In some fields, combination of many diseases...

Summary:

Disease Control Evaluations

- ✓ Apply blackmold-control fungicides preventively
- ✓ No demonstrated effectiveness of chemicals & biologicals through drip irrigation
  Value of composted chicken manure?
- ✓ Fusarium wilt easily spread

Evaluation of blackmold fruit rot control with fungicides

Blackmold fruit rot (*Alternaria alternata*)

Maximum fruit infection:

12 hours continuous moisture

60 to 86 F optimal for disease

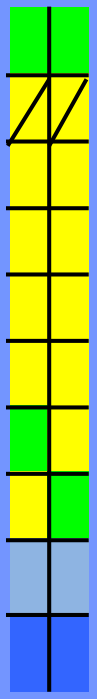
Infection in 3 to 5 hours of leaf wetness

Rainfall
CIMIS weather station #6, UC Davis
Fall, 2011

Photo credit: Steve Smith, Red Gold, Indiana

Date	Rainfall (inches)	
25-Sep	0.01	
26-Sep	0	
27-Sep	0	
28-Sep	0	
29-Sep	0	
30-Sep	0	harvestable
1-Oct	0	
2-Oct	0	
3-Oct	0.2	
4-Oct	0.07	
5-Oct	0.34	
6-Oct	0.24	
7-Oct	0	
8-Oct	0	
9-Oct	0	
10-Oct	0.22	
11-Oct	0	
12-Oct	0	
13-Oct	0	harvest
14-Oct	0	harvest
total	1.07	

Blackmold fruit rot control , 2011, UCD
3 & 6 wks pre-harvest
(*with 2 wk. delay*)



	TREATMENTS	rate (product/A)	% black mold	
1	Non treated Control	--	53	d
2	Quadris Top	8 fl oz	26	ab
3	Bravo WeatherStik	2 pt	28	ab
4	Bravo Top + Activator 90	2 pt + 0.125% v/v	23	a
5	Bravo Top + Activator 90	1.5 pt + 0.125%	38	c
6	Bravo Top	2 pt	26	ab
7	Bravo Top	1.5 pt	26	ab
8	Quadris Top fb Bravo Top	8 fl oz fb 2 pt	26	ab
9	Bravo Top fb Quadris Top	2 pts fb 8 fl oz	25	ab
10	Dupont LEM17 (Fontelis)[2]	1 pint	39	c
11	Dupont LEM17 (Fontelis)[2]	1.5 pints	35	bc
	LSD 5%		10.0	
	%CV		25	

Summary: ***apply fungicides preventively 3 to 6 weeks before harvest for blackmold control.***

