

Update on Fungicide Trials for Southern Blight in Tomato

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Southern Blight Caused By The Fungus *Sclerotium Rolfsii*



- Warm-season disease
 - Tomato and pepper
 - Peanut and bean
- Stem canker or collar rot that kills plant

Sclerotia are the Key



- Allow fungus to survive in soil
- Sensitive to high temperatures (104°)
- Sensitive to freezing temperatures
 - “Southern blight” = below Mason-Dixon Line

8 Fungicides Tested to Control Southern Blight on Tomato

Fungicide	Active	Company	FRAC Code	\$ per application
Evito 480SC	fluoxastrobin 40%	Arysta	11	?
Cabrio 20EG	pyraclostrobin 20%	BASF	11	\$34
Fontelis 200SC	penthiopyrad 20%	DuPont	7	\$40
Blocker 4F	PCNB 40%	AMVAC	14	?
Priaxor 4.17SC	pyraclostrobin 29% + fluxapyroxad 14%	BASF	11 + 7	?
Sercadis 300SC	fluxapyroxad 27%	BASF	7	NA
Quadris 2.08SC	azoxystrobin 23%	Syngenta	11	\$17
Endura 70EG	boscalid 70%	BASF	7	\$40

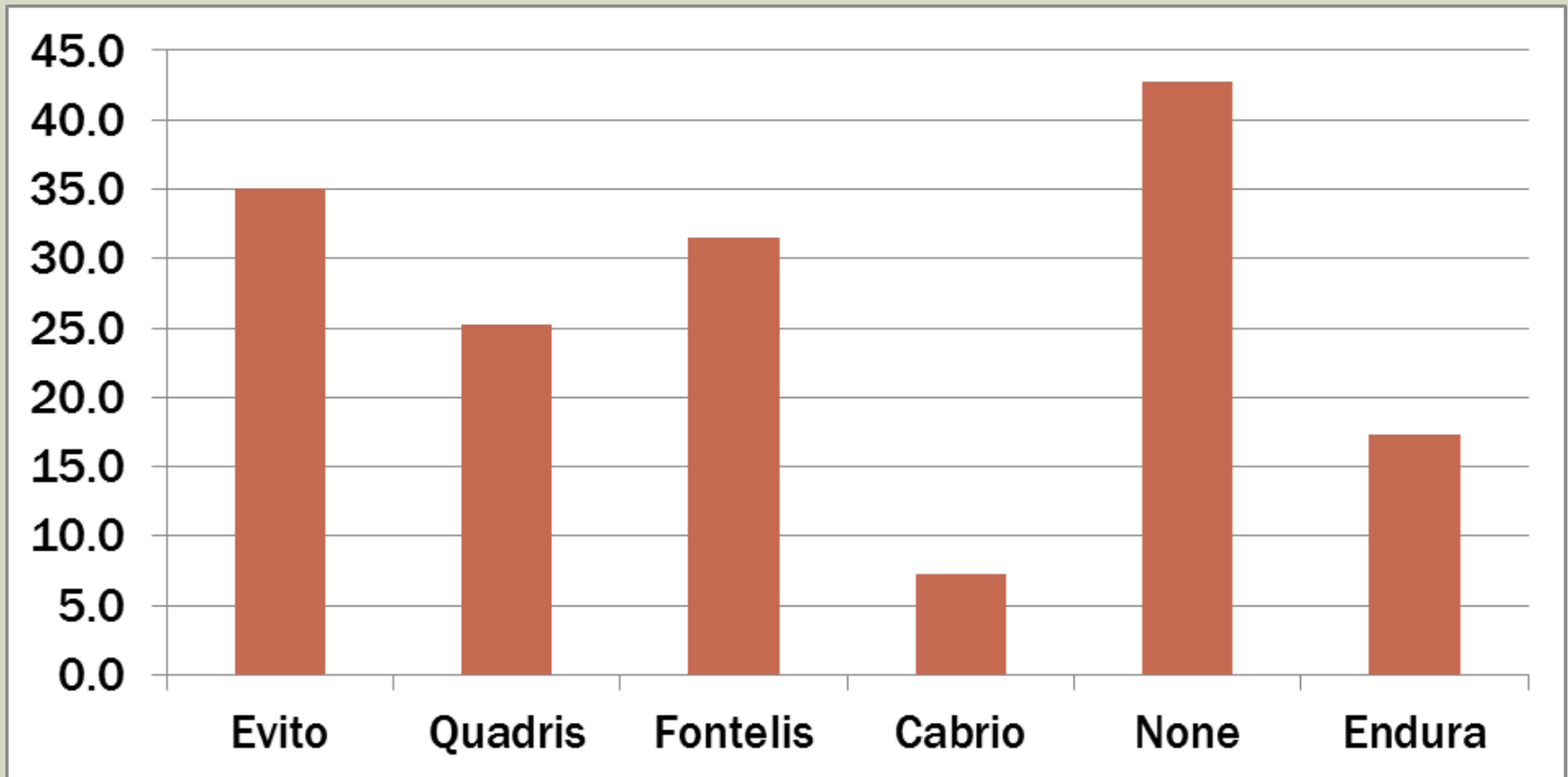
Interval Study on left facing woods

2		Rep 3 Inter	6		4		Rep 5 Inter	7			
4			7		8			5			
8			5		3			2			5
3			1		6			1			2
1		Rep 2 Inter	4		4		Rep 4 Inter	5			6
7			2		8			3			1
8			5		1			7			3
3			6		2			6			7
4		Rep 1 Inter	8		3			5			8
7			2		6			1			4

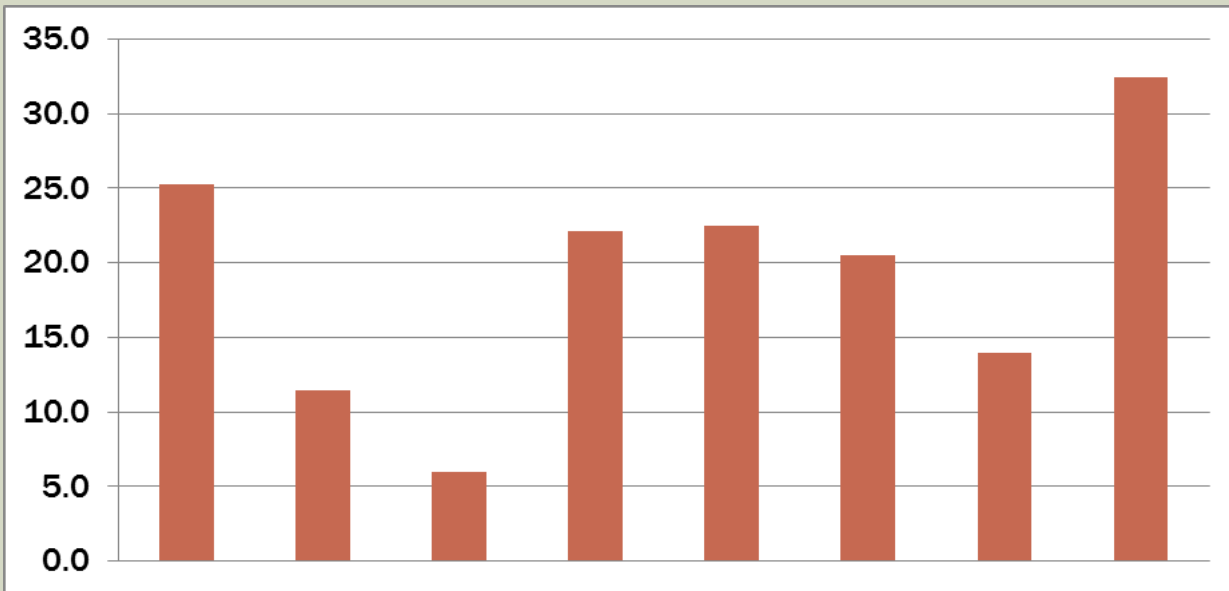
Efficacy Study on right

1	*	2	*	Rep 2 Eff	*4	
*6		4	*		*5	
*5		*6		Rep 5 Eff	2	*
3	*	3	*		1	*
5	*	*2		Rep 4 Eff	*3	
*3		1	*		6	*
*4		*5			4	*
2	*	1	*	Rep 3 Eff	*5	
6	*	4	*		*3	
*1		*6			2	*

