

TOMATO DISEASES (Commercial Production)

Cliff Coker and Jim Correll

Disease	Product	Active Ingredient	FRAC Code*	Rate/Acre	Re-entry Interval	Comments
TRANSPLANT PRODUCTION						
Bacterial Speck and Bacterial Spot						
(Seed Disinfection for transplant production)	Bleach	5.25% sodium hypochlorite		1 part bleach + 4 parts water		Wash tomato seed in bleach solution for 45 minutes with constant agitation. Strong bleach can harm the eyes, skin or lungs so wear goggles, rubber gloves, protective clothing and a respirator. Air dry disinfected seed on a clean bench immediately.
Transplant Protection	Agrimycin 17	streptomycin sulfate	25	1 lb in 100 gal water		Spray transplants every 10 days from first leaf until transplanted. For use only in transplant production beds.
Early Blight, Gray Mold and Late Blight (transplants)	Bravo Ultrex 82.5WDG Bravo WeatherStik 6F Bravo 500 4.17F	chlorothalonil	M5	1.3 - 1.8 lb 1 3/8 - 2 pt 2 - 3 pt	2 days 2 days 2 days	Starting at emergence, spray transplants every week until transplanted. Good coverage is essential.
	Scala SC	pyrimethanil	9	7 fl oz	12 hours	See label for restrictions and warnings.
	Dithane DF (Rainshield NT) Manzate 75DF Penncozeb 75DF	mancozeb	M3	1.5 - 2 lb 1.5 - 2 lb 0.75 - 2 lb	1 day 1 day 1 day	Starting at emergence, spray transplants every week until transplanted. Good coverage is essential. Latron surfactant is recommended to improve coverage.
	OR plus Serenade MAX	<i>Bacillus subtilis</i>	44	1 - 2 lb	0 day	Do not use without a tank mix partner of one of the previously listed products.

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FIELD PRODUCTION							
Early Blight	Quadris 2.08FL	azoxystrobin	11	5 - 6.2 fl oz	4 hr	0	Apply at first sign of disease and repeat every 7 - 21 days. Do not make more than one application of strobilurins before rotating to a fungicide with a different mode of action. No more than 5 applications per acre per year. See label for incompatible spray mixtures.
Late Blight Septoria Leaf Spot	Quadris Opti	azoxystrobin + chlorothalonil	11 M5	1.6 pt	4 hr	0	
	Cabrio 20EG	pyraclostrobin	11	8 - 12 oz	12 hr	0	Use 8 - 16 oz for late blight. Maximum amount per season is 96 oz. See label for other information.
	Flint 50WG	trifloxystrobin	11	2 - 4 oz	12 hr	3	Apply at first sign of disease and repeat every 7 - 10 days. Use the higher rate for late blight. Suppression only for Septoria. See label for other precautions and restrictions.
	Bravo Ultrex 82.5WDG Bravo WeatherStik 6F Bravo 500 4.17F	chlorothalonil	M5	1.3 - 1.8 lb 1 3/8 - 2 pt 2 - 3 pt	2 days 2 days 2 days	0 0 0	Apply at 7 - 10 day interval after first appearance of disease. Do not mix chlorothalonil with Copper-Count N, Foil, DIPEL, Triton, AG98 or Latron surfactants.
	Gavel 75DF	mancozeb + zoxamide	M3 22	1.5 - 2 lb	2 days	5	See label for restrictions and warnings.
	OR plus Serenade MAX	<i>Bacillus subtilis</i>	44	1 - 2 lb	4 hr	0	Do not use without a tank mix partner of one of the previously listed products.
	Tanos 50WG	famoxadone + cymoxanil	11 27	6 - 8 oz		3	
Early Blight Late Blight Septoria Leaf Spot and Bacterial Speck Bacterial Spot Bacterial Canker	mancozeb OR chlorothalonil OR azoxystrobin plus Kocide 2000 Kocide 4.5LF Nu-Cop 3L Champion WP OR BasiCop WP Champ 4.6F Tenn-Cop 5E Cuprofix Ultra 40 Disperss		M3 or M5 or 11	See above	See above	See above	See above
		copper hydroxide	M1	1.5 - 3 lb 1 1/3 - 2 1/3 pt 1 1/3 - 2 1/3 pt 2 lb	1 day	0	Spray on a 7 - 10 day schedule as above.
		fixed copper	M1	2 - 4 lb 1 1/3 - 2 1/3 pt 3 pt	1 day	0	
		copper sulfate	M1	1.25 - 3 lb	12 hr	0	

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FIELD PRODUCTION (cont.)							
Late Blight only	Quadris 2.08FL	azoxystrobin	11	3.1 - 6.2 fl oz	4 hr	0	Spray on a 5 - 7 day interval.
	Quadris Opti	azoxystrobin + chlorothalonil	11 M5	1.6 pt	4 hr	0	See above.
	Cabrio 20EG	pyraclostrobin	11	8 - 16 oz	12 hr	0	Do not make more than one application before alternating to a non-strobilurin fungicide.
Late Blight and Buckeye Rot	Quadris 2.08FL	azoxystrobin	11	5 - 6.2 fl oz	4 hr	0	Apply prior to disease development and repeat every 5 - 7 days. Do not make more than one application of strobilurins before rotating to a fungicide with a different mode of action. No more than 5 applications per acre per year. See label for incompatible spray mixtures.
	Quadris Opti	azoxystrobin + chlorothalonil	11 M5	1.6 pt	4 hr	0	
	Gavel 75DF	mancozeb + zoxamide	M3 22	1.5 - 2 lb	2 days	5	See label for restrictions and warnings.
	Ridomil Gold MZ	mefenoxam	4	2.5 lb	48 hr	14 days	Apply every 14 days if conditions favor late blight or buckeye rot (cool, wet weather). No more than 3 applications per crop.
	Ridomil Gold-Copper	mefenoxam + copper	4 M1	2 lb	48 hr	14 days	Apply every 14 days if conditions favor late blight or buckeye rot (cool, wet weather). No more than 3 applications per crop.
	Gavel 75DF	mancozeb + zoxamide	M3 + 22	1.5 - 2 lb		5	
	Quadris 2.08F	azoxystrobin	11	5 - 6.2 oz		0	
	Quadris Opti 5.5SC	azoxystrobin + chlorothalonil	11 M5	1.6 pt		0	
Presidio 4SC	fluopicolide	43	3 - 4 oz		2		
Late Blight and Early Blight	Previcur Flex	propamocarb hydrochloride	28	0.7 - 1.5 pt	12 hr	5 days	See label for restrictions and warnings.
	Reason 500SC	fenamidone	11	5.5 - 8.2 fl oz	12 hr	14 days	See label for restrictions and warnings.

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FIELD PRODUCTION (cont.)							
Southern Blight	Terraclor 75WP	PCNB	14	14.6 oz/ 1,000 ft of row or 3 lb/100 gal water for trans- plant solution	12 hr	N/A	Apply as in-furrow spray at transplanting. Use 2 pints transplant solution per transplant. Pour over roots and surrounding soil before covering.
Blossom End Rot		calcium chloride		4 lb/100 gal (4% solution)			Apply every 7 days for 4 weeks starting when symptoms are first noticed in the field. Apply spray only in the early morning when temperatures are cool to minimize any plant injury.

***FRAC Code** – Fungicides with the same FRAC Code have the same mode of action. See <http://www.frac.info/frac/index.htm> for an explanation of the FRAC Codes. Rotation of fungicides with different FRAC Codes could minimize the development of fungicide-resistant strains.