

BLUEBERRY (*Vaccinium corymbosum* 'Bluetta')
Ripe Rot (Anthracnose); *Colletotrichum* sp.
Mummyberry; *Monilinia vaccinii-corymbosi*

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Fungicide control of blueberry diseases, 2003.

A planting of Bluetta and Berkley blueberries was established in 1999 to test fungicides or other tactics for disease control. Mummyberry mummies were collected on 3 Sept 02 and distributed throughout an adjacent Berkley block. Fungicide treatments were arranged in a randomized complete block design in a block of 'Bluetta' blueberries planted in 1999 on 5 x 10 ft spacing. Each treatment consisted of 12 single bush replicates. Fungicide treatments were applied using a pump-style backpack sprayer at a rate of 55 to 110 gal water/A, depending on the amount of foliage present on bushes. Approximately 0.75 to 1.5 gal of a spray suspension was applied per 12 bushes. Treatments were applied on 18 Mar (late floral bud break), 31 Mar (late vegetative bud break and very early bloom), 16 Apr (full bloom), 30 Apr (late bloom to petal fall), 14 May, 29 May, 11 and 25 Jun. Treatments of Funginex or Bravo were not applied past 30 Apr as they are not registered for use past bloom. Weeds were controlled using Surflan AS (4 qt/A) plus Glyphos X-TRA (3 qt/A) applied on 27 Feb 03. Bushes were pruned from 10 to 14 Feb 03 by thinning out small and spindly shoots but leaving dead floral trusses. Plots were fertilized with approximately 62 lb/A of a 46-0-0 fertilizer on 28 Apr and 21 May. Supplemental irrigation was used beginning 16 May and applied 1 or 2 times per week during the growing season. Kocide DF (6 lb/A) was applied on 5 Nov 02 to help prevent bacterial blight. Nets were placed over bushes on 17 Jun to reduce bird damage. The number of floral clusters and vegetative shoots with symptoms of primary mummyberry was evaluated on 13 May. On 3 Jul, 100 berries were harvested from each Bluetta plant and placed on wire racks within moist chambers located in Cordley Hall. Each moist chamber contained a random selection of two treatments (200 berries or 100 berries per treatment) separated by a wire mesh. Berries were incubated at room temperature for 14 days. The number of berries with symptoms of ripe rot (small reddish to pinkish liquid drops forming on the surface of the berry) were evaluated and removed each day. Berries rotting from other causes were noted and also removed from the moist chambers daily.

Apothecia were first observed in the Berkley block on 26 Mar and continued to develop through 14 Apr but could not be found by 18 Apr. Primary mummyberry strikes were observed on flower clusters on 18 Apr but only a few were observed on vegetative shoots beginning 5 May. Only a few secondary mummyberries were observed on 10 Jun. The number of clusters with primary mummyberry was significantly lower for all bushes treated with fungicide when compared with nontreated bushes. Bushes treated with Elevate or TM-45002 had the fewest clusters with primary mummyberry but bushes treated with Bravo (alone or in rotation), Captan, Ziram alone, or Abound alone were not significantly different. Bushes treated with Funginex or Indar all season developed significantly more ripe rot than nontreated bushes. All other treatments resulted in ripe rot not significantly different from nontreated bushes. Other fungi were observed rotting berries after harvest with *Botrytis* sp. being especially abundant. Bushes treated with Indar all season did not have significantly less fruit rot than nontreated bushes though all other fungicide treated bushes were significantly different. Bushes treated with TM-45002 had the fewest rotted berries but bushes treated with Bravo (alone or in rotation), Captan, Ziram alone, Orbit, Elevate or Abound (alone or in rotation) were not significantly different.

Treatment & Rate/100 gal	Number of applications ^x	Primary Mummyberry Floral Clusters/plant ^y	Primary Mummyberry Shoots/plant ^y	Fruit with Ripe Rot (Anthracnose) ^y (%)	Rotted Fruit (not with Ripe Rot) ^y (%)
Nontreated	0	42.9 a	0.1	3.5 b	34.3 a
Funginex 24 fl oz	4	28.3 b	0.1	18.8 a	17.3 bc
Bravo WeatherStik at 1 pt	4	4.5 de	0.0	1.2 b	11.6 cd
Captan 50 WP at 2 lb plus					
Latron B1956 at 1 fl oz	8	7.3 cde	0.1	1.2 b	11.3 cd
Ziram 76 DF at 3 lb	8	6.0 cde	0.2	0.4 b	6.4 d
Indar 75 WSP at 2 oz plus					
Latron B1956 at 1 fl oz	8	11.5 c	0.0	13.1 a	27.1 ab
Orbit at 4 fl oz	8	10.5 cd	0.0	2.3 b	11.7 cd
Abound at 6.2 fl oz	8	7.4 cde	0.0	0.0 b	6.5 d
Elevate 50 WDG at 1.5 lb.....	8	3.0 e	0.0	4.2 b	6.4 d
TM-45002 at 5.25 lb.....	8	3.1 e	0.0	0.1 b	1.2 d
Bravo WeatherStik at 1 pt then	2				
Indar 75 WSP at 2 oz plus					
Latron B1956 at 1 fl oz then	2				
Abound at 6.2 fl oz alternate with	2				
Captan 50 WP at 2 lb.....	2	5.8 cde	0.0	0.9 b	5.6 d
Bravo WeatherStik at 1 pt then	2				
Indar 75 WSP at 2 oz plus					
Latron B1956 at 1 fl oz then	2				
Abound at 6.2 fl oz alternate with	2				
Ziram 76 DF at 3 lb	2	5.8 cde	0.0	0.1 b	4.8 d

^x Treatments were applied on 18 Mar (late floral bud break), 31 Mar (late vegetative bud break and very early bloom), 16 Apr (full bloom), 30 Apr (late bloom to petal fall), 14 May, 29 May, 11 and 25 Jun. Treatments of Funginex or Bravo were not applied past 30 Apr.

^y Means followed by same letter do not differ significantly based on Fisher's protected LSD (P=0.05). Means without letters were not significantly different.