



Evaluation Report for Category B, Subcategory 3.12 Application

Application Number: 2010-0979
Application: Changes to product labels – New site or host
Product: Acrobat 50 WP Fungicide
Registration Number: 27700
Active ingredients (a.i.): Dimethomorph
PMRA Document Number English PDF: 2117912

Purpose of Application

The purpose of this application was to amend the label of the commercial end-use product Acrobat 50 WP Fungicide (Registration number 27700; 50% dimethomorph) to include new crops: Brassica vegetables, bulb vegetables, cucurbit vegetables, fruiting vegetables, leafy vegetables, hops, grapes and raisins. Currently, Acrobat 50 WP Fungicide has full registration to control or suppress various oomycete diseases in potatoes and ornamentals (greenhouse and outdoor).

Chemistry Assessment

A chemistry assessment was not required for this application.

Health Assessments

No risks of concern to dimethomorph are expected from the addition of Brassica leafy vegetables, bulb vegetables, cucurbit vegetables, fruiting vegetables, leafy vegetables, grapes and hops to the Acrobat 50 WP Fungicide label. Exposure assessments were performed and no unacceptable risks to workers, who mix, load, apply and re-enter treated fields, are expected with the addition of these crops, when workers follow label directions and precautions, including listed personal protective equipment and the crop-specific restricted entry intervals.

New residue data for dimethomorph in representative crops of Crop Groups 3-07 (dry bulb and green onion), 4 (head and leaf lettuce; spinach and celery), 5 (broccoli, cabbage, mustard greens), 8 (standard and small tomato cultivars; bell and non bell pepper varieties), 9 (cucumbers, cantaloupes and squash [winter and summer]) and in grapes and hops were submitted to support the use expansions of this active ingredient on the Acrobat 50 WP Fungicide label. Previously reviewed data were also re-assessed for potatoes, grapes and representative crops of Crop Group 9. In addition, processing studies on treated tomatoes and grapes were assessed to determine the potential for concentration of residues of dimethomorph into processed commodities.

Maximum Residue Limits

Recommendations for maximum residue limits (MRLs) for dimethomorph in/on Brassica, head and stem, subgroup 5A, Brassica, leafy greens, subgroup 5B, Bulb Vegetables, Group 3-07, Leafy Vegetables, Group 8-09, Small fruit vine climbing subgroup 13-07F, except fuzzy kiwifruit, hops and raisins were based on guidance provided by the OECD MRL Calculator Statistical White Paper (2011).

Based on statistical methodology and residue data from field trials conducted either at exaggerated rates or according to label directions, MRLs to cover residues of dimethomorph in/on the various crops will be established as shown in Table 1. Residues of dimethomorph in processed commodities not listed in Table 1 are covered under the MRLs for the raw agricultural commodities (RACs).

TABLE 1. Summary of Field Trial and Processing Data Used to Establish Maximum Residue Limits (MRLs)								
Commodity	Application Method/ Total Application Rate* (kg a.i./ha)	PHI (days)	Dimethomorph Residues (ppm)		Experimental Processing Factor	Currently Established MRL	Recommended MRL	
			Min	Max				
Dry bulb onion	Foliar Broadcast/1.568 [WP]	0	0.028	0.28	--	None	0.6 ppm for Crop subgroup 3-07A (Bulb Onion Subgroup)	
	Foliar Broadcast/0.66-0.71 [SC] + adjuvant	0	0.04	0.40				
Green onion	Foliar Broadcast/1.568-1.792 [WP]	0	0.641	1.221	--	None	15 ppm for Crop subgroup 3-07B (Green Onion Subgroup)	
	Foliar Broadcast/0.7 [SC] + adjuvant	0	1.34	6.60				
Head lettuce	Foliar Broadcast/0.671-0.687 [SC] + adjuvant	0	1.07	4.10	--	None	30 ppm for Crop Group 4 (Leafy Vegetables)	
	Foliar Broadcast/1.568-1.792 [WP]	0	1.1	6.5				
Leaf Lettuce	Foliar Broadcast/0.672-0.693 [SC] + adjuvant	0	2.04	10.53	--	None		
	Foliar Broadcast/1.568 [WP]	0	2.6	9.1				
Spinach	Foliar Broadcast/0.668-0.704 [SC] + adjuvant	0	4.20	11.47	--	None		
Celery	Foliar Broadcast/0.672-0.692 [SC] + adjuvant	0	1.25	8.82	--	None		
Broccoli	Foliar Broadcast/0.663-0.721[SC] + adjuvant	0	0.19	2.14	--	None		6 ppm for Brassica, head and stem subgroup 5A
	Foliar Broadcast/1.568 [WP]	7	<0.05	0.52				
Cabbage	Foliar Broadcast/0.662-0.684 [SC]+ adjuvant	0	0.13	4.61	--	None		

