

Comparison of fungicides for control of Pacific Coast Pear Rust, 2010.
Efficacy of Management Tools for Rust Diseases – IR-4 Ornamental Protocol Number 10-026.

Fungicide treatments were arranged in a randomized complete block design in a block of serviceberry trees planted in 2004 on 10 x 15 ft spacing. Each treatment consisted of 4 single tree replicates. Fungicides were applied using a hydraulic handgun sprayer at 80 psi such that 1.5 gallons of a spray suspension was applied per 4 trees (109 gal/A). Fungicide treatments were applied on a 14 or 21 day interval depending on the protocol. Treatment dates for the 14 day interval were 13 Mar (floral bud break), 24 Mar (60% bloom), 7 Apr (petal fall), and 6 May (cover). Treatment dates for the 21 day interval were 13 Mar, 31 Mar (full bloom), 21 Apr (1st cover) and 13 May (2nd cover). Round-Up Ultra-Max (2% solution) plus Break-Thru (4 oz/100gal) was applied on 5 Mar for weed control. No fertilizer was applied to tree rows. Trees were irrigated as needed throughout the summer months from Jul to Aug. The incidence of rust was evaluated on 25 May by examining all leaves on 10 terminal shoots (average 63 leaves with a range of 45 to 76), arbitrarily selected from each tree. A whole tree canopy rating was conducted on 16 Jun where 0 = full, healthy canopy, 1 = less than 5% rust, 2 = rust easily seen on many leaves, 3 = severe rust, shoot deformation and slight defoliation, 4 = 50 to 90% foliage lost to rust with severe shoot deformation, and 5 = dead.

Western Oregon spring weather conditions were cold and wet during early shoot growth. Disease pressure was considered severe. Rust was observed on a nearby planting of Incense Cedars (*Calocedrus decurrens*). Telia (orange jelly-like masses on cedar scales) were just beginning to expand on 1 Mar, many had swollen and dried by 15 Mar, but trees were covered with active telia on 22 Mar and for several more weeks. Mature telia were observed through 3 May but in declining amounts. Rust was first observed on widely scattered leaves of serviceberry trees on 5 Apr. Highest amount of rust was observed on nontreated trees however the amount of rust found on trees treated with Contrast was not significantly different. Lowest amount of rust was found on trees treated with Eagle however the amount of rust on trees treated with Compass O, Banner Maxx or Tourney was not significantly different. Nontreated trees had the highest whole canopy rating although the canopy rating on trees treated with Contrast was not significantly different. There was no significant difference in whole canopy rating among the other fungicide treated trees.

Treatment & Rate/100 gal water	Time of Application**	Leaves with Rust* (25 May) (%)	Whole Canopy Rating * (16 Jun)
Nontreated	None.....	89.0 a	3.9 a
Eagle 20 EW at 12 fl oz.....	A, B, D and F	1.3 c	1.0 b
Compass O 50 WDG at 4 oz.....	A, B, D and F	5.0 c	1.1 b
Banner MAXX at 8 fl oz.....	A, C, E and G	8.3 bc	1.0 b
Pro-Star (as Contrast 70 WSP) at 6 oz...	A, C, E and G	74.3 a	3.4 a
Tourney 50 WDG at 2 oz.....	A, C, E and G	12.0 bc	1.1 b
Pageant (as Pristine 38 WDG) at 12 oz	A, B, D and F	37.0 b	1.9 b
Insignia (as Cabrio 20 EG) at 8 oz.....	A, B, D and F	37.8 b	1.5 b
Banner MAXX at 8 fl oz alternate with Compass O 50 WDG at 4 oz.....	A, D B and F	20.5 bc	1.5 b

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

** Treatment were applied on A = 13 Mar (floral bud break), B = 24 Mar (60% bloom), C = 31 Mar (full bloom), D = 7 Apr (petal fall), E = 21 Apr, F = 6 May and G = 13 May.

Shaded lines indicate applications on 3 week intervals.