

**Evaluation of selected fungicides for management of downy mildew on cucumber, spring 2012.**

On 29 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 fungicides and nonionic surfactants on the control of downy mildew on cucumber. Plots consisted of 14 ft-long bed sections within 308 ft-long, raised beds with 4 ft center-to-center bed spacing. Beds were covered with black virtually impermeable mulch and irrigated with a drip system. Seeds were sown at 30-in spacing along beds skipping a 6-ft alley between plots and every third bed as a buffer. Treatments, including a non-treated control were arranged in a completely randomized block design with each treatment repeated four times. Fungicide treatments were applied via foliar spray on 6 Apr, 12 Apr, 19 Apr, 27 Apr, 3 May, and 11 May (corresponding with applications 1 to 6 below) with a CO<sub>2</sub> back pack sprayer calibrated to deliver 40 (apps. 2,3) and 60 gal/A (apps. 4,5,6) at 40 psi. Plots were monitored regularly for downy mildew, and rated on 12 Apr, 18 Apr, and 2 May after disease reached appreciable levels. Alternating applications of Quintec (6 fl oz/A) and Procure 480SC (8 fl oz/A) were applied throughout the season to minimize the impact of powdery mildew.

Treatment, rate/A (application) <sup>z</sup>	Disease severity (%) <sup>y</sup>			
	12 Apr	18 Apr	2 May	AUDPC <sup>x</sup>
Ranman, 2.75 fl oz (1,3); Gavel, 2 lb (2,4); Presidio, 4 fl oz (5) Previeur, 1.2 pt (6,7).....	8.00	8.00 c <sup>w</sup>	6.75 g	151 d
Revus, 8 fl oz (1,3); Gavel, 2 lb (2,4); Presidio, 4 fl oz (5); Previeur, 1.2 pt (6,7).....	22.1	25.6 bc	32.8 def	552 bc
Presidio, 4 fl oz (1,2); Gavel, 2 lb (2,4); Ranman, 2.75 fl oz (5); Previeur, 1.2 pt (6,7).....	6.00	12.6 bc	28.0 ef	340 cd
Tanos, 8 oz (1,3,5); Bravo WeatherStik, 1.5 pt (1-7).....	15.0	16.1 bc	23.3 f	369 cd
Zampro, 14 oz (1,3,5,7); Pristine 16 oz (2,4,6).....	20.9	25.6 bc	56.3 bc	713 b
Zampro, 14 oz (1,3,5,7); Ranman, 2.75 oz (2,4,6).....	8.38	15.0 bc	37.5 de	438 bcd
Bravo WeatherStik, 1.5 pt (1-7); Synbiont, 52 fl oz (1-7).....	23.8	30.4 b	39.0 de	648 bc
Bravo WeatherStik, 1.5 pt (1-7).....	20.9	25.6 bc	43.8 cd	625 bc
Presidio, 4 fl oz (1-7).....	11.9	19.8 bc	67.3 b	704 b
V-10208, 10 fl oz (1-7); Silwet L-77, 0.25% (v/v) (1-7).....	8.38	8.38 c	3.75 g	135 d
Presidio, 4 fl oz (1-7); V-10208, 10 fl oz (1-7); Silwet L-77, 0.25% (v/v) (1-7).....	10.3	12.6 bc	3.75 g	183 d
Stellar, 22 fl oz (1-7).....	25.6	31.9 b	43.8 cd	702 b
Untreated control (no water).....	24.5	54.8 a	86.3 a	1225 a
<i>P</i> > <i>F</i>	0.1504	0.0038	<0.0001	<0.0001

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

<sup>y</sup> The severity of downy mildew 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>x</sup> Area under the disease progress curves (AUDPC) was 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>w</sup> Values followed by the same letter are not statistically significant ( $P = 0.05$ ) according to Fisher's LSD test.