TABLE 1. Summary of Field Trial and Processing Data Used to Establish Maximum Residue Limits (MRLs)							
			Dimethomorph Residues (ppm)				
	Foliar Broadcast/1.568 [WP]		7	<0.05			
Mustard Greens	Foliar Broadcast/0.659-0.681 [SC] + adjuvant	0	3.44	19.25	--	None	30 ppm for Brassica, leafy green, subgroup 5B
Tomato (standard and small size cultivars)	Foliar Broadcast/1.344-1.568 [WP]	0	<0.05	0.46	2.4 x for paste; no concentration observed in purée	None	3 ppm for Fruiting vegetables, Group 8-09
	Foliar Broadcast/0.659-0.681 [SC] + adjuvant	4	<0.01	0.42			
Bell Pepper	Foliar Broadcast/1.568 [WP]	0	<0.025	0.921	--	None	
	Foliar Broadcast/0.65-0.70 [SC] + adjuvant	4	<0.01	0.25			
Non bell pepper	Foliar Broadcast/1.568 [WP]	0	0.078	1.205	--		
	Foliar Broadcast/0.65-0.70 [SC] + adjuvant	4	0.03	0.36			
Cucumber	Foliar Broadcast/ 0.68-0.69 [SC] + adjuvant	1	<0.01	0.09	--	0.5 ppm for Crop Group 9, cucurbit vegetables	None
Cantaloupe	Foliar Broadcast/ 0.67-0.69 [SC] + adjuvant	1	0.02	0.25	--		
Summer squash	Foliar Broadcast/ 0.66-0.69 [SC] + adjuvant	1	0.02	0.12	--		
Winter squash	Foliar Broadcast/ 0.68-0.69 [SC] + adjuvant	1	0.02	0.17	--		
Grapes	Foliar Broadcast/ 0.89-0.93 [SC] + adjuvant	14-15	0.11	1.86	3.8x for raisins; no concentration observed in grape juice	None	3 ppm for Small vine climbing subgroup, except fuzzy kiwifruit, 13-07F
						None	7 ppm for Raisins
Hops	Foliar Broadcast/ 0.674-0.682 [SC] + adjuvant	7	9.57	12.58	--	None	40 ppm for Hops, dried cones
	Foliar Broadcast/ 2.68-2.70 [WP]	6-7	4.01	17.32	--		

*Data from trials conducted with a wettable powder [WP] or a soluble concentrate [SC] formulation.

Following the review of all available data, MRLs are recommended to cover residues of dimethomorph in Crop Groups 3-07, 4, 5A, 5B, 8-09, 13-07F, hops and raisins. Residues of dimethomorph in these commodities at the established MRLs will not pose an unacceptable risk to any segment of the population, including infants, children, adults and seniors.

Environmental Assessment

The proposed use pattern for Acrobat 50 WP Fungicide on several of the new host crops represents an increase in application rate, as well as, new application methods for the product. As such, buffer zones were calculated for the new uses and the new application methods using current up to date drift models and calculation methods. Model inputs and endpoints used in the buffer zone calculations were consistent with the original review and risk assessment of Acrobat 50 WP Fungicide. The buffer zone table for existing uses was also updated to current standards and environmental risk mitigation label statements have been updated to current practices. The PMRA has determined that the proposed use expansions for Acrobat 50 WP Fungicide will not result in an unacceptable risk to non-target organisms.

