

CHERRY (*Prunus avium* 'Bing')
Powdery Mildew; *Podosphaera clandestina*

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

Comparison of fungicides for management of cherry powdery mildew, 2013.

Treatments were arranged in a randomized complete block design in a 'Bing' sweet cherry orchard on Mazzard F12-1 rootstock planted in 1995 on 20 x 20 ft spacing and grafted in 1998. Each treatment consisted of 4 single-tree replicates. Fungicides were applied approximately every 7 or 14 days, depending on protocol, using a hydraulic handgun sprayer at 110 psi, such that 5 to 6 gal of a spray suspension were applied per 4 trees (136 to 164 gal water/A) depending on time of year. Fungicide treatments were applied on 30 Apr (shuck-split), 15 May, 22 May, 31 May, and 12 Jun. A dormant oil spray of Omni supreme-oil (2 gal/100 gal water) was applied on 13 Feb and an application of Asana XL (5 fl oz/A) was made on 30 May for aphid control. Insecticides were applied using a Rear's air blast speed sprayer. MCPA (40 fl oz/A) was applied on 20 Feb and then Post (40 fl oz/A) plus Stinger (10 fl oz/A) plus MSO (1.5 pt/A) were applied on 8 Mar for weed control. No fertilizer was applied to treated trees in the trial. Fungal infection periods were monitored using an Adcon A730 weather station equipped with standard sensors. A total of 4 cherry leaf spot infection periods were detected from Apr through May: 4 light infection periods (4 Apr and 16, 23 and 27 May). Incidence of powdery mildew was evaluated on 2 Jul by examining the last (distal) five (5) fully expanded leaves on each of 10 shoots from around the tree. To compensate for variations in tree vigor only shoots showing high vigor and strong growth were selected for disease evaluation. Powdery Mildew on fruit was not assessed.

Although spring growing conditions were unusually dry with 3 weeks of warm 80 F weather starting at the end of April, cherry bloom was rainy and relatively warm. Full bloom for 'Bing' was approximately 15 Apr. Although symptoms of cherry leaf spot did not develop, symptoms of powdery mildew were first observed and confirmed on 10 May. All treatments had significantly lower incidence of powdery mildew when compared to non-treated trees. Lowest incidence of powdery mildew was found on trees treated with Luna Sensation (plus Nu-Film-P) alone, however, the incidence on trees treated with the high rate of TopGuard or Quintec was not significantly different. Making applications of Luna Sensation 7 days after an application of Serenade Optimum did not improve the level of powdery mildew control when compared to a 14 day interval. No phytotoxicity or growth regulation activity was observed in trees treated with any of the various materials used.

Treatment and Rate/A	Time of Application*	Powdery Mildew (% leaves)**
Non-treated.....	None.....	80.0 a
TopGuard SC at 7 fl oz.....	A, B, D, E.....	38.5 b
TopGuard SC at 14 fl oz.....	A, B, D, E.....	29.5 bc
TopGuard SC at 14 fl oz alternate	A, D	
Quintec at 7 fl oz	B, E.....	13.0 c
Luna Sensation 500 SC at 5 fl oz plus Nu-Film-P at 32 fl oz/100 gal	A, B, D, E.....	11.5 c
Luna Sensation 500 SC at 5 fl oz plus Nu-Film-P at 32 fl oz/100 gal alternate every 14 days with Serenade Optimum WP at 16 oz plus Nu-Film-P at 32 fl oz/100 gal	A, D B, E.....	42.5 b
Luna Sensation 500 SC at 5 fl oz plus Nu-Film-P at 32 fl oz/100 gal alternate on 7 or 14 day intervals with Serenade Optimum WP at 16 oz plus Nu-Film-P at 32 fl oz/100 gal	A, C B, E.....	44.5 b
Luna Sensation 500 SC at 5 fl oz plus Nu-Film-P at 32 fl oz/100 gal alternate Quintec at 7 fl oz	A, D B, E.....	12.0 c

* Fungicide treatments were applied on A = 30 Apr (shuck-split), B = 15 May, C = 22 May, D = 31 May, and E= 12 Jun.

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