

Evaluation of materials for control of powdery mildew on processing tomato, 2011.

On 17 May, Sun 6368 tomato plants were transplanted into a Panoche clay loam at University of California West Side Research and Extension Center in Fresno County, CA. The field was sprinkler irrigated for 10 days and irrigated with buried drip for the remainder of the season. Each plot consisted of one 35-ft long 60-in wide bed. Treated beds were separated by one untreated planted row and by 5 ft between plots within a row. The experimental design was a randomized complete block with four replications. On 3, 18, 29 Aug and 5 Sep, materials were applied in 50 gallons of water per acre with a CO₂ pressurized backpack sprayer at 30 psi. Except for the Fontellis and Bravo Top treatments applied without surfactant and Vivando, all materials were applied with Activator, a non-ionic surfactant, at 0.125%. A spray boom with three TeeJet SS11003 nozzles spaced 19-in apart was used for all applications. Powdery mildew was first detected on 15 Aug on less than 1% of the leaf surface of less than 1/100 leaves sampled from untreated areas within the field. The application period was extended to allow disease to reach higher levels. Powdery mildew severity was rated on each of 10 leaves per plot on a scale of 0 to 10. Analysis of variance was performed on arcsine transformed data and Student Newman-Keuls multiple range test was used for mean separation. Non-transformed data is presented.

Severity of powdery mildew remained very low throughout the season, but was present at levels that allowed differentiation among treatments. Quadris Top, Quintec, Priaxor, Torino, Luna Sensation, Proxor/Vivando rotation and Vivando were the best performing materials based on the 14 Sep evaluation. No phytotoxicity symptoms were observed in any of the treatments.

Treatments ^z	Disease severity rating (0-10) ^y				
	30 Aug	Sep 7	Sep 14		
Quadris Top 8 fl oz	0.23 ^x	0.25	ab ^w	0.18	e
Quintec 4 fl oz.....	0.10	0.15	b	0.23	de
Priaxor 8 oz.....	0.10	0.25	ab	0.23	de
Torino SC 3.4 fl oz.....	0.13	0.23	ab	0.23	cde
Luna Sensation 7.6 fl oz.....	0.15	0.20	ab	0.25	cde
Priaxor 8 oz alternated with Vivando 15 fl oz + Silglow 0.05%	0.30	0.33	ab	0.35	bcde
Vivando 15 fl oz + Silglow 0.05 %.....	0.20	0.40	ab	0.53	bcde
Bravo Top 1.5 pt	0.33	0.53	ab	0.60	abcde
Mettle 8 oz.....	0.28	0.73	ab	0.90	abcd
Fontelis LEM SC 24 fl oz <i>without surfactant</i>	0.58	0.80	ab	0.93	abc
Bravo Top 2 pt.....	0.65	0.93	ab	1.00	abc
Bravo Top 1.5 pt <i>without surfactant</i>	0.53	0.58	ab	1.05	abc
Fontelis LEM SC 24 fl oz.....	0.85	1.08	ab	1.18	ab
Sonata ASO at 4 quarts.....	0.75	0.88	ab	1.38	a
Untreated Control.....	0.68	1.05	a	1.38	a

^z On 3, 18, 29 Aug and 5 Sep, materials were applied in the equivalent of 50 gallons per acre with a CO₂-pressurized backpack sprayer. Except for the Fontellis and Bravo Top treatments applied without a surfactant and Vivando, all materials were applied with Activator, a non-ionic surfactant, at 0.125%.

^y On 30 Aug, 7, and 14 Sep, 10 leaves per plot were evaluated for powdery mildew and rated on a scale of 0 to 10 with 0 being symptomless and 10 being completely covered powdery mildew.

^x There was no difference among treatments at the time of the first evaluation as determined by Student Newman-Keuls multiple range test.

^w Means within a column followed by the same letter are statistically similar as determined by Student Newman-Keuls multiple range test performed on arcsine transformed data (P=0.05). Non-transformed means are presented.