

BLACKBERRY (*Rubus* sp. 'Marionberry')
 Gray Mold; *Botrytis cinerea*

J. W. Pscheidt, J. P. Bassinette and L. A. Jones
 Dept. of Botany and Plant Pathology
 Oregon State University
 Corvallis, OR 97331-2903

Efficacy of fungicides for management of gray mold on blackberry 'Marionberry', 2015.

Fungicide treatments were arranged in a randomized complete block design in a block of 'Marionberry' planted in 2004 on a 6x14 ft spacing. Canes were trained the previous year to a two-wire vertical trellis system, with wires 2 ½ and 5 ½ feet above the ground, and interwoven between the upper and lower wires. Each treatment was replicated on 10 ft of canopy that generally included portions of at least 2 plants. Treatments were applied to both sides of the trellis using a hydraulic handgun sprayer at approximately 100 psi such that 2 gal of a spray suspension was applied per four 10 ft sections (145 gal/A). Fungicides were applied on 31 Apr (1st bloom), 8 May (full king bloom), 20 May (petal fall) and 25 Jun (preharvest). Plots were overhead irrigated twice a week starting 11 May using Nelson R2000 Rotator Road Guard High Angle (#9879) sprinkler heads (including after preharvest sprays had dried). Fertilizer (urea 46-0-0) was applied by hand at 30 lb actual nitrogen/A on 14 Apr and again on 12 May. No herbicides or insecticides were specifically applied to these plots this year. On 26 Jun, 100, arbitrarily selected, healthy appearing, ripe fruit were hand harvested primarily from the east side of the trellis for each treatment. Berries were then placed on wire racks within moist chambers located in Cordley Hall. Berries were incubated at ambient room temperature (70 to 80°F) for 7 days. The number of berries with symptoms of various fungal rots were evaluated and removed each day. AUDPC for gray mold was calculated by multiplying the mean number of rotted fruit from two observation dates by the number of days between observations ($\Sigma[Y_{i+1} + Y_i]/2][X_{i+1}-X_i]$ where Y_i is number of rotted fruit at i th observation and X_i is the day of the i th observations). Values calculated between each pair of observations are added together to obtain a total AUDPC.

Spring growing conditions were considered warm and dry resulting in accelerated plant development. Despite heavily overhead irrigation, fruit rots were not observed in the field prior to harvest. In addition to gray mold the following fungi were also observed on rotting fruit at highly variable frequencies: *Cladosporium* sp., *Rhizopus* sp., *Fusarium* sp., and *Penicillium* sp. Only canes treated with a combination of Captan plus Elevate, Pristine and Captan plus Rovral resulted in less fruit rot than nontreated canes. All other fungicide treated canes resulted in fruit rot that was not significantly different than nontreated canes. No phytotoxicity was observed on any treated canes.

Treatment & Rate/A or /100 gal as indicated below	Time of Application*	Gray Mold (% berries)**	AUDPC for Gray Mold**	All Fruit Rots (% berries) **
Nontreated	None.....	66.5 a	232.8 a	85.0 a
Captan 80 WDG at 2.5 lb plus				
Elevate 50 WDG at 1.5 lb then	A			
Pristine 38 WDG at 23 oz then	B			
Captan 80 WDG at 2.5 lb plus				
Rovral 4F at 32 fl oz then	C			
Switch at 14 oz.....	D.....	16.5 b	42.8 b	35.3 b
Luna Tranquility 500 SC at 18 fl oz plus				
Kinetic at 6 fl oz/100 gal	A, B and C .	72.0 a	256.5 a	92.0 a
Luna Tranquility 500 SC at 18 fl oz plus				
Kinetic at 6 fl oz/100 gal then	A, B and C			
Serenade Opti at 16 oz.....	D.....	70.8 a	263.3 a	91.3 a
Luna Tranquility 500 SC at 18 fl oz plus				
Kinetic at 6 fl oz/100 gal then	A, B and D			
Serenade Opti at 16 oz.....	C.....	59.5 a	201.0 a	83.8 a

* Treatments were applied on A = 31 Apr (1st bloom), B = 8 May (full king bloom), C = 20 May (petal fall) and D = 25 Jun (preharvest).

** Means followed by same letter do not differ significantly based on Fisher's protected LSD ($P=0.05$).