

CHERRY (*Prunus avium* 'Bing')
Powdery Mildew; *Podosphaera clandestina*
Leaf Spot; *Blumeriella jaapii*

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Comparison of fungicides for management of cherry diseases, 2017.

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 using a hydraulic handgun sprayer at 110 psi, such that 7 to 8 gal of a spray suspension were applied per 4 trees (191 to 218 gal water/A). Fungicide treatments were applied on 25 Apr (petal fall), 9 May (shuck split), 23 May, 6 Jun and 20 Jun. A dormant oil spray of Omni supreme-oil (1.5 gal/A) was applied on 14 Feb, Assail 70 WP (3 oz/A) was applied on 26 May, and Success (6 fl oz/A) was applied on 27 Jun for aphid and fruit fly management. Insecticides were applied using a Rear's air blast speed sprayer. Herbicides and fertilizers were not applied to this block this year. Trees were not pruned. Fungal infection periods were monitored using an Adcon weather station equipped with standard sensors. A total of 9 cherry leaf spot infection periods were detected from bud break through Jun: 4 high infection periods (6, 16, and 23 Apr and 12 May), 2 medium infection periods (28 Mar and 9 Jun) and 3 light infection periods (26 Mar, 8 and 16 Jun). Incidence of powdery mildew was evaluated on 24 to 25 Jul by examining the last (distal) five (5) fully expanded leaves on each of 20 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. Incidence of cherry leaf spot was evaluated on 27 to 28 Jul by examining all leaves on each of 15 vigorous shoots from around the tree (average of 191 leaves per 15 shoots ranging from 128 to 249 leaves).

Spring weather conditions for 2017 were considered cool and wet but with more normal plant growth and disease pressure relative to time of year. Disease pressure for cherry leaf spot was considered high while it was considered low for powdery mildew. Cherry leaf spot was first observed on 24 Apr while powdery mildew was first observed and confirmed on 22 May. Highest amount of leaf spot was found on non-treated trees and trees treated with Torino. (Note that there were significantly fewer total leaves on Torino treated trees (average of 167) when compared to non-treated trees (194). This was not observed in 2015 with similar treatments.) Lowest amount of leaf spot was found on trees treated with Luna Sensation but the amount found on trees treated with the high rate of GWN-10570 or the two highest rates of pyraziflumid was not significantly different. Highest amount of powdery mildew was found on non-treated trees. All fungicide-treated trees had significantly lower amounts of powdery mildew than non-treated trees. There was no significant difference among the various treatments for powdery mildew. No phytotoxicity was observed in trees treated with any of the various materials used.

Treatment & Rate/A or /100 gal as indicated below	Time of Application*	Cherry Leaf Spot (% leaves)**	Powdery Mildew (% leaves)**
Non-treated.....	None.....	86.0 a	22.5 a
Luna Sensation at 7.6 fl oz plus Induce at 16 fl oz/100 gal	All.....	0.5 e	2.5 b
Torino SC at 5 fl oz plus Induce at 16 fl oz/100 gal	All.....	91.8 a	2.5 b
Torino SC at 6.5 fl oz plus Induce at 16 fl oz/100 gal	All.....	87.8 a	2.3 b
Torino SC at 8 fl oz plus Induce at 16 fl oz/100 gal	All.....	88.0 a	1.5 b
GWN-10570 15% SC at 6.8 fl oz plus Induce at 16 fl oz/100 gal	All.....	13.5 c	2.8 b
GWN-10570 15% SC at 10.3 fl oz plus Induce at 16 fl oz/100 gal	All.....	9.5 cd	5.0 b
GWN-10570 15% SC at 13.7 fl oz plus Induce at 16 fl oz/100 gal	All.....	4.3 de	4.5 b
Pyraziflumid 20 SC at 1.24 fl oz plus Induce at 16 fl oz/100 gal	All.....	29.0 b	10.5 b
Pyraziflumid 20 SC at 1.86 fl oz plus Induce at 16 fl oz/100 gal	All.....	14.0 c	2.5 b
Pyraziflumid 20 SC at 2.48 fl oz plus Induce at 16 fl oz/100 gal	All.....	7.8 cde	2.0 b
Pyraziflumid 20 SC at 3.1 fl oz plus Induce at 16 fl oz/100 gal	All.....	7.0 cde	2.0 b

* Fungicide treatments were applied on 25 Apr (petal fall), 9 May (shuck split), 23 May, 6 Jun and 20 Jun.

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