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CROP: Tomato (*Solanum lycopersicum* Cultivar FL 47)

ORGANISM: Bacterial spot (*Xanthomonas campestris* pv. *vesicatoria*)

DATE: 2006

EFFICACY OF SEVERAL COMPOUNDS ON BACTERIAL SPOT IN TOMATO, 2006:

Several compounds were tested and evaluated for control of bacterial spot in a field experiment located in Quincy Florida. Naturally occurring *Xanthomonas campestris* pv. *vesicatoria* was the source of infections. Treatments were arranged in randomized complete block design with 4 replications. Tomato (Cultivar FL 47) seedlings were transplanted August 1 on to raised beds previously fumigated with methyl-bromide (67%)+chloropicrin (33%) and covered with white polyethylene (mulch), drip irrigated and staked (fertilizer applied 195-60-195 lb/A N-P₂O₅-K₂O). Each plot was 40 feet in length and consisted of 15 plants spaced 20 inches apart. Foliar treatments in the field were applied weekly beginning August 7 and ending October 12. Foliar disease was assessed on September 6, 9, 13, 20, 26 and October 4, 11, and 18. Fruit were harvested from 5-11 plants per plot October 24 and October 31, graded to USDA standards, and weights of marketable and unmarketable yields were determined.

Table 1. Efficacy of the Products on Bacterial Spot Severity – Final Rating

TREATMENT	% DISEASE SEVERITY ¹ FINAL ON OCTOBER 18, 2006	AUDPC1
Control ²	23.4abc	549.1abcde
Actigard ³	16.9abc	378.8cdef
Actigard + Surround ⁴	17.6abc	379.0cdef
Surround ⁵	19.7abc	429.3abcdef
Prophyt alt. Serenade Max ⁶	30.9a	630.2abc
Phypse ⁸	22.5abc	494.5abcdef
Kasumin (32oz) ¹⁰	18.3abc	378.6cdef
Kasumin (16oz) ¹¹	29.1ab	567.5abcde
Kasumin (16oz) + ProPhyt ¹²	30.5a	593.0abcd
Serenade Max + Kocide ¹³	29.5ab	631.5abc
Serenade Max ¹⁴	21.1abc	513.5abcdef
Firewall ¹⁵	25.8abc	566.6abcde
Serenade Max + Cuprofix ¹⁸	22.5abc	516.1abcdef
Cuprofix + Penncozeb ¹⁹	22.1abc	425.4bcdef
Kocide + Manzate ²⁰	19.7abc	449.5abcdef
Kentan ²²	21.0abc	459.7abcdef
OxiDate (1/300)²⁵	13.4bc	331.9def
OxiDate (1/400)²⁶	15.9abc	307.8ef

¹ Means with the same letter are not significantly different (P=0.05) by Duncan's multiple range test (SAS).

² Untreated Control

³ Actigard (acibenzolar-S-methyl)(0.5oz/A) alternated weekly with Kocide 2000 (copper hydroxide)(2lb/A) + Manzate 75DF (mancozeb)(2lb/A), foliar application

⁴ Actigard (acibenzolar-S-methyl)(0.5oz/A) + Surround (kaolin) (25lb/a) alternated weekly with Kocide 2000 (copper hydroxide)(2lb/A) + Manzate 75DF (mancozeb)(2lb/A), foliar application.

⁵ Surround (kaolin) (25lb/a), foliar application

⁶ ProPhyt (potassium phosphite)(4pt/a) alternated weekly with Serenade Max (Bacillus subtilis) (1lb/a) + Kocide 2000 (copper hydroxide)(1lb/A) + Biotune (alkylbenzene sulfonate)(0.2%v/v), foliar application

⁸ Phypse (beta 1-3[1-6] glucan)(9.7 fl.oz/a), foliar application

¹⁰ Kasumin (kasugamycin)(32 fl.oz/50 gal), foliar application

¹¹ Kasumin (kasugamycin)(16 fl.oz/50 gal), foliar application

¹² Kasumin (kasugamycin)(16 fl.oz/50 gal) + ProPhyt (potassium phosphite)(4pt/a), foliar application

¹³ Serenade Max (Bacillus subtilis)(1lb/a) + Kocide 2000 (copper hydroxide)(1lb/A) + Biotune (alkylbenzene sulfonate)(0.2%v/v), foliar application

¹⁴ Serenade Max (Bacillus subtilis)(1lb/a), foliar application

¹⁵ Firewall (phosphorous acid, nutrients)(1gal/a), foliar application

¹⁸ Serenade Max (Bacillus subtilis)(1lb/a) + Cuprofix Ultra 40 (basic copper sulfate)(1.25lb/a), foliar application

¹⁹ Cuprofix Ultra 40 (basic copper sulfate)(1.25lb/a) + Penncozeb 75DF (mancozeb)(2lb/a), foliar application

²⁰ Kocide 2000 (copper hydroxide)(2lb/A) + Manzate 75DF (mancozeb)(2lb/A), foliar application

²² Kentan (copper hydroxide)(1.75lb/a) + Manzate 75DF (mancozeb)(2lb/A), foliar application

²³ Badge SC (copper oxychloride, copper hydroxide)(2pt/a) + Manzate 75DF (mancozeb)(2lb/A), foliar application

²⁵ Oxidate (hydrogen dioxide)(1gal/300gal) + Kocide 2000 (copper hydroxide)(2lb/A) + Manzate 75DF (mancozeb)(2lb/A), foliar application

²⁶ Oxidate (hydrogen dioxide)(1gal/400gal) + Kocide 2000 (copper hydroxide)(2lb/A) + Manzate 75DF (mancozeb)(2lb/A), foliar application

Table 3. Area Under the Disease Progress Curve (AUDPC) based on 7 weekly ratings.