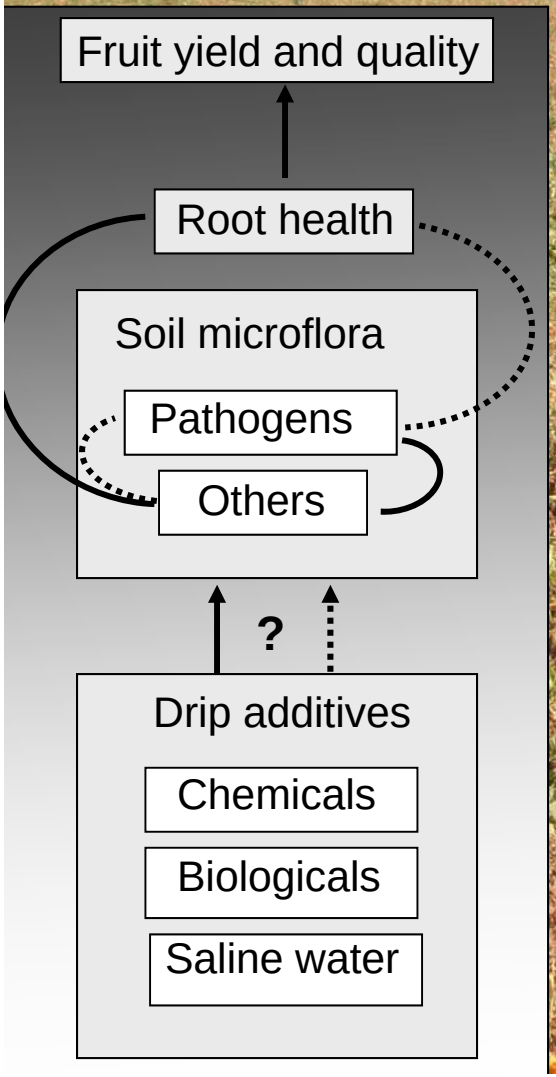
Only preventive materials available

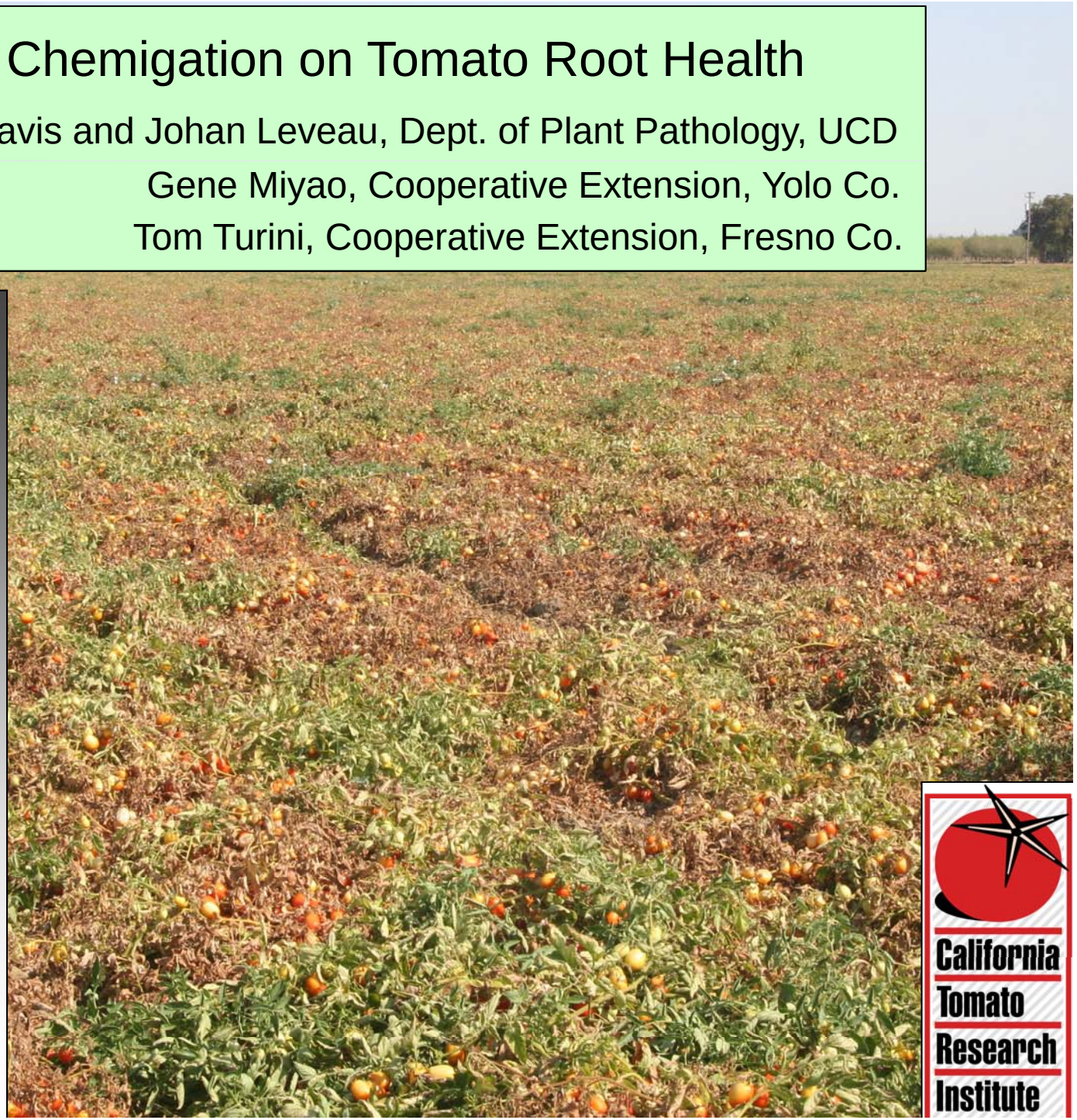
50% mold reduction expected

Single application often is most cost effective

Evaluation of Chemigation on Tomato Root Health

Mike Davis and Johan Leveau, Dept. of Plant Pathology, UCD
Gene Miyao, Cooperative Extension, Yolo Co.
Tom Turini, Cooperative Extension, Fresno Co.





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More of...

- Buried drip irrigation continues to increase
- Rotations to tomato are more concentrated
- Incidence of soilborne pathogens is increasing

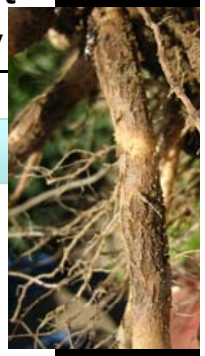
Sclerotium rolfsii

Southern Blight

Fusarium oxysporum f. sp. *radicis-lycopersici*

Fusarium crown and root rot

2011	Woodland Field			Dixon Field		
Chemigation Treatment	Yield tons/A	Vert %	Fusarium %	Yield tons/A	Vert %	Corky root severity
Control	34 b	20	21	46	50	89
Vapam 15 gal	35 b	15	28			
Tenet	34 b	18	22	48	45	86
Vapam + Tenet	34 b	19	26			
Quadris + Ridomil	33 b	17	27	47	34	84
Vapam + Quad + Ridomil	36 b	15	33			
Serenade Soil	38 b	18	22	45	47	89
Serenade + Quad + Rid				46	47	88
Vapam + Serenade	36 b	13	25			
Chicken manure	45 a	15	19	52	48	89
Tenet + Serenade				46	49	90
SoilGard				44	45	93
		NS	NS	NS	NS	NS



2012 Treatments

Control
Quadris + Ridomil
Vapam highest rate (15 gal in 2011)
Serenade soil
Regalia
Compost tea
Chicken manure - 10 tons
Chicken manure - 20 tons
Chicken manure + Serenade
Potassium - high rate

Fusarium wilt, race 3


FUSARIUM WILT

Fusarium wilt: ‘Mechanical spread’

moving infested stem pieces...

...moving infested soil

California Tomato Research Institute

Fusarium wilt: ‘Mechanical spread’


BRUTE
infections
within 1st year

Summary:

Disease Control Evaluations

- ✓ **Apply blackmold-control fungicides preventively 3 to 6 weeks before harvest**
- ✓ **No demonstrated effectiveness of chemicals & biologicals through drip irrigation**
  - ***Value of composted chicken manure?***
- ✓ **Fusarium wilt easily spread**

The End