Fungicides: Final % Plants with So Blight



Intervals: Final % Plants with So Blight



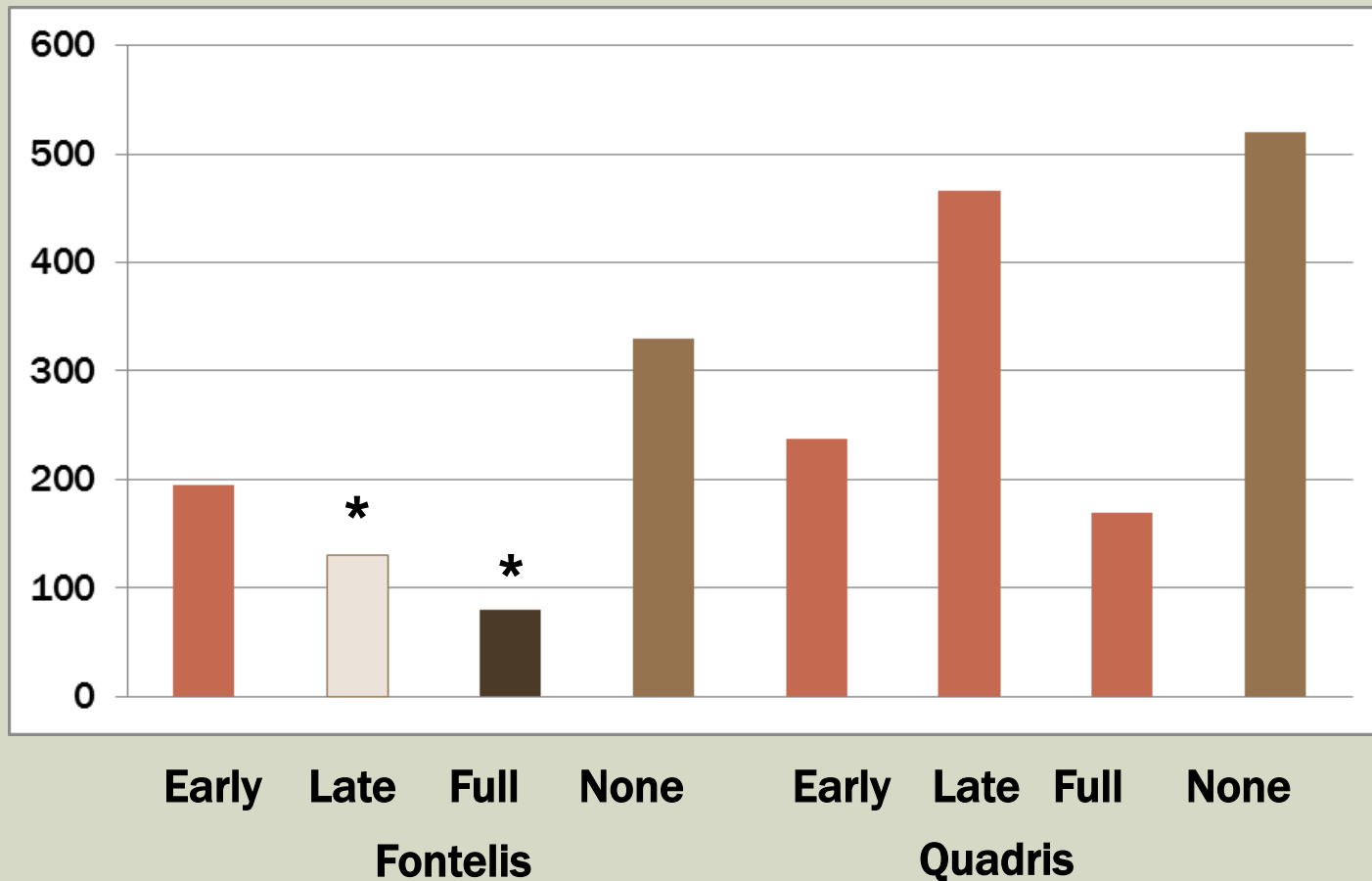
Early Late Full None Early Late Full None

