

DRAFT

Tomato (*Solanum lycopersicum*)

Powdery mildew; *Leveillula taurica*

T. Turini, D. Rodriguez and M. Janegitz

University of California Coop. Ext.

1920 S. Maple Ave, Fresno, CA 93702

Comparison of fungicides for control of powdery mildew on tomato, 2009.

The study was conducted at the University of California West Side Research and Extension Center. On 20 Jun, tomato plants were transplanted into a Panoche clay loam. The field was sprinkler irrigated for 10 days and irrigated with buried drip. Each plot consisted of one 66-in. bed 30 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. On 22, 31 Jul, and 12 and 21 Aug, materials were applied in 50 gallons of water per acre with a CO₂ pressurized backpack sprayer at 40 psi. A spray boom with three Teejet 8002 flat fan nozzles spaced 19-in. apart was used for all applications. When the first application was made, powdery mildew was present at a very low level; one colony on less than 1/100 leaves. On 29 Jul, 7 and 22 Aug powdery mildew severity was rated on each of ten leaves per plot using a scale of 0 to 10 based on percentage of the leaf affected by powdery mildew. Leaves rated 0 had no visible powdery mildew; leaves rated 10 were covered. On 25 Aug, the severity of necrosis due to powdery mildew was rated on a scale of 0 to 10, with 0 being unaffected and 10 being totally necrotic. Arcsine transformed data was subjected to analysis of variance. Student-Newman-Keul's Multiple Range Test on transformed data ($P \leq 0.05$) was used for mean separation. Non-transformed means are presented as a percentage of the leaf surface covered with powdery mildew symptoms.

Treatments ^z	Foliage covered with powdery mildew (%)									Necrosis rating		
	29 Jul		7 Aug			22 Aug			25 Aug			
Quadris Top 8 fl oz + D ^{xy}	0.0	B ^w	2.0	(2) ^v	D	5.8	(2)	C	1.25	(2)	F	
Bravo Weather Stik 2.75 pt	4.3	A	22.8	(12)	AB	59.0	(14)	AB	4.75	(14)	AB	
Cabrio 16 oz + Franchise 0.13% (1,3) ^u Rally at 4 oz/A + Widespread Max 0.03% (2, 4)	0.5	B	13.3	(8)	BC	33.8	(6)	B	3.50	(8)	BCD	
Cabrio 16 oz + Franchise 0.25% (1,3) Rally at 4 oz + Widespread Max 0.03 % (2,4)	2.0	AB	12.5	(7)	BC	38.0	(9)	B	4.00	(12)	BC	
Cabrio 16 oz + D (1,3) Rally 4 oz/A + D (2,4)	1.5	AB	11.8	(6)	BC	34.3	(7)	B	3.25	(7)	BCD	
USF2016A 7.6 fl oz + D	1.0	AB	1.0	(1)	D	5.3	(1)	C	1.50	(3)	EF	
Regalia at 0.5% + Cabrio 8 oz + D	2.3	AB	16.8	(11)	AB	42.3	(11)	B	3.50	(9)	BCD	
Regalia 0.5% + Rally 2.5 oz + D	2.0	AB	14.0	(9)	BC	37.3	(8)	B	3.71	(10)	BC	
Regalia 1.0% + D	1.0	AB	27.8	(14)	AB	59.0	(13)	AB	4.75	(13)	AB	
BAS560 15 fl oz + Widespread Max 0.03%	2.3	AB	5.0	(5)	CD	17.0	(5)	C	2.00	(4)	DEF	
Microthiol 10.0 lb	1.5	AB	27.3	(13)	AB	50.5	(12)	AB	2.75	(5)	BCDE	
Quadris Top 8 1 oz + D (1,3) Bravo Weather Stik 2.75 pt (2,4)	0.3	B	3.8	(4)	D	15.0	(4)	C	2.75	(6)	CDE	
GWN-4617 3.4 oz + D	2.0	AB	2.8	(3)	D	11.0	(3)	C	1.25	(1)	F	
Flint 3.0 oz + D	1.8	AB	15.5	(10)	AB	39.8	(10)	B	3.75	(11)	BCD	
Untreated Control	3.5	AB	33.3	(15)	A	70.3	(15)	A	6.00	(15)	A	

^z All materials were applied in the equivalent of 50 gallons of water Rates are expressed in units formulated product per acre.

^y Materials separated by a "+" were applied as a mixture.

^x D=Dyne-Amic 0.25% V/V

^w Means within a column followed by the same letter did not differ significantly according to Student-Newman-Keul's Multiple Range Test on transformed data $P = 0.05$.

^v Number that appears in parentheses reflects the ranking of the mean within the column.

^u Materials followed by (1) were applied on 22 Jul, (2) on 31 Jul, (3) on 12 Aug, and (4) on 21 Aug.