.

The use pattern on the chlorpyrifos label limits the use to three applications, applied 14 days apart, with a 28 day preharvest interval. In addition, chlorpyrifos cannot be applied during bloom. Refer to the attached table for the details on bloom, fruit development, and harvest periods of the three main types of caneberries grown in CA, OR, and WA (Moore, 1993 and Strik, 1993). Based upon the 21 to 35 day window between the end of bloom and the initiation of harvest, it is not possible to apply more than one chlorpyrifos treatment during this period. For blackberries, chlorpyrifos cannot be applied during fruiting. The sour, hard, relatively dry berries do not begin to sweeten, soften and show color until a week to ten days before harvest. The primary use of chlorpyrifos is likely to be during prebloom for cutworms, raspberry crown borer, and winter moth and during prebloom or postharvest for strawberry crown moth (Antonelli, 1993 and Shanks, 1993).

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The gross value of production for caneberries in the U.S. was approximately $91.9 million in 1992 (USDA, 1993). Considering that 17,100 acres of caneberries are grown annually, (U.S. Department of Commerce, 1987) the gross per acre value of production would be about $5,400. Per acre investment estimates for bird netting range between $24,500 (Strik, 1993) and $35,000 (Askham, 1993) over the seven year life of the netting. This would mean a total investment of $3,500 to $5,000 per acre per year.

Based upon the aforementioned data and estimates, bird netting would cost caneberry growers 65 - 93 percent of their gross income, which would have a serious impact on caneberry growers' long term financial viability. In addition, Askham, 1993 and Strik, 1993 do not consider bird damage to be of economic importance to commercial caneberry growers in the Pacific Northwest.

Unless there are extenuating circumstances not outlined in the material provided for review, the use of bird netting does not appear to be warranted, nor is it cost effective. For further information contact Dr. Douglas Sutherland in BAB (308-8160) or Eric Maurer in EAB (308-8089).

REFERENCES

Antonelli, A. 1993. Personnel Communication. Extension Entomologist. Washington State University. Puyallup.

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Shanks, C. 1993. Personnel Communication. Research Entomologist. Washington State University. Vancouver.

Strik, B. 1993. Personnel Communication. Horticulturalist. Oregon State University, Corvallis.

U.S. Department of Commerce, 1987. Census of Agriculture, U.S. Summary. U.S. Department of Commerce, Bureau of the Census. Washington, DC. 20460.

USDA, 1993. Crop Values, 1992 Summary. United States Department of Agriculture, National Agricultural Statistics Service. Washington, DC 20460.

Attachment

cc: A. Maciorowski
C. Brassard
D. Edwards

Table 1. Range of Bloom, Fruit Development and Harvest Periods for Caneberries in the Pacific Northwest. 1/, 2/

Type of Caneberry, State, Acreage 1/	Approximate Time Range For: Bloom	Fruit Development 3/	Harvest
Blackberries (e.g., Chester, Black Satin) CA - 500A OR - 200A	4 weeks (28 days)	3 weeks (21 days)	7-8 weeks (49-56 days)
Raspberries (e.g., Hermitage, Willamette) CA - 1,700A OR - 4,000A WA - 4,000A	3 weeks (21 days)	3-4 weeks (21-28 days)	4-5 weeks (28-35 days)
Trailing Blackberries or Dewberries (e.g., Boysen., Logan., Marion., Olallieberries, Thornless Evergreen) CA - 300A OR - 6,000A	3-4 weeks (21-28 days)	4-5 weeks (28-35 days)	3-4 weeks (21-28 days)

1/ P. Moore, 1993 and B. Strik, 1993.

2/ The season from bloom through harvest varies from late June to early October, depending upon the type of caneberry, variety and geographic location.

3/ This is the period during which you can treat caneberries with insecticides (e.g., chlorpyrifos), which cannot be applied during bloom. In the case of chlorpyrifos, the 28 day preharvest interval exceeds that period for some of the specified types and varieties of caneberries.