Fontelis

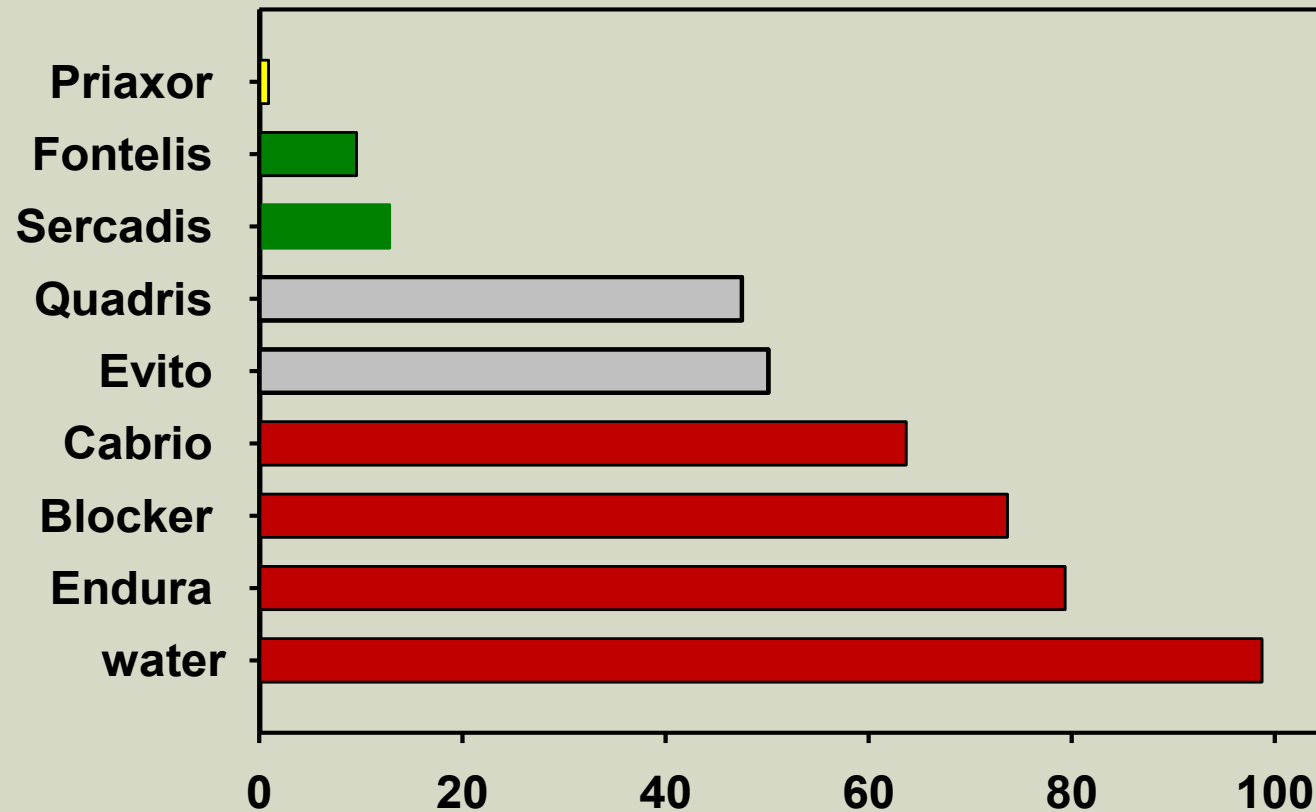
Quadris

Weeks after transplanting	
0, 5	early
5, 9	late
0, 5, 9	full

Sum of Diseased Plants over Season (AUDPC)



Average Germination of Sr Sclerotia on Tomato Stems Treated with Fungicides



PRIAXOR WAS BEST AT PREVENTING SR SCLEROTIA GERMINATING ON TOMATO STEMS

Water (Control)



