

CAULIFLOWER *Brassica oleracea* var. *botrytis*
(‘Minuteman’)
Alternaria blight; *Alternaria brassicicola*
Downy mildew; *Peronospora parasitica*

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Evaluation of fungicides allowed for organic production on alternaria blight and downy mildew of cauliflower, 2012.

The trial was conducted on a commercial field in Seneca Castle, NY. ‘Minuteman’ cauliflower was transplanted into bare ground on 25 Jul. Fertility and weed management practices were performed by the collaborating farmer. Eight treatments and an untreated control were arranged in a randomized complete block design with four replications. Each plot consisted of six plants spaced 12 in apart with 5 ft between rows and 3 feet between treatments. Sprays were applied with a CO₂ pressurized backpack sprayer at 40 psi delivering 40 gal/A through two TeeJet 8002VS flat fan nozzles spaced 19 in apart. The *Trichoderma* (a mixture of equal amounts (cfus) of *T. harzianum* strain RR17Bc (ATCC accession PTA 9708; *T. harzianum* F11Bab (ATCC accession PTA 9709, *T. atroviride* strain WW10TC4 (ATCC accession 9707) and *T. virens* strain 41 (ATCC accession 20476) was applied as a drench at the base of each plant on 27 Jul. The first spray was applied 4 Oct after the first Alternaria lesions were noted in the field. Two more sprays were applied on 13 and 23 Oct and plants were evaluated for the percent leaf area displaying Alternaria or downy mildew lesions on 12, 22, 29 Oct. The data were entered into the area under the disease progress curve (AUDPC) to analyze the differences between treatments. The plots were tied and then harvested one week later. Average maximum temperatures for Aug, Sep, and Oct were 81, 73, and 60 °F; average minimum temperatures were 60, 50, 44 °F. Rainfall amounts (in.) were 2.3, 2.0, and 4.8 for Aug, Sep, and Oct, respectively.

The AUDPC data show that all treatments decreased the severity of symptoms from a small amount to a reduction of almost one third from the untreated control, but there was so much variability between plots that there was no significant difference between treatments. Slight foliar phytotoxicity was noted in the EF 400 treatment.

Treatment and Rate/A	AUDPC ^z mean
Non-treated control na	2.5 a
EF 400 96oz/100 gal	2.4 a
Cueva FL .5 gal/100gal water	1.9 a
Sonata 4 qt	1.8 a
Serenade 3 lb	1.8 a
<i>Trichoderma</i> 200 mls @10 ⁶ cfu/ml	1.7 a
Actinovate 6 oz/50 gal water	1.0 a
Regalia 3 pt/50 gal water	0.9 a
Sporatec 3 pt	0.9 a

^zArea Under the Disease Progress Curve

^y Column numbers followed by the same letter are not significantly different at $P=0.05$ as determined by Fishers LSD