Value Assessment

A total of 72 trials were submitted to support seven new claims on the Acrobat 50 WP Fungicide label. The trials were conducted between 1993 and 2007 in Canada, the United States and Brazil. Certain trials were not considered either because of invalid Acrobat 50 WP Fungicide treatments (e.g. co-applied with other actives), disease pressure was inadequate, or because sufficient support was obtained from other trials. Acrobat 50 WP Fungicide provided disease reduction at the suppression level for most of the proposed claims, with the exception of downy mildew on grapes and late blight on tomatoes, where higher average levels of disease control were observed. Claims proposed for entire crop groups were either supported with data or with rationales based on similarities among crops within the groups in question. The proposed claims for control or suppression of downy mildew on Brassica, bulb, cucurbit, leafy vegetables, grapes and hops, as well as late blight on fruiting vegetables, were supported.

Conclusion

The PMRA has completed an assessment of available information for Acrobat 50 WP Fungicide and has found the information sufficient to amend the Acrobat 50 WP Fungicide label to include Brassica vegetables, bulb vegetables, cucurbit vegetables, fruiting vegetables, leafy vegetables, hops, grapes and raisins. MRLs are recommended to cover residues of dimethomorph in/on these crops.

References

PMRA Document Number	Reference
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1966488	2002, Dimethomorph: Magnitude of the Residue on Onion (Dry Bulb), DACO: 7.4.1
196649	2002, Dimethomorph: Magnitude of the Residue on Onion (Green), DACO: 7.4.1
1871722	2010, Magnitude of BAS 650 F and BAS 550 F Residue in Bulb Vegetables following Applications of a Tank Mix Containing BAS 650 00 F and BAS 550 11 F, DACO: 7.4.1
1871713	2010, Magnitude of BAS 650 F and BAS 550 F Residue in Leafy Vegetables following Applications of BAS 651 00 F, DACO: 7.4.1
1966492	2002, Dimethomorph: Magnitude of the Residue on Lettuce (Head) , DACO: 7.4.1
1966493	2002, Dimethomorph: Magnitude of the Residue on Lettuce (Leaf), DACO: 7.4.1
1872740	2002, BAS 550 F (CL 36379, Dimethomorph): Residues of BAS 550 F in Spinach after Multiple Applications of Acrobat 50 WP Fungicide, DACO: 7.4.1
1872765	2003, BAS 550 F (CL 336379, Dimethomorph): Residues of BAS 550 F in Brassica after Multiple Applications of Acrobat 50 EP Fungicide, U.S, DACO: 7.4.1
1871726	2010, Magnitude of BAS 650 F and BAS 550 F Residue in Leafy Brassica Vegetables Following Applications of a Tank Mix Containing BAS 650 00 F and BAS 550 11 F, DACO: 7.4.1
1872733	1999, CL 336379 (Dimethomorph): CL 336379 Residues in Fresh Market Tomato Fruit after Multiple Treatments with Acrobat MZ (90/600) WP Fungicide in Florida, DACO: 7.4.1
1872737	1999, CL 336379 (Dimethomorph): CL 336379 Residues in Fresh Market Tomato Fruit after Multiple Treatments with Acrobat MZ (90/600) WP Fungicide in Florida., DACO: 7.4.1
1872767	1998, CL 336379: Crop Residue Study: CL 336379 Residues in Fresh Market Tomato Fruit after Multiple Application of Acrobat MZ (90/600) WP Fungicide, DACO: 7.4.1
1872735	1999, CL 336379 (Dimethomorph): CL 336379 Residues in Small Tomato Fruit after Multiple Treatments with Acrobat MZ (90/600) WP Fungicide in California, DACO: 7.4.1

