4704

Shaughnessy No: 109801

Date Out of EAB: MAY 17 1985

To: Donald Stubbs
Product Manager 41
Registration Division (TS-767)

From: Samuel M. Creeger, Chief
Environmental Chemistry Review Section 1
Exposure Assessment Branch
Hazard Evaluation Division TS-769c

Attached, please find the EAB review of:

Reg./File # : 85-OR-04

Chemical Name: Iprodione

Type Product : Fungicide

Product Name : ROVRAL 50W

Company Name : State of Oregon

Purpose : Emergency exemption for use on caneberries.

Action Code : 510

Date Received : 4/25/85

Date Completed: 5/17/85

EAB #(s) : 5567

TAIS Code: 21

Reviewing Time: 0.3 days

Deferrals to:

_____ Ecological Effects Branch

_____ Residue Chemistry Branch

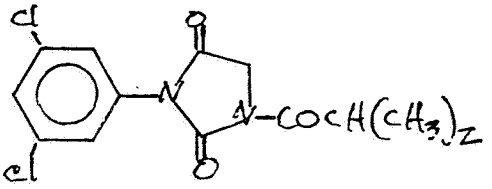
_____ Toxicology Branch

1. CHEMICAL: Common Name- Iprodione

Chemical Name- 3-(3,5-dichlorophenyl)-N-(1-methylethyl)-2,4-dioxo-1-imidazolidinecarboxamide

Trade Name- ROVRAL Fungicide (50% ai)

Chemical Structure-



2. TEST MATERIAL: Not applicable. No new data were submitted.

3. STUDY/ACTION TYPE: Request by the Oregon Department of Agriculture for an Emergency Exemption (Section 18) to use iprodione to control Botrytis fruit rot fungus on caneberries. The fungus is considered partially-to-totally resistant to all registered fungicides. The proposed exemption calls for a maximum of 5 applications of 0.5 to 1.0 lb ai/A/season, with treatment of 4,200 acres. Supporting information is attached.

4. STUDY IDENTIFICATION: Not applicable. No new data were submitted.

5. REVIEWED BY:

Herbert L. Manning, Ph.D.
Microbiologist
EAB/HED

Signature: Herbert L. Manning
Date: 17 May 1985

6. APPROVED BY:

Samuel M. Creeger
Chief, Section 1
EAB/HED

Signature: Samuel M Creeger
Date: MAY 17 1985

7. CONCLUSIONS:

The environmental fate data in our files supports the use of this fungicide on caneberries.

8. RECOMMENDATIONS:

The data in EAB files supports the request for an Emergency Exemption (Section 18) to use iprodione on caneberries in Oregon.

9. BACKGROUND:

A. Introduction

See Section 3 of this review.

B. Directions for Use

See attached information.

10. DISCUSSION OF INDIVIDUAL TESTS OR STUDIES:

A. Study Identification

Not applicable. No new data were submitted.

11. COMPLETION OF ONE-LINER:

No data were submitted.

12. CONFIDENTIAL APPENDIX:

No CBI was submitted.

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Oregon Department of Agriculture

635 CAPITOL STREET NE. SALEM. OREGON 97310-0110

April 15, 1985

Mr. Donald R. Stubbs, Section Head
Emergency Response Group (TS767C)
Environmental Protection Agency
Crystal Mall Building 2
1921 Jefferson Davis Hwy.
Arlington, VA 22202

Dear Mr. Stubbs:

The Oregon Department of Agriculture requests approval of this application for a specific exemption under Section 18, FIFRA, as amended, in Part 166, Title 40, CFR 166.3 to use Rovral 50W (Iprodione) fungicide for the control of Botrytis fruit rot on caneberries grown in Oregon.

The following is a brief summary of the items of information required in 40 CFR 166.3(a):

1. Botrytis cinerea is the major causal organism of both pre-harvest and post-harvest fruit rots of caneberries. The problem is particularly severe on evergreen blackberries. B. cinerea produces spores on a wide range of living tissue, plant debris, and on soil, and as a result presents a constant threat of infection. Spores are disseminated by wind and splashing rain. The disease appears as blossom blights, stem cankers and stem rots, and the fungus becomes established in flowers. The fungus moves from flower petals into the fruit causing fruit rot on the plant or post-harvest rot. Control of rot after harvest is important to growers who ship caneberries for sale on the fresh market.

2. The pest to be controlled is Botrytis fruit rot (Botrytis cinerea).

3. At present, registered pesticides are no longer providing effective control of Botrytis in caneberries. Resistance to Botrytis is currently not contained in presently propagated cultivars of caneberries, and cultural practices are not effective in controlling the disease.

   Registered fungicides include Benlate, Captan, Botran and Folpet. Botran and Folpet are not commonly used, because of their history of ineffectiveness. Recent research by several workers has shown

an increasing problem of resistance to Benlate developing in Botrytis in many crops. Recent work by H.S. Pipin of the Agriculture Canada Research Station in Vancouver, British Columbia, has documented resistance of Botrytis to benomyl on strawberries and indicated a similar situation developing on raspberries. Strawberries and raspberries are often grown in adjacent plantings in western Oregon. Captan has been used with limited success only in years when climatic conditions are not favorable to disease development. No registered fungicide has performed acceptably in western Oregon when cool, moist conditions persist during flowering and into harvest. In 1984, Ronilan fungicide was used under emergency exemption. Ronilan performed well, but the seven day preharvest interval resulted in unnecessary rot at harvest. Botrytis fruit rot fungus is generally considered partially-to-totally resistant to all the registered fungicides.

