

**Evaluation of fungicides for powdery mildew in staked tomatoes, 2001.**

An experiment was conducted at the Long Island Horticultural Research and Extension Center in Riverhead, NY, in a field of Haven loam soil. Fertilizer (666 lb/A of 15-15-15) was broadcast and incorporated on 11 May. Six-wk-old seedlings were transplanted at 24-in. plant spacing on 6 Jun into five 300-ft rows on raised beds with black plastic mulch. Plants were watered using drip irrigation as needed based on irrometer readings (29 Jun; 6 and 23 Jul; 1, 10, and 17 Aug; and 4 and 10 Sep). The outer and center rows were left unstaked as guard rows and the remaining 2 rows were staked. Staked rows were divided into 20 ft plots of 10 plants each for 20 plots total, in a blocked design with 5 treatments and 4 replications. Weeds between beds were controlled with Sencor 75DF (0.5 lb/A) applied on 7 Jun, Gramoxone Extra EC (2 pt/A) applied with a shielded sprayer on 3 Jul, cultivation, and hand-weeding. Insect pests were managed with Spintor (6 oz/A) applied on 31 Jul, 8 Aug, and 23 Aug and Spintor + Provado (3.75 oz/A) applied on 28 Sep. Bacterial speck was managed by applying Actigard 50WG (0.75 oz/A) on 31 Jul and 8, 14, 23, and 31 Aug. Average monthly high and low temperatures (F) were, 80/63 in June, 80/63 in Jul, 84/68 in Aug, and 75/59 in Sep. Rainfall (in.) was 6.08, 3.43, 4.86, and 2.98 for these months, respectively. Treatments were applied starting on 21 Aug. Cabrio 20EG (0.75 lb/A or 1.0 lb/A) was applied to foliage weekly on 21 Aug, 29 Aug, 4 Sep, 11 Sep and 27 Sep using a CO<sub>2</sub>-pressurized backpack sprayer that delivered 50 gpa at 55 psi and was equipped with three TJ110-8003 nozzles per row with one nozzle over the row and one drop nozzle on each side. In other treatments, Cabrio 20EG (0.75 lb/A) was alternated with Bravo Ultrex 82.5WG (2.75 lb/A) on a weekly basis, or in blocks of two. Severity of powdery mildew was recorded weekly from 13 Sep to 4 Oct as percent of green leaf tissue with symptoms. Leaflet death (% defoliation) was also recorded. Data were collected from two leaves of the middle 8 plants in each plot and averaged. Because disease development was so low, no fruit yields were recorded.

Powdery mildew developed naturally. Symptoms were first observed on 16 Aug in a spreader row and incidence on staked plants remained low through plant senescence. No significant defoliation was observed. All treatments were effective under this low disease pressure.

	Severity of powdery mildew (% leaf area affected) <sup>1</sup>						Defoliation(%)	
	Upper leaf surface			Lower leaf surface			24 Sep	4 Oct
	13 Sep	24 Sep	4 Oct	13 Sep	24 Sep	4 Oct	24 Sep	4 Oct
Nontreated control .....	0.83 a	1.71 a	2.58 a	0.51 a	2.20 a	2.18 a	0.03 a	0.04 a
Cabrio EG (0.75 lb/A) .....	0.00 b	0.00 b	0.00 b	0.00 b	0.00 b	0.00 b	0.00 a	0.01 a
Cabrio EG (1.0 lb/A) .....	0.01 b	0.00 b	0.00 b	0.00 b	0.00 b	0.00 b	0.00 a	0.01 a
Cabrio EG (0.75 lb/A)+ Bravo Ultrex (2.75 lb/A) <sup>2</sup> .....	0.48 a	0.28 b	0.00 b	0.61 a	0.58 b	0.00 b	0.00 a	0.02 a
Cabrio EG (0.75 lb/A)+ Bravo Ultrex (2.75 lb/A) <sup>3</sup> .....	0.05 b	0.00 b	0.00 b	0.03 b	0.01 b	0.00 b	0.01 a	0.01 a
<i>P</i> -value	0.001	0.004	0.001	0.029	0.008	0.001	0.52	0.26

<sup>1</sup> Numbers in a column with a letter in common are not significantly different according to Fisher's Protected LSD (*P*=0.05).

<sup>2</sup> Cabrio 20EG was applied in weekly alternation with Bravo Ultrex 82.5WG.

<sup>3</sup> Cabrio 20EG and Bravo Ultrex 82.5WG were alternated weekly in blocks of two.