- 1872738 1999, CL 336379 (Dimethomorph): CL 336379 Residues in Fresh Market Tomato Fruit after Multiple Treatments with Acrobat MZ (90/600) WP Fungicide in California, DACO: 7.4.1
- 1872742 1999, CL 336379 (Dimethomorph): CL 336379 Residues in Processing Tomato Fruit after Multiple Treatments with Acrobat MZ (90/600) WP Fungicide in California, DACO: 7.4.1
- 1872744 1999, CL 336379 (Dimethomorph): CL 336379 Residues in Fresh Market Tomato Fruit after Multiple Treatments with Acrobat MZ (90/600) WP Fungicide in California, DACO: 7.4.1
- 1872763 1997, CL 336379: Crop Residue Study: Dimethomorph Residues in Tomato Fruit after Multiple Applications of Dimethomorph 50 WP Fungicide. (CA; 1995), DACO: 7.4.1
- 1872766 (1998) CL 336379: Crop Residue Study: CL 336379 Residues in Fresh Market Tomato Fruit after Multiple Applications of Acrobat MZ (90/600) WP Fungicide, DACO: 7.4.1
- 1872768 1997, CL 336379: A Crop Residue Study: Dimethomorph Residues in Tomato Fruit after Multiple Applications of Dimethomorph 50 WP Fungicide. (CA; 1995), DACO: 7.4.1
- 1872769 1997, CL 336379: A Crop Residue Study: Dimethomorph Residues in Tomato Fruit after Multiple Applications of Dimethomorph 50 WP Fungicide. (CA; 1995), DACO: 7.4.1
- 1872760 1998, CL 336379: Crop Residue Study: CL 336379 Residues in Fresh Market Tomato Fruit after Multiple Applications of Acrobat MZ (90/600) WP Fungicide, DACO: 7.4.1
- 1872761 1997, CL 336379: A Crop Residue Study: Dimethomorph Residues in Tomato Fruit after Multiple Applications of Dimethomorph 50 WP Fungicide. (TX; 1995), DACO: 7.4.1
- 1872764 1998, CL 336379: Crop Residue Study: CL 336379 Residues in Fresh Market Tomato Fruit after Multiple Applications of Acrobat MZ (90/600) WP Fungicide, DACO: 7.4.1
- 1872781 1998, CL 336379: Crop Residue Study: CL 336379 Residues in Processing Tomato Fruit after Multiple Applications of Acrobat MZ (90/600) WP Fungicide, DACO: 7.4.1
- 1872757 2002, Dimethomorph: Magnitude of the Residue on Pepper (Bell & Non-Bell), DACO: 7.4.1

1871724	2010, Magnitude of BAS 650 F and Dimethomorph Residue in Fruiting Vegetables following Applications of a Tank Mix Containing BAS 650 00 F and BAS 550 11 F, DACO: 7.4.1
1872749	2002, Dimethomorph: Magnitude of the Residues on Squash, DACO: 7.4.1
1872750	2002, Dimethomorph: Magnitude of the Residues on Cantaloupe, DACO: 7.4.1
1872752	2002, Dimethomorph: Magnitude of the Residues on Cucumber, DACO: 7.4.1
1871728	2010, The Magnitude of BAS 650 F and Dimethomorph Residue in Cucurbits following Applications of a Tank Mix Containing BAS 650 00 F and BAS 550 11 F., DACO: 7.4.1
1871715	2009, Magnitude of BAS 650 F and Dimethomorph Residues in Grapes following Applications of BAS 650 00 F and FORUM Fungicide, DACO: 7.4.1
1872748	2000, Dimethomorph: Magnitude of the Residue on Hops, DACO: 7.4.1
1871719	2009, The Magnitude of BAS 650 F and Dimethomorph Residues in Hops following Applications of FORUM Fungicide and BAS 650 00 F, DACO: 7.4.1
1978719	2010, Dimethomorph: Magnitude of the Residue on Grapes, DACO: 7.4.1, 7.4.5
872787	1997, Processing Residue Study: CL 336379 Residues in Tomato Fruit after Multiple Applications of Dimethomorph 50 WP Fungicide, DACO: 7.4.5
1872692	2010. Value Summary for Acrobat 50WP Fungicide. 266 pp. DACO: 10

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