

**Comparison of fungicides for target spot and late blight control on tomato, spring 2012.**

On 23 Feb 2012, plots were established at the University of Florida's Gulf Coast Research and Education Center in Balm, FL to assess the effect of several fungicide programs on the control of target spot of tomato. Plots consisted of three, 25 ft-long bed sections within 300 ft-long, raised beds with 5 ft center-to-center bed spacing. Beds were covered with black virtually impermeable mulch and irrigated with a drip system. Tomato seedlings (cv. Charger) were transplanted at 18-in spacing along beds skipping a 4-ft alley between plots as a buffer. Treatments, including a non-treated control, were arranged in a completely randomized design with each treatment repeated four times. The treatments were applied on 15 Mar, 26 Mar, 2 Apr, 9 Apr, and 16 Apr (corresponding with applications 1 to 5 below). Foliar treatments were applied with a tractor sprayer calibrated to deliver 60 (apps. 1-2), and 90 gal/A (apps. 3-5) at 210 psi. Drip applications were applied into irrigation lines through a manifold with pressurized CO<sub>2</sub> (12 psi) in 6 L of water (approx. 0.13 acre-inch of water per treated acre) per a plot. Plots were repeatedly inoculated in early March with suspensions (10<sup>5</sup> conidia/ml) of *Corynespora cassiicola* using a backpack sprayer. Late blight also developed from inoculated neighboring plots. Plots were monitored regularly for target spot and late blight, and rated on 19 Apr and 1 May as disease developed. Trial was terminated prematurely due to hot, dry weather that impeded further disease development, and the onset of bacterial wilt throughout the trial. Noticeable phytotoxicity was documented in association with EXP1. Yield was collected from a single hand harvest on 9 May due to the severity of bacterial wilt throughout the trial.

**Table 2. Spring 2012 Tomato Target Spot Trial, Gulf Coast REC, Wimauma, FL: Tomato Yields**

Treatment, Rate/A (Application)	Target Spot Severity (%)		Late Blight Severity (%)		Phytotoxicity (0-3)		Late Blight Diseased Fruit (lbs)
	19-Apr	1-May	19-Apr	1-May	19-Apr	1-May	
Inspire Super, 20 fl oz (1,2,4,5); Bravo, 1.5 pt (3)	10.3 e	28.0 bc	1.9 b	0 b	0 c	0 c	0.97 b
QuadrisTop, 8 fl oz (1,2,4,5); Bravo, 1.5 pt (3)	11.4 de	39.0 b	2.3 b	0 b	0 c	0 c	0.78 b
Endura, 3.5 oz (1,2,4,5); Bravo, 1.5 pt (3)	7.9 e	20.9 c	0.8 b	0 b	0 c	0 c	1.13 b
EXP1, 5 oz (1,2,4,5); Silwet L77, 0.125% v/v (1,2,4); Bravo, 1.5 pt (3)	32.7 a	76.7 a	0.0 b	0 b	1.3 b	1.5 b	0.69 b
EXP1, 6 oz (1,2,4,5); Silwet L77, 0.125% v/v (1,2,4,5); Bravo, 1.5 pt (3)	28.0 ab	72.9 a	0.0 b	0 b	2 a	1.8 ab	0.75 b
EXP1, 7.14 oz (1,2,4,5); Silwet L77, 0.125% v/v (1,2,4,5); Bravo, 1.5 pt (3)	28.0 ab	72.0 a	0.0 b	0 b	1.5 ab	2 a	0.50 b
EXP1, 8.5 oz (1,2,4,5); Silwet L77, 0.125% v/v (1,2,4,5); Bravo, 1.5 pt (3)	32.7 a	81.5 a	0.8 b	0 b	2 a	2 a	1.06 b
EXP1, 13.2 oz (1,2,4,5); Silwet L77, 0.125% v/v (1,2,4,5); Bravo, 1.5 pt (3)	24.5 a-d	72.9 a	0.4 b	0 b	2 a	2 a	1.72 b
Fluopyram 500SC, 6.8 fl oz (DRIP 3,5); Bravo, 1.5 pt (1-5)	12.6 c-e	37.5 bc	1.5 b	0 b	0.3 c	0 c	1.28 b
Luna Tranquility, 11 fl oz (2,4); Bravo, 1.5 pt (1,3,5)	11.4 de	23.2 bc	0.4 b	0 b	0 c	0 c	1.25 b
Bravo, 1.5 pt (1-5)	18.5 b-e	65.8 a	1.9 b	0.8 b	0 c	0 c	1.25 b
Untreated control	25.6 abc	32.8 bc	28.0 a	32.8 a	0 c	0 c	10.81 a
	<i>P</i> = 0.0012	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001

<sup>w</sup> Listed treatment rates are on a per acre basis unless noted otherwise. Treatments were applied 15 Mar, 26 Mar, 2 Apr, 9 Apr, and 16 Apr (corresponding with applications 1 to 5 above).

