MUSKMELON (C*ucumis melo* 'Golden Beauty')
Powdery mildew; *Podosphaera xanthii*

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Comparison of fungicides for control of powdery mildew on muskmelon, 2011.

The study was conducted at the University of California West Side Research and Extension Center. On 27 Jul, 'Golden Beauty' casaba melons seed were sown on a Panoche clay loam. The field was irrigated with sub-surface drip throughout the season. Each plot consisted of one 80-in. bed 70 ft long. 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. Materials were applied in 40 gallons of water per acre with a CO_2 pressurized backpack sprayer at 31 psi. When the first application was made, powdery mildew was present at very low levels, less than 1 lesion per 100 leaves sampled. Application dates were 21 Sep, 3 and 17 Oct. A spray boom with four Teejet 8002 flat fan nozzles spaced 19-in. apart was used for all applications. On 19 Sep, powdery mildew severity was rated on upper and lower leaf surfaces on each of ten leaves per plot using a scale of 0 to 10 based on percentage of leaf surface covered with powdery mildew colonies. Leaves rated 0 had no visible powdery mildew; leaves rated 10 were covered. Arcsine transformed data was subjected to Analysis of Variance and means were separated by Student Neuman-Kuel's Multiple Range Test. Non-transformed means are presented.

The disease severity was high by the end of the season and all fungicides provided a level of control, but there were differences among treatments. The treatments that consistently performed the best were Torino, Merivon and Luna Sensation. The Rally, Quintec and Flint rotation as well as Mettle, Quintec and Fontellis also performed very well. No phytotoxic symptoms were observed.

Treatment[z]	Severity rating (0-10)[y]											
	3 Oct				14 Oct				25 Oct			
	upper		lower		upper		lower		upper		lower	
Torino SC 3.4 fl oz[x]……..	0.00	d[w]	0.03	d	0.03	e	0.03	f	0.00	f	0.00	g
Merivon 5.5 fl oz……..	0.03	cd	0.03	d	0.13	de	0.10	ef	0.03	f	0.00	g
Luna Sensation 4.0 fl oz…..	0.03	cd	0.10	cd	0.13	de	0.23	de	0.00	f	0.05	g
Rally 5 oz (1), Quintec 4 fl oz (2), Flint 2 oz (3)……..	0.13	bcd	0.33	bc	0.48	bcde	0.90	bc	0.20	def	0.85	f
Mettle 125ME 8.0 fl oz…	0.08	bcd	0.15	cd	0.43	cde	0.58	cd	0.75	cd	0.95	f
Quintec 4 fl oz……..	0.25	bcd	0.23	bc	0.35	cde	0.48	cd	0.35	cdef	1.05	f
Fontelis LEM SC 24 fl oz…	0.28	bcd	0.35	abc	0.23	de	0.65	cd	0.15	ef	1.08	f
Fontelis LEM SC 24 fl oz no surfactant…….	0.18	bcd	0.38	abc	0.28	cde	0.75	cd	0.65	cde	1.68	ef
Quadris Top 14 fl oz (1,3) Quintec 6 fl oz (2)……	0.15	bcd	0.25	bc	0.43	cde	1.23	bc	0.30	cdef	1.88	def
Sonata 3 qt + Quadris Top 14 fl oz……..	0.45	b	0.50	ab	1.23	bc	1.83	ab	1.03	c	2.98	cde
Quadris Top 14 fl oz…….	0.18	bcd	0.55	ab	0.68	bcd	1.10	bc	0.90	cd	3.40	cde
Tolfenpyrad 21 fl oz……	0.33	bcd	0.30	bc	0.43	cde	1.18	bc	1.08	c	3.60	cd
Rally 5 oz…….	0.28	bcd	0.28	bc	0.78	bcd	0.88	bc	3.55	b	4.00	c
Quadris Top 14 fl oz (1,3), Sonata 4 qt (2)……..	0.35	bc	0.38	abc	1.50	b	1.93	ab	2.95	b	5.45	b
Untreated Control…….	1.43	a	0.88	a	6.75	a	2.68	a	7.05	a	7.08	a

[z] Rates are expressed in units formulated product per acre. Unless otherwise specified all materials were applied with Activator (non-ionic surfactant) 0.125%.

[y] Rating averages over 10 leaves per plot rated on a scale of 0 to 10 based on percentage of leaf surface covered with powdery mildew.

[x] Materials listed once were applied on 21, 3 and 17 Oct. Materials separated by a "+" were tank mixed and materials separated by a "/" were alternated (1) were applied on 21 Sep, (2) on 3 Oct and (3) on 17 Oct.

[w] Means within a column followed by the same letter do not differ according to Student Neuman-Kuel's Multiple Range Test performed on arcsine transformed data. Non-transformed means are presented.