

CHERRY (*Prunus avium* ‘Corum’)
 Brown Rot Blossom Blight; *Monilinia laxa*
 Brown Rot Fruit rot; *Monilinia fruticola*

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Comparison of fungicides for management of cherry brown rot, 2011.

Treatments were arranged in a randomized complete block design in a ‘Corum’ sweet cherry orchard on Mazzard F 12-1 rootstock planted in 1964 on 20 x 40 ft spacing and grafted in 1967. Each treatment consisted of 4 single tree replicates. Fungicides were applied using a hydraulic handgun sprayer at 110 psi and at a rate of 109 gal water/A. Approximately 8 gal of a spray suspension were applied per 4 trees. Fungicide treatments were applied on 12 Apr (70% popcorn), 21 Apr (full bloom), 4 May (petal fall), and 22 Jun (pre-harvest). Fungal infection periods were monitored using an Adcon A730 weather station equipped with standard sensors. According to a brown rot blossom blight risk model there were 2 infection risk periods detected on 13 and 16 Apr. Dormant oil (Omni Supreme oil at 5 gal/A) was applied to the entire block on 10 Feb, for Aphid control. Asana XL (5oz/A) was applied on 17 Jun to control western cherry fruit fly and aphids. Birdshield (1.5 gal/A) was applied on 17 Jun as a bird repellent. Additionally, electronic bird distress calls, scarecrows and forcefully propelled metallic pellets were used throughout ripening to deter bird pests. Insecticides and bird repellent were applied using a Rear’s air blast speed sprayer. Rely (5 pt/A) plus Glystar (1 qt/A) was applied on 20 Apr for weed control. No fertilizer was applied during the fruiting season. Incidence of brown rot blossom blight was evaluated on 9 May by examining 500 blossoms arbitrarily selected from the lower portion of each tree. On 29 Jun, 100, arbitrarily selected, healthy appearing fruit were harvested from each tree. A subset of 50 harvested fruit were placed side to side and then end to end in a plastic gutter to evaluate fruit width and length. All 100 cherries were then placed on wire racks within moist chambers located in Cordley Hall. Cherries were incubated at ambient room temperature (70 to 80°F) for 12 days. The number of cherries with symptoms of brown rot were evaluated and removed each day. Fruit rotting from other causes were noted and removed from the moist chambers daily.

Spring weather conditions in Western Oregon were considered cool and wet resulting in slow crop development and a 2-week delay in crop growth stages through the growing season. First symptoms of brown rot blossom blight were obvious by 25 Apr while brown rot fruit rot was first observed on 20 Jun. All fungicide treated trees had significantly fewer blighted blossoms than nontreated trees. There were no significant differences in brown rot blossom blight among the various fungicide treatments. Trees treated with the low rate of TopGuard did not have significantly fewer rotted fruit when compared with fruit from nontreated trees. Lowest number of rotted fruit due to brown rot was found from Tilt treated trees, however the number of rotted fruit from trees treated with the high rate of TopGuard were not significantly different. Lowest number of total rotted fruit occurred on fruit from Tilt treated trees. Plant growth regulator effects were observed on trees treated with Tilt or the high rate of TopGuard. The fruit length to width ratio on fruit from trees treated with Tilt or the 14 fl oz rate of TopGuard was significantly smaller than nontreated fruit. Leaves on trees treated with the high rate of TopGuard developed a marginal, reddish discoloration and slight up curling or boating shape by 8 Jun.

Treatment & Rate/A	Brown Rot Blossom Blight (%)**		Post Harvest		Fruit Length to Width ratio**			
			Brown Rot Fruit Rot (%)**	Total Fruit Rot (%)**				
Nontreated	25.8	a	89.5	a	99.3	a	0.90	a
Tilt at 4 fl oz.....	1.8	b	11.8	c	21.8	c	0.87	c
TopGuard SC at 3.5 fl oz.....	3.3	b	79.5	a	88.3	a	0.90	ab
TopGuard SC at 7 fl oz.....	1.6	b	55.0	b	67.0	b	0.89	ab
TopGuard SC at 14 fl oz.....	1.1	b	39.5	b	63.8	b	0.88	bc
TopGuard SC at 28 fl oz.....	1.0	b	16.3	c	48.8	b	0.90	ab

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