

**Evaluation of biopesticides and fungicides for management of Fusarium wilt and southern blight on tomato, spring 2010.**

On 12 Apr 2010, plots were established at the University of Florida’s Gulf Coast Research and Education Center in Balm, FL to assess the effect of biopesticides and fungicides on the control of Fusarium wilt and southern blight of tomato. Plots consisted of 30 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 XP-200) were transplanted at 18-in spacing along beds skipping a 4-ft alley between plots as a buffer. Treatments were applied on 7 Apr (seedling drench), 15 Apr, 28 Apr, 5 May, 13 May, 19 May, 26 May, 2 Jun, and 6 Jun (corresponding with applications 1 to 9 below). All treatments except the Actigard foliar spray were dripped into irrigation lines through a manifold with pressurized CO<sub>2</sub> (20 psi). The Actigard spray treatment was carried out using a CO<sub>2</sub>back pack sprayer calibrated to deliver 60 (apps. 2,4) and 90 gal/A (apps. 6,8) at 40 psi. Drip treatments were applied into the irrigation lines through a manifold with pressurized CO<sub>2</sub> (20 psi). Treatments, including a non-treated control were arranged in a completely randomized block design with each treatment repeated four times. Plots were monitored regularly for Fusarium wilt and southern blight, and rated on 29 Jun after disease reached appreciable levels. The yield was assessed from a single hand harvest on 28 Jun.

No significant difference was detected in disease incidence and yield between treatments. None of the biopesticides or fungicides tested in this study provided significant protection against Fusarium wilt and southern blight. The yield was also not significantly improved by these treatments in comparison to the non-treated control.

Treatment, rate/A (application) <sup>z</sup>	Disease incidence (%)		
	Fusarium wilt	Southern blight	Yield (boxes/A) <sup>y</sup>
Non-treated control.....	22.8	5.10	436
Tenet, 5 oz/100gal (1), 4 lb (2,3).....	19.7	6.55	463
Serenade ASO, 2 qt (1,2,3).....	28.6	3.30	414
K-Phite, 5 qt (3,5,7,9).....	24.1	4.13	251
Soilgard 12 G, 5 lb (1,2,3).....	28.6	4.10	397
Actinovate, 5 oz (1-8).....	27.4	3.70	397
Actigard 50WG, 0.11 oz (drip, 3,5,7,9).....	21.9	6.30	343
Actigard 50WG, 0.11 oz (foliar spray, 3,5,7,9).....	23.2	6.45	262
EXP 1, 6.84 oz (drip, 1,3).....	28.8	2.35	414
Mycostop, 4 oz (1,2,3).....	28.5	3.73	283
<i>P &gt; F</i>	0.7283	0.7971	0.1063

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

<sup>y</sup> The yield assumes 4356 plants/A and 20 lb/box.