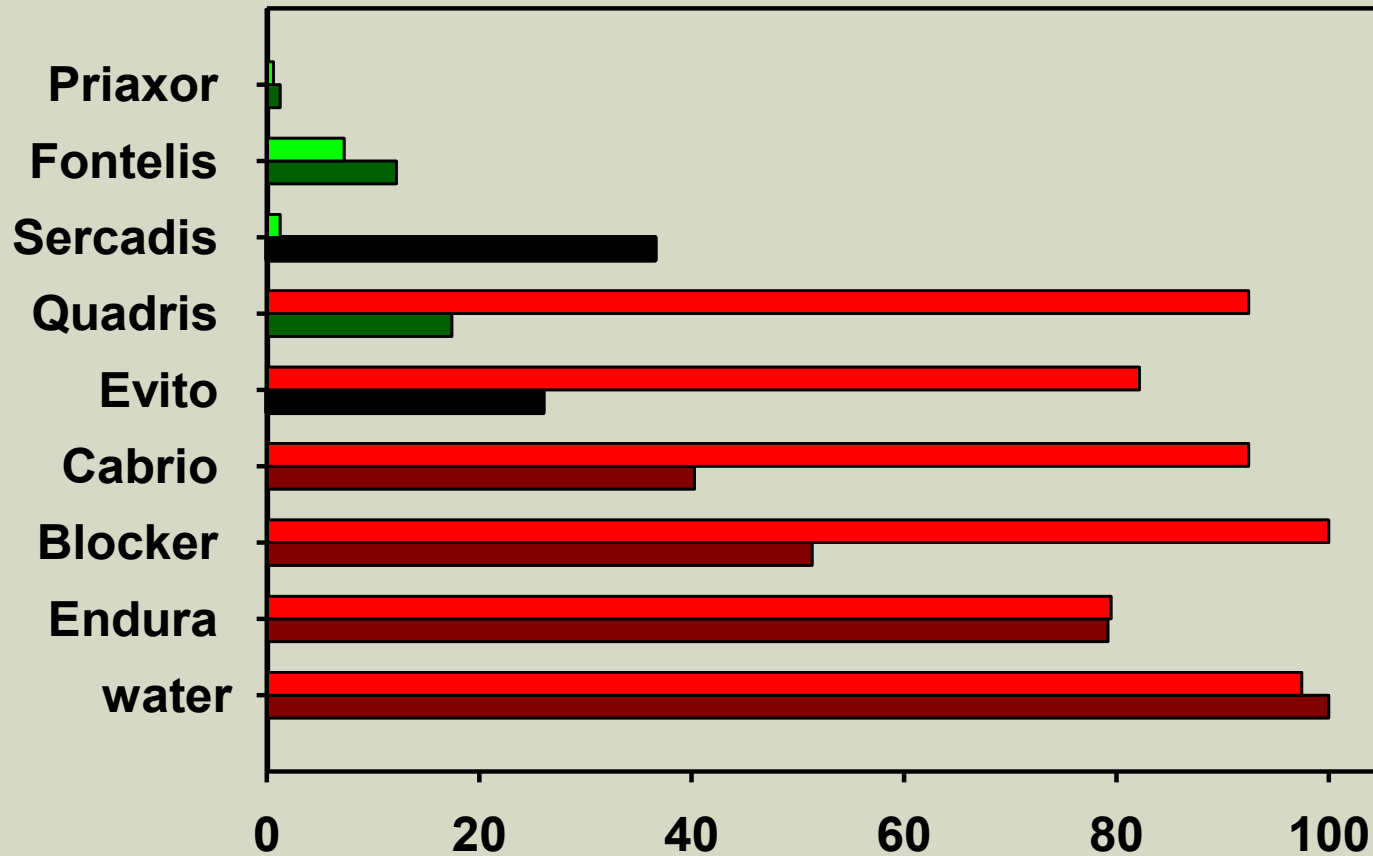
Priaxor



Blocker (PCNB)

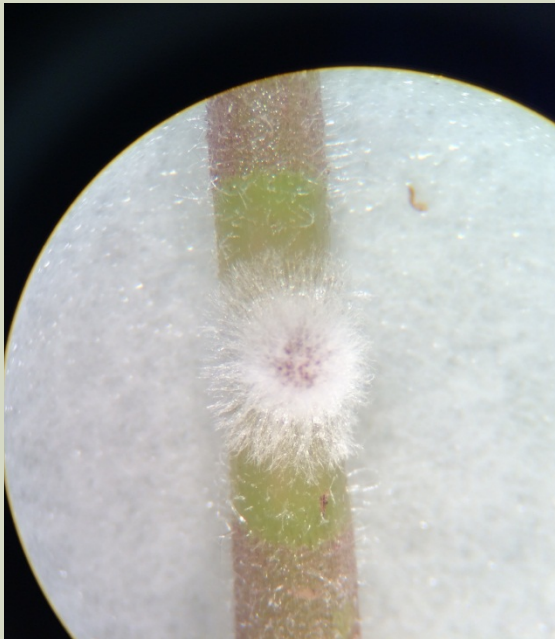


Germination of Sr Sclerotia in Two Experiments

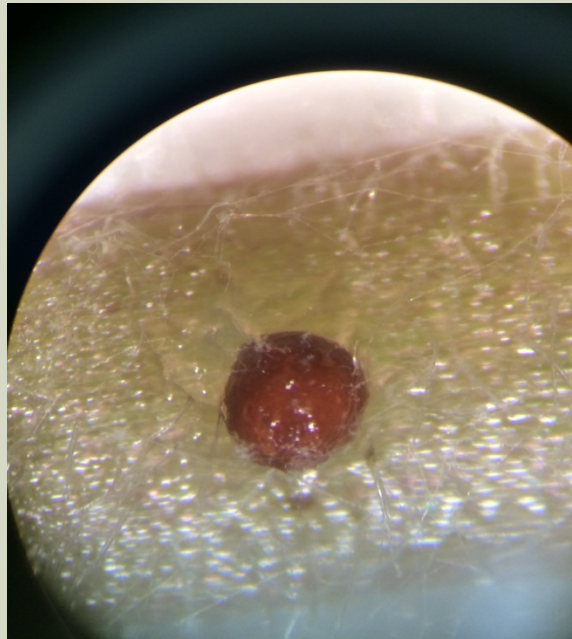


SOME FUNGICIDES REDUCED COLONY DIAMETER ON TOMATO STEMS

Blocker (PCNB)



