

Evaluation of fungicides for control of early blight on tomato, Cleveland 2015.

The experiment was conducted at the Piedmont Research Station in Cleveland, NC (N35°42.063'; W080°37.251'). Plots were single beds on 5-ft centers, covered with black plastic mulch; 5-ft long with 5-ft fallow borders at each end. The previous year the field was planted with tomato followed by rye as a cover crop. Tomatoes were transplanted in the field on 8 Jul (5 plants/plot). Irrigation and fertilization were applied via drip tape. Treatments were randomized into four complete blocks. Fungicide treatments were applied using a CO₂-pressurized backpack sprayer equipped with a single-nozzle handheld boom with hollow cone nozzles (TXVS-26) delivering 40 gal/A at 45 psi. Applications were made on 7-day intervals: 23 and 30 Jul and 6, 12, 20 and 27 Aug and 2, 9, 16, 23 and 30 Sep. Disease severity was assessed on 16, 23 and 30 Sep and 7 Oct as percentage of foliage with necrosis. Data were analyzed in the software ARM (Gylling Data Management, Brookings, SD) using analysis of variance (AOV) and the Waller-Duncan test to separate means.

Early blight was first detected on 16 Sep at approximately 5% disease severity in the field and progressed throughout the remainder of the experiment. Combination treatments with alternations of Experimental 1, Bravo Weather Stik, Priaxor, Inspire Super, Fracture, Manzate Pro Stick and Fontelis all controlled early blight when compared to the non-treated. No phytotoxicity was observed. In the table, treatments are sorted by disease severity on 7 Oct.

Treatment and rate of product per acre	Application No.	Disease Severity* (%)		
		23 Sep	30 Sep	7 Oct
Experimental 1 10.5 fl oz	1,3,5,7,9,11			
Induce 100L 0.125% v/v	1,3,5,7,9,11			
Bravo Weather Stik 6SC 32 fl oz	2,4,6,8,10	6.9 cd**	18.0 b	31.0 b
Priaxor 4.17SC 8 fl oz	1,3,5,7,9,11			
Induce 100L 0.125% v/v	1,3,5,7,9,11			
Bravo Weather Stik 6SC 32 fl oz	2,4,6,8,10	6.7 d	17.5 b	31.8 b
Experimental 1 10.5 fl oz	1,7,9			
Bravo Weather Stik 6SC 32 fl oz	2,4,6,8,10			
Inspire Super 2.82EW 19.8 fl oz	3,5,11			
Induce 100L 0.125% v/v	1,3,5,7,9,11	9.0 bcd	20.3 b	34.0 b
Fracture 20SC 24.4 fl oz	1,3,5,7,9,11			
Manzate Pro Stick 75DG 2 lb	2,4,6,8,10	7.9 bcd	19.8 b	34.8 b
Fracture 20SC 36.6 fl oz	1,3,5,7,9,11			
Manzate Pro Stick 75DG 2 lb	2,4,6,8,10	8.1 bcd	20.8 b	35.0 b
Fontelis 1.67SC 1.5 pt	1-11	9.8 bcd	21.3 b	35.3 b
Fontelis 1.67SC 1 pt	1-11	9.5 bcd	20.0 b	35.5 b
Experimental 1 10.5 fl oz	1,3,11			
Bravo Weather Stik 6SC 32 fl oz	2,4,6,8,10			
Inspire Super 2.82EW 19.8 fl oz	5,7,9			
Induce 100L 0.125% v/v	1,3,5,7,9,11	12.0 abc	22.3 b	36.5 b
Experimental 1 10.5 fl oz	1,5			
Bravo Weather Stik 6SC 32 fl oz	2,4,6,8,10			
Switch 62.5WG 14 oz wt	3,7,9,11			
Induce 100L 0.125% v/v	1,3,5,7,9,11	10.3 bcd	19.3 b	39.5 b
Fontelis 1.67SC 1.5 pt	1-11			
Experimental 2 4 oz	1-11	9.6 bcd	20.3 b	42.3 ab
Fontelis 1.67SC 1 pt	1-11			
Experimental 2 4 oz	1-11	10.3 bcd	23.0 b	42.5 ab
Experimental 2 4 oz	1-11	13.2 ab	26.8 ab	44.8 ab
Non-treated	N/A	19.3 a	34.3 a	56.3 a

* Disease rating scale based on percent necrotic foliage caused by *A. solani*.

** Treatments followed by the same letter(s) within a column are not statistically different ($P=0.05$, Waller-Duncan $k=100$).