

Evaluation of fungicides for the prevention of boxwood blight, 2012.

This trial evaluated the efficacy of several commercially available fungicides for preventive activity against boxwood blight caused by *Cylindrocladium buxicola*. Treatments were arranged in a randomized complete block design consisting of four replications of six 1-gal English boxwood plants per treatment on a container pad at the Mountain Horticultural Crops Research Station in Mills River, NC. Treatments were applied as foliar sprays until runoff using a CO₂-pressurized backpack sprayer equipped with a handheld boom and a single, hollow-cone nozzle (TXVS-26) delivering 50-60 psi. Treatments were applied on 13 Sep, 28 Sep and 13 Oct. Inoculum was prepared by flooding Petri-dishes of 10-day old cultures of the pathogen growing on PDA. Plants were spray inoculated with a suspension containing 5,000 spores per ml (1.4×10⁵ spores/ fl oz) until runoff one day post treatment on 14 Sep. Two days after the second fungicide treatment, plants were sprayed again on 30 Sep with a suspension containing 8,000 spores per ml (2.3×10⁵ spores/ fl oz) until run-off. Disease assessments were conducted on 1, 16 and 26 Oct. The percentage of leaf area with disease symptoms was recorded for the canopy of each plant using the standard Horsfall-Barratt scale. Disease pressure was not high enough to evaluate percent leaf drop or percent stem streaking. AUDPC for percent leaf area diseased across the entire timeframe of the trial was calculated. Air temperatures during the trial was suboptimal for high rates of infection with average daily high and low temperatures of 77.7 and 55.4°F for Sept; and 66.3 and 43.5°F for Oct.

Phytotoxic symptoms were not observed for any of the treatments. Although disease pressure was low, with the exception of three products, all other products were effective at preventing or limiting leaf infection by *C. buxicola* when applied one to two days before inoculation. The most effective products contained the active ingredient chlorothalonil (Daconil WeatherStik, Spectro, Disarm C and Concert II) or the active ingredient fludioxonil (Medallion and Palladium) as either premixes or solo. Plants sprayed with Terraguard, Trinity, or Banner MAXX had statistically less leaf area diseased due to boxwood blight in comparison to the non-treated, inoculated control plants, although these are considered less effective products since they reduced, but did not prevent infection.

Treatment and rate/100 gal	FRAC code *	Percent leaf area diseased: geometric midpoint	AUDPC percent leaf area diseased
Non-treated, inoculated control.....	NA	1.38 a**	24.60 a
Terraguard SC 16.0 fl oz	3	1.04 ab	14.42 b
Trinity 1.67SC 12.0 fl oz	3	1.04 ab	14.42 b
Banner MAXX 12.0 fl oz	3	0.7 bc	12.72 b
Disarm O 4F 2.0 oz	11	0.36 cd	6.68 c
OHP 26019 2.0 lb.....	2	0.36 cd	6.37 c
Cleary 3336F 16.0 fl oz	1	0.03 d	0.54 d
Torque 10.0 fl oz	3	0.03 d	0.54 d
Affirm WDG 0.5 lb	19	0.02 d	0.64 d
Compass O 50WDG 2.0 oz.....	11	0.03 d	0.46 d
Tourney 50WDG 4.0 oz	3	0.03 d	0.85 d
Insignia SC 10.0 oz	11	0.03 d	0.64 d
Pageant 38WG 14.0 oz.....	7 + 11	0.03 d	0.67 d
Heritage 50WG 8.0 oz.....	11	0.03 d	0.36 d
Concert II 35.0 fl oz	M5 + 3	0.01 d	0.03 d
Medallion WDG 4.0 oz	12	0.01 d	0.03 d
Palladium 6.0 oz.....	9 + 12	0.0 d	0.0 d
Disarm C 11.0 fl oz	M5 + 11	0.0 d	0.0 d
Spectro 90WDG 1.5 lb	M5 + 1	0.0 d	0.0 d
Daconil WeatherStik 1.375 pt.....	M5	0.0 d	0.0 d

* Fungicide Resistance Action Committee (FRAC) code indicates fungicide mode of action.

** Means within a column followed by the same letter are not significantly different (*P* = 0.05) based on the Waller-Duncan *k*-ratio (*k* = 100) *t* test.