

Evaluation of fungicides for control of late blight on tomato, Cleveland 2014.

The experiment was conducted at the Piedmont Research Station in Cleveland, NC (N35°42.065'; W080°37.267'). Plots were single beds on 5-ft centers, covered with black plastic mulch; 6-ft long with 4-ft fallow borders at each end. The previous year the field was planted with soybean followed by rye as a cover crop. Tomatoes were transplanted in the field on 31 Jul (6 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 11, 20, 27 Aug and 3, 10, 19 and 24 Sep and 2, 9, 15 and 21 Oct. Disease severity was assessed on 9, 16, 22 and 29 Oct as percentage of foliage with necrosis. Data was 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 2 Oct at approximately 5% disease severity in the field and progressed rapidly throughout the remainder of the trial. The severity of the disease provided a stringent test of the treatments. Treatments 1 and 2 were among the best performing treatments. None of the other treatments provided commercially acceptable control of late blight. No phytotoxicity was observed. In the table, treatments are sorted by disease severity on 29 Oct.

Treatment number and product and rate per acre	Application No.	Disease Severity* [%]			
		9 Oct	16 Oct	22 Oct	29 Oct
1 Tanos 50WG 8 oz	1, 4, 9				
Manzate Pro Stick 75DG 1.5 lb	2, 6, 8, 11				
Kocide 3000 46.1DF 1.3 lb	2, 6, 8, 11				
Ranman 3.33SC 2.75 fl oz	3, 5, 7, 10	10.8 a	22.8 d	29.5 f	41.0 f
2 Bravo Weather Stik 6SC 1.5 pt	1, 4, 6 – 10				
Experimental (1) 2.5pt	2, 5, 11				
Revus 2.08SC 7.0 fl oz	3	15.3 a	26.0 d	35.8 ef	51.0 ef
3 Manzate Pro Stik 75WG 1.5 lb	1, 2, 4, 6, 8				
Kocide 3000 46.1DF 1.3 lb	1, 2, 4, 6, 8				
Bravo Weather Stik 6SC 1.5 pt	3, 5, 9				
Priaxor 4.17SC 4.0 oz	7, 11				
Zampro 4.33SC 14 fl oz	10	12.5 a	28.5 cd	38.8 ef	57.5 de
4 Bravo Weather Stik 6SC 1.5 pt	1, 3, 4, 6 – 10				
Ranman 3.33SC 2.1 fl oz	2, 5, 11	18.8 a	31.8 bcd	42.0 ef	57.8 de
5 Bravo Weather Stik 6SC 1.5 pt	1, 3, 5, 6 – 10				
Experimental (1) 2.5 pt	2, 11				
Revus 2.08SC 7.0 fl oz	4	11.0 a	36.3 bcd	46.3 def	63.8 d
6 Bravo Weather Stik 6SC 1.5 pt	1, 4, 5, 6 – 10				
Experimental (1) 2.5 pt	2, 11				
Revus 2.08SC 7.0 fl oz	3	19.3 a	43.0 bcd	49.3 de	66.8 d
7 Manzate Pro Stik 75WG 1.5 lb	1, 2, 4, 6, 8				
Kocide 3000 46.1DF 1.3 lb	1, 2, 4, 6, 8				
Endura 70WG 2.5 oz	3, 5, 9				
Priaxor 4.17SC 4.0 oz	7, 11				
Zampro 4.33SC 14 fl oz	10	14.8 a	42.3 bcd	62.5 cd	80.5 c
8 Bravo Weather Stik 6SC 1.5 pt	1 – 11	23.5 a	54.0 a-d	68.5 bc	85.3 bc
9 Badge 32SC 2.0 pt	1 – 11	28.3 a	57.3 a-d	80.3 ab	93.5 ab
10 Zonix 8.5L 18 fl oz	1 – 11	28.8 a	66.5 ab	86.8 a	96.3 a
11 Badge 32SC 1.0 pt	1 – 11	40.5 a	63.5 abc	86.8 a	96.3 a
12 Zonix 8.5L 45 fl oz	1 – 11	36.8 a	63.5 abc	86.5 a	96.8 a
13 Zonix 8.5L 30 fl oz	1 – 11	29.8 a	62.8 abc	85.8 a	97.0 a
14 Experimental (2) 1 qt	1 – 11	40.5 a	80.3 a	94.3 a	97.8 a
15 Experimental (2) 0.75 qt	1 – 11	29.8 a	66.5 ab	88.5 a	97.8 a
16 Non-treated	1 – 11	42.3 a	80.5 a	94.0 a	97.8 a

* 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 $k=100$).