

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

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### **Comparison of fungicides for management of cherry diseases, 2022.**

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 5 single tree replicates. Fungicides were applied using a hydraulic handgun sprayer at 100 psi, such that 5 to 5.5 gal of a spray suspension were applied per 5 trees (109 to 120 gal water/A). Fungicide treatments were applied on 3 May (shuck split), 17 May (fruit set), 2 Jun (1st cover), 16 Jun (color change). Omni Supreme spray (1.5 gal/A) was applied to the entire block on 11 Feb for Aphid management. Assail 20 WP (2.5 oz/A) was applied on 26 May to manage western cherry fruit fly and aphids. Insecticides were applied using a Rear's air blast speed sprayer. Makaze (64 fl oz/A) plus Goal 2XL (32 fl oz/A) were tank mixed and applied on 9 Feb, and Mad Dog (64 fl oz/A) plus Stinger (8 fl oz/A) were tank mixed and applied on 17 May for weed control. Trees were pruned 18 Feb. Fungal infection periods were monitored using a Meter Atmos 41 weather station equipped with standard sensors including one for leaf wetness. A total of 9 cherry leaf spot infection periods were detected from bud break through mid-Jun: 4 high infection periods (27 Apr, 5 May, 3 and 10 Jun), 2 medium infection periods (13 May and 9 Jun) and 3 light infection periods (7 and 28 May and 6 Jun). Incidence of powdery mildew was evaluated on 28 to 29 Jun 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 15 Jun by examining all leaves on each of 10 vigorous shoots from around the tree (average of 144 leaves per 10 shoots ranging from 129 to 159 leaves). Defoliation was assessed on 5 Aug using a 0 to 4 scale where 0 = no defoliation, 1 = 1 to 10% defoliation, 2 = 10 to 25% defoliation, 3 = 25-50% defoliation, 4 = > 50% defoliation.

Rainfall during the dormant season 2021-22 was 5.4 inches below normal but spring weather conditions were very wet with the second wettest spring on record. Cherry leaf spot was first observed on 23 May while powdery mildew was first observed on 31 May. Highest amount of powdery mildew was found on non-treated trees. The amount of powdery mildew found on trees treated with any material was significantly lower than powdery mildew found on non-treated trees. Lowest amount of powdery mildew was found on trees treated with pyraziflumid which was significantly lower than all other treatments. Highest amount of leaf spot was found on non-treated trees, however, the amount found on trees treated with the low rate of Gatten or the low rate of OK-5203 was not significantly different. Lowest amount of leaf spot was found on trees treated with pyraziflumid which was significantly less than that found on all other trees. Lowest defoliation rating was also on trees treated with pyraziflumid and was significantly less than that found on all other trees. No phytotoxicity was specifically observed in trees treated with any of the materials used.

Treatment & Rate/A or /100 gal as indicated below	Time of Application <sup>x</sup>	Powdery Mildew (% leaves) <sup>y</sup>	Cherry Leaf Spot (% leaves) <sup>y</sup>	Defoliation Rating <sup>z</sup>
Non-treated.....	None.....	92.2 a	83.0 a	2.8 a
Gatten at 3.2 fl oz plus Silwet at 16 fl oz/100 gal .....	All.....	51.8 c	77.1 ab	2.6 a
Gatten at 6.4 fl oz plus Silwet at 16 fl oz/100 gal .....	All.....	40.2 d	72.2 b	2.6 a
OK-5203 5 SC at 3.2 fl oz plus Silwet at 16 fl oz/100 gal .....	All.....	60.8 b	82.5 a	2.4 a
OK-5203 5 SC at 6.4 fl oz plus Silwet at 16 fl oz/100 gal .....	All.....	46.4 cd	74.1 b	2.8 a
Pyraziflumid 20 SC at 3.2 fl oz plus Silwet at 16 fl oz/100 gal .....	All.....	18.8 e	20.6 c	1.0 b

<sup>x</sup> Treatments were applied on 3 May (shuck split), 17 May (fruit set), 2 Jun (1st cover), and 16 Jun (color change).

<sup>y</sup> Means followed by same letter do not differ significantly based on Fisher's protected LSD ( $P=0.05$ ). Means without letters are not significantly different.

<sup>z</sup> Analysis of variance was based on log (x+1) transformation. Means followed by the same letter do not differ significantly based on Fisher's protected LSD ( $P=0.05$ ). Defoliation was assessed on 5 Aug using a 0 to 4 scale where 0 = no defoliation, 1 = 1 to 10% defoliation, 2 = 10 to 25% defoliation, 3 = 25-50% defoliation, 4 = > 50% defoliation.