

CHERRY (*Prunus avium* 'Royal Anne')
Brown Rot Blossom Blight; *Monilinia laxa*
Brown Rot Fruit rot; *Monilinia fruticola*

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Comparison of fungicides for control of cherry brown rot, 2007.

Treatments were arranged in a randomized complete block design in a 'Royal Anne' 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 108 to 135 gal water/A. Approximately 8 to 10 gal of a spray suspension were applied per 4 trees depending on amount of foliage present. Fungicide treatments were applied on 23 Mar (popcorn), 29 Mar (full bloom), 13 Apr (petal fall), 19 Apr (shuck split), 18 May (1st cover) and 14 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 5 infection risk periods detected on 7, 8, 11, 16 and 21 Apr, however, we suspect that there was an additional infection period on 24 Mar. Dormant oil (Omni spray oil at 4 gal/A) was applied to the entire block on 4 Mar, using a Rear's air blast speed sprayer, for Aphid control. Buccaneer (1 pt/A) plus Goaltender (8 oz/A) was applied on 29 Mar for weed control. Rejexit (2.5 gal/A) was applied on 31 May and Birdshield (2.5 gal/A) was applied on 6 Jun as bird repellants. Additionally, electronic bird distress calls, scare crows and forcefully propelled metallic pellets were used throughout ripening to deter bird pests. Incidence of brown rot blossom blight was evaluated on 20 Apr by examining 500 blossoms arbitrarily selected from the lower portion of each tree. On 20 Jun, 100, arbitrarily selected, healthy appearing fruit were harvested from each tree. All 100 cherries were then placed on wire racks within moist chambers located in Cordley Hall. Cherries were incubated at room temperature (66 to 80°F) for 14 days. The number of cherries with symptoms of brown rot were evaluated and removed each day. Fruit rotting from other causes were noted and also removed from the moist chambers daily.

Spring weather conditions in Western Oregon were considered average with plenty of wet periods at moderate temperatures resulting in several infection periods for various diseases. Brown rot blossom blight was first observed on 2 Apr in nearby 'Corum' pollenizers and on 9 Apr on 'Royal Anne' trees. Brown rot fruit rot was first observed on 11 Jun. All fungicide treated trees had significantly less blossom blight than nontreated trees including trees treated only once with Pristine. There were no significant differences in brown rot blossom blight among the various fungicide treated trees. Lowest incidence of post harvest brown rot fruit rot or total rots was on trees treated with a preharvest application of Orbit, however, trees treated with a preharvest application of Elevate were not significantly different. A single application of Pristine at popcorn was not enough to control post harvest fruit rots. No phytotoxicity was observed on any fungicide treated trees.

Treatment & Rate/A	Time of Application*	Brown Rot Blossom Blight (%)**	Post Harvest	
			Brown Rot Fruit Rot (%)**	Total Fruit Rot (%)**
Nontreated	None.....	4.8 a	48.5 a	52.0 a
CaptEvate 68 WDG at 3.75 lb then Indar 75 WP at 2 oz plus Latron B-1956 at 2 fl oz/100 gal then Pristine 38 WDG at 10.5 oz plus Break-Thru at 4 fl oz/100 gal then	A B C			
Orbit 3.6 EC at 4 fl oz	F	0.3 b	0.5 b	7.8 b
Pristine 38 WDG at 14.5 oz plus Break-Thru at 4 fl oz/100 gal.....	A only.....	0.5 b	40.8 a	46.0 a
V-10116 50 WDG at 2.5 oz then Abound 2.08 F at 12.3 fl oz then V-10116 50 WDG at 2.5 oz then Abound 2.08 F at 12.3 fl oz then Elevate 50 WP at 16 oz	A, B C D E F			
		0.2 b	8.3 b	14.8 b
Rovral 50 WP at 1.5 lb then Abound 2.08 F at 12.3 fl oz then Rovral 50 WP at 1.5 lb then Abound 2.08 F at 12.3 fl oz then Elevate 50 WP at 1 lb	A, B C D E F.....			
		0.2 b	11.5 b	14.5 b

*Treatments were applied on A = 23 Mar (popcorn), B = 29 Mar (full bloom), C = 13 Apr (petal fall), D = 19 Apr (shuck split), E = 18 May (1st cover), and F = 14 Jun (pre-harvest).

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