4. Rovral 50W fungicide (EPA Reg. No. 359-685) active ingredient: Iprodione: 3-(3, 5-dichlorophenyl)-N-(I-methylethyl) -2,4-dioxo-1-imidazolidinecarboxamide 50%, manufactured by Rhone-Poulenc, Inc., Monmouth Junction, New Jersey, is the pesticide intended to be used.

5. Application Information

   A. Rate of application is to be 1 to 2 lbs. of Rovral 50W (0.5 to 1.0 lb. active ingredient) per acre per application, with a maximum of 5 applications per season. If all five treatments are necessary, a maximum of 42,000 lbs. of product will be needed to treat an estimated 4,200 acres.

   B. Spray coverage of the developing fruit is essential. For full season control of Botrytis disease, the following spray program will be followed: the first application will be made not later than at 10% primary bloom which, depending upon weather conditions, will be between May 10 and 15. The interval between subsequent applications will vary according to weather conditions and resultant disease pressure. Applications of Rovral 50W will be made in no less than 50-100 gallons of spray per acre to obtain thorough coverage of developing fruit. The last application may be made as late as the day of harvest. All applications will be made by ground equipment.

   C. Rovral 50W is requested for use in the following western Oregon counties: Washington, Multnomah, Clackamas, Linn, Benton, Yamhill, Polk, Lane, Douglas and Marion.

   D. Applications will be made by licensed commercial applicators, or by growers using their own equipment.

   E. Applications will be needed from May 10 through September 30, 1985.

6. Economic Information Concerning Caneberries in Oregon:

A. Most of the commercial caneberry production in Oregon is blackberries and raspberries. Other caneberry crops include Youngberries, Boysenberries, Marionberries and Loganberries. Most of the berries in all categories are processed, but a portion of each crop is sold on the fresh market. The aggregate value for all caneberries grown in Oregon in 1984 was estimated to be approximately $27,866,000 and approximately $24.3 million in 1983.

B. Economic value of raspberries and blackberries to Oregon for 4 years:

	1981	1982	1983	1984
Raspberries	$6.14 million	$9.53 million	$ 7.00 million	$ 9.84 million
Blackberries	2.9	3.5 (est.)	$10.20 million	13.85 million

Acreage of caneberry crops in Oregon:

	1981	1982	1983	1984
Raspberries	2,200 acres	2,200 acres	2,500 acres	3,000 acres
Blackberries	4,100	4,100	4,300	4,500
Other Caneberries	1,400	1,400	1,400	1,500

Price received per pound last four years:

	1981	1982	1983	1984
Raspberries	$.51/lb.	$.67/lb.	$.37/lb.	$.52/lb.
Blackberries	.13-.15	.12-.28	.29	.50

Crop yield/acre for four years:

	1981	1982	1983	1984
Raspberries	6,000 lbs.	5,150 lbs.	5,600 lbs.	5,000 lbs.
Blackberries	10,500	7,500	7,000	7,250

Crop production cost estimates per pound past 4 years:

	1981	1982	1983	1984
Raspberries	$.40/lb.	$.45/lb.	$.46/lb.	$.50/lb.
Blackberries	.29	.33	.34	.35

7. Economic benefits and losses expected:

With the use of Rovral 50W, growers may expect savings to range from $200 to $600/acre for raspberries and $125 to $475/acre for blackberries, depending upon the severity of the infestation. This could amount to a total savings of approximately $1,900,000.

Without the use of Rovral 50W and using Captan and Benlate instead, it is estimated raspberry growers may incur as much as a 25% loss in production. This could amount to $780/acre loss. An additional cost of about $45/acre is incurred for sorting and removal of Botrytis infected berries during picking and processing. This then could amount to a potential loss of $1,800,000 for 2,200 acres of raspberries.

Without the use of Rovral 50W, blackberry growers could experience a 25% loss, amounting to $580/acre plus an additional cost of $60/acre to remove infected fruit. The potential loss on 2,000 acres of blackberries could amount to $1,200,000. Therefore, the combined loss for all caneberries could be in excess of $3,000,000 if wide-spread severe infection occurs.

8. Estimation of the percent control of pests with registered pesticides: During the past four years, fruit losses due to Botrytis have ranged between 10-25%. Some localized situations have occurred with growers sustaining losses of 50%. Losses are compounded when a part of the crop loss is due to blossom infection so that fruit does not set and some of the loss is due to rotting fruit which has already formed.

Most growers are making an effort to control Botrytis, but many question the effectiveness of Captan and Benlate. Some growers have machine-picked blackberries and allowed them to fall to the ground to remove moldy fruit so that later pickings are more disease free. Registered pesticides are estimated to be 10-40% effective. It is estimated that disease control with Rovral 50W will be 80-90%.

9. A proposed tolerance of 20 ppm is suggested for raspberries, blackberries and other caneberries. Analytical data for both raspberries and blackberries indicate that Rovral residues would not exceed the proposed tolerance when the material is applied according to this Section 18 request. Residue information (enclosed) indicates that applications at twice the proposed maximum rate requested resulted in a residue of 21.6 ppm.

10. Name and address of knowledgeable expert:

Dr. Peter Bristow
Western Washington Research and Extension Center
PUYALLUP WA 98371
(206) 593-8529
or
(206) 593-8500

Your prompt consideration of this application is requested. The use period for this product is rapidly approaching and reports from fieldmen indicate that disease pressure is building.

Sincerely,

Leonard Kunzman
Director
(503) 378-4152

bsPL120-124
Enclosure
cc: Peter Bristow
Iain MacSwan
Esther Nelson
Ron Burr
Lyn Frandsen
Bill Kosesan