

Evaluation of fungicides for control of late 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 20 Aug (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: 27 Aug and 2, 9, 16, 23 and 30 Sep and 7, 15, 22 and 28 Oct and 5 Nov. Disease severity was assessed on 28 Oct and 5 and 12 Nov as percentage of foliage with necrosis. Fruit were harvested on 13 Nov. 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.

Late blight was first detected on 28 Oct at approximately 5% disease severity in the field and progressed rapidly throughout the remainder of the experiment. Treatments with alternations of Bravo Weather Stik, Experimental and Revus Top provided excellent control of *P. infestans* and also provided the greatest marketable yield. Fracture alternated with Manzate Pro Stick also controlled late blight but not as effectively. No phytotoxicity was observed. In the table, treatments are sorted by disease severity on 12 Nov.

Treatment and rate of product per acre	Application No.	Disease Severity* (%)			Mkt. Yield (lbs)	UnMkt Yield (lbs)
		28 Oct	5 Nov	12 Nov		
Bravo Weather Stik 6SC 1.5 pt	1,3,5,6,8,9,11					
Experimental 2.14 pt	2,4,7,10	1.0 b**	3.5 d	8.8 c	12.7 a	0.4 c
Bravo Weather Stik 6SC 1.5 pt	1,3,5,8,9,11					
Experimental 2.14 pt	2,4,7,10					
Revus Top 4.17SC 7.0 fl oz	6	2.0 b	6.3 cd	11.0 c	9.8 ab	1.1 c
Bravo Weather Stik 6SC 1.5 pt	1,3,5,6,8,9,11					
Experimental 1.71 pt	2,4,7,10	2.5 ab	8.0 bcd	16.5 c	8.9 b	1.8 c
Bravo Weather Stik 6SC 1.5 pt	1,3,5,8,9,11					
Experimental 1.71 pt	2,4,7,10					
Revus Top 4.17SC 7.0 fl oz	6	4.8 ab	11.8 bcd	17.3 c	11.6 ab	1.2 c
Fracture 20SC 36.6 fl oz	1,3,5,7,9,11					
Manzate Pro Stik 75DG 2.0 lb	2,4,6,8,10	2.5 ab	20.8 bc	41.0 b	2.9 c	5.2 a
Fracture 20SC 24.4 fl oz	1,3,5,7,9,11					
Manzate Pro Stik 75DG 2.0 lb	2,4,6,8,10	3.5 ab	22.8 b	47.3 b	2.2 c	3.5 b
OxiPhos 14L 3 qt	1-11	5.8 ab	39.5 a	84.5 a	0.7 c	6.3 a
Non-treated	N/A	7.0 a	43.0 a	89.8 a	0.6 c	4.9 ab

* Disease rating scale based on percent necrotic foliage caused by *P. infestans*.

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