BLUEBERRY (*Vaccinium corymbosum* 'Berkley')
Mummyberry; *Monilinia vaccinii-corymbosi*

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Fungicide control of mummyberry, 2006.

Fungicide treatments were arranged in a randomized complete block design in a block of 'Berkley' blueberries planted in 1999 on 5 x 10 ft spacing. Each treatment consisted of 6 single bush replicates. Fungicide treatments were applied using a hydraulic handgun sprayer at approximately 110 psi at a rate of 108 to 290 gal water/A, depending on the amount of foliage present on bushes at time of application. Approximately 0.75 to 2.0 gal of a spray suspension were applied per 6 bushes. Treatments were applied on 19 Mar (floral bud break), 30 Mar, 12 Apr (early bloom), 27 Apr (full bloom), and 9 May (late bloom). Each fungicide treated bush was flanked on each side by nontreated bushes. Nu-Cop (6 lb/A) was applied on 9 Nov 05 (50% leaf drop) to help prevent bacterial blight. Bushes were pruned from 21 to 26 Jan by thinning out small and spindly shoots and removing older non-productive stems. Plots were fertilized on 12 Apr and again on 15 May with approximately 200 lb/A (based on in the bush row area) of 16-16-16-8. Due to dry spring weather, overhead irrigation was applied on 13, 15 and 18 May for 4 hours each day. Regular summer irrigation began on 20 Jun and was applied 2 times per week (6 hour set) during the growing season. The number of floral clusters with symptoms of primary mummyberry was evaluated on 11 May by examining 100 arbitrarily selected clusters per bush. The number of vegetative shoots per bush with symptoms of primary mummyberry was evaluated on 13 May. On 27 Jun, approximately 300 green, healthy appearing berries were harvested arbitrarily from each Berkley plant and placed in the refrigerator. Over the next few weeks 200 berries were arbitrarily selected, split in half and evaluated for symptoms of secondary mummyberry (white mycelial mats within the carpels of the berry).

Apothecia started to emerge on 27 Mar with some observed fully open on 29 Mar. The number of mature apothecia seemed to reach a peak around the first few days in Apr but then tapered off to only a few by 7 Apr and were past maturity by 17 Apr. Apothecia seemed to be widely scattered but with more found to the north and east plots. Bushes in replicate number 5 had unusually high amounts of disease relative to other plots and were not used in data analysis. Primary mummyberry symptoms were observed on both flower clusters and shoots starting 24 Apr. Other floral problems due to *Blueberry Shock Virus* were observed scattered throughout the blueberry planting and were difficult to separate out. The amount of flower cluster blight on bushes treated with Bravo/Indar/Pristine, any rate of V-10135, Serenade alone or during bloom, or Serenade tank mixed with Kocide was not significantly different than that found on nontreated bushes. Lowest amount of flower cluster blight was on bushes treated with the high rate of V-10116 although bushes treated with Pristine, the low rate of V-10116, V-10135 tank mixed or alternated withV-10116, or the various combinations of Serenade alone or with other fungicides were not significantly different. There were no significant differences among any treatment with respect to the number of primary mummyberry symptoms found on vegetative shoots per bush. Highest amount of green fruit with mummyberry was found on bushes treated with Serenade tank mixed with Abound but bushes treated with the low or high rate of V-10135, Serenade alone, Serenade tank mixed with Kocide, Serenade alternated with Pristine or nontreated bushes were not significantly different. Based on these data together, it appears that V-10135 is ineffective against all stages of mummyberry. Serenade seems to have some effect on the primary stage of this disease but not the secondary. More testing with various rates of Serenade are needed to fully evaluate the possible benefits of Serenade for organic growers. Use of Bravo as the first spray application may be hard to justify if apothecia develop before the next spray application as happened in this trial.

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Treatment & Rate/A	Application Date [x]	Primary Mummyberry Floral Clusters [y] (%)		Primary Mummyberry Shoots/plant [y]	Green Fruit with Mummyberry [y] (%)	
Nontreated ……	----	5.4	abc	0.4	4.2	a
Bravo Weatherstik at 32 fl oz then	A					
Indar 75 WSP at 2 oz plus						
Latron B1956 at 1 fl oz/100 gal alternate	B, D					
Pristine 38EG at 18.5 oz/plus						
Break Thru at 4 fl oz/100 gal ……	C, E	4.4	abcde	1.2	0.7	b
Pristine 38EG at 18.5 oz/plus						
Break Thru at 4 fl oz/100 gal.....……	All	1.2	ef	0.6	1.1	b
V-10135 (50 WG) at 6 oz…….....…..	All	5.0	abcd	1.0	2.7	ab
V-10135 (50 WG) at 8 oz…….....…..…	All	5.8	ab	2.4	1.2	b
V-10135 (50 WG) at 10 oz …….....…..	All	6.2	a	0.6	2.9	ab
V-10116 (50 WG) at 1.8 oz ……..…..…….	All	1.2	ef	0.8	1.0	b
V-10116 (50 WG) at 2.6 ……...……...	All	0.8	f	0.0	0.6	b
V-10135 (50 WG) at 6 oz plus						
V-10116 (50 WG) at 1.8 oz……...…	All	1.0	f	1.5	0.9	b
V-10135 (50 WG) at 8 oz alternate	A, B, D					
V-10116 (50 WG) at 2.6 oz……...…	C, E	1.6	ef	0.2	0.5	b
Serenade ASO EC at 4 qt plus						
Latron B-1956 at 2 fl oz/100 gal……	All	2.8	bcdef	0.2	2.5	ab
Serenade ASO EC at 4 qt plus						
Latron B-1956 at 2 fl oz/100 gal plus						
Kocide 2000 WP at 2 lb…….……	All	2.4	cdef	0.4	4.1	a
Serenade ASO EC at 4 qt plus						
Latron B-1956 at 2 fl oz/100 gal plus						
Abound EC at 6.2 fl oz…….……..	All	1.8	def	0.8	4.3	a
Serenade ASO EC at 4 qt plus						
Latron B-1956 at 2 fl oz/100 gal then	A, B, C					
Indar 75 WSP at 2 oz plus						
Latron B-1956 at 2 fl oz/100 gal ……	D, E	3.6	abcdef	1.0	0.8	b
Indar 75 WSP at 2 oz plus						
Latron B-1956 at 2 fl oz/100 gal then	A, B, C					
Serenade ASO EC at 4 qt plus						
Latron B-1956 at 2 fl oz/100 gal …..…..	D, E	0.8	f	0.2	1.3	b
Serenade ASO EC at 4 qt plus						
Latron B-1956 at 2 fl oz/100 gal alternate	A, C, E					
Indar 75 WSP at 2 oz plus						
Latron B-1956 at 2 fl oz/100 gal ……	B, D	1.4	ef	0.8	0.9	b
Serenade ASO EC at 4 qt plus						
Latron B-1956 at 2 fl oz/100 gal alternate	A, C, E					
Pristine 38EG at 18.5 oz/plus .						
Break Thru at 4 fl oz/100 gal ……	B, D	1.4	ef	0.4	2.2	ab

[x] Treatments were applied on A = 19 Mar (floral bud break), B = 30 Mar, C = 12 Apr (early bloom), D = 27 Apr (full bloom), and E = 9 May (late bloom).

[y] Means followed by same letter do not differ significantly based on Fisher's protected LSD (P=0.05). Means without any letters did not differ significantly.