<sup>x</sup> The severity of late blight was assessed as the percentage of canopy affected. The Horsfall-Barratt scale was used for all ratings, but values were converted to mid-percentages prior to statistical analyses.

<sup>y</sup> Area under the disease progress curve (AUDPC) values were calculated using the formula:  $\sum[(x_i + x_{i-1})/2](t_i - t_{i-1})$  where  $x_i$  is the rating at each evaluation time and  $(t_i - t_{i-1})$  is the time between evaluations.

<sup>z</sup> Means followed by the same letter are not significantly different according to Fisher's LSD test ( $\alpha=0.05$ ).

**Table 2. Spring 2012 Tomato Target Spot Trial, Gulf Coast REC, Wimauma, FL: Tomato Yields**

Treatment, Rate/A (Application)	Fruit Yield by Market Size (lbs/plot)				Total Marketable Yield	Total Yield
	Small	Medium	Large	Xlarge		
Inspire Super, 20 floz (1,2,4,5,7,8); Bravo, 1.5 pt (3,6,9)	6.3	17.4	26.0	43.5 a	93.2 a	94.1 a
QuadrisTop, 8 floz (1,2,4,5,7,8); Bravo, 1.5 pt (3,6,9)	6.5	18.5	27.4	41.3 ab	93.7 a	94.5 a
Endura, 3.5 oz (1,2,4,5,7,8); Bravo, 1.5 pt (3,6,9)	6.1	19.9	29.4	39.0 abc	94.4 a	95.5 a
EXP1, 5 oz (1,2,4,5,7,8); Silwet L77, 0.125% v/v (1,2,4,5,7,8); Bravo, 1.5 pt (3,6,9)	6.2	19.3	25.8	33.9 abc	85.1 a-e	85.8 a-d
EXP1, 6 oz (1,2,4,5,7,8); Silwet L77, 0.125% v/v (1,2,4,5,7,8); Bravo, 1.5 pt (3,6,9)	4.6	20.3	22.5	29.2 bc	76.5 b-e	77.3 bcd
EXP1, 7.14 oz (1,2,4,5,7,8); Silwet L77, 0.125% v/v (1,2,4,5,7,8); Bravo, 1.5 pt (3,6,9)	4.8	17.4	22.3	28.2 c	72.8 de	73.3 d
EXP1, 8.5 oz (1,2,4,5,7,8); Silwet L77, 0.125% v/v (1,2,4,5,7,8); Bravo, 1.5 pt (3,6,9)	5.9	15.9	22.8	29.4 bc	74.0 cde	75.1 cd
EXP1, 13.2 oz (1,2,4,5,7,8); Silwet L77, 0.125% v/v (1,2,4,5,7,8); Bravo, 1.5 pt (3,6,9)	5.8	17.8	20.4	34.3 abc	78.4 a-e	80.1 a-d
Fluopyram 500SC, 6.8 floz (DRIP 3,5); Bravo (1-9)	6.4	19.4	23.1	43.3 a	92.3 ab	93.6 ab
Luna Tranquility, 11 floz (2,4,6,8); Bravo, 1.5 pt (1,3,5,7,9)	6.0	16.5	26.5	40.1 abc	89.1 abc	90.3 abc
Bravo, 1.5 pt (1-9)	5.6	18.1	23.3	42.0 a	88.9 a-d	90.2 abc
Untreated control	4.6	15.1	21.4	28.0 c	69.1 e	79.9 a-d
<i>P</i> =	0.8529	0.5379	0.1276	0.0539	0.0141	0.0536

<sup>w</sup> Listed treatment rates are on a per acre basis unless noted otherwise.

<sup>z</sup> Means followed by the same letter are not significantly different according to Fisher's LSD test ( $\alpha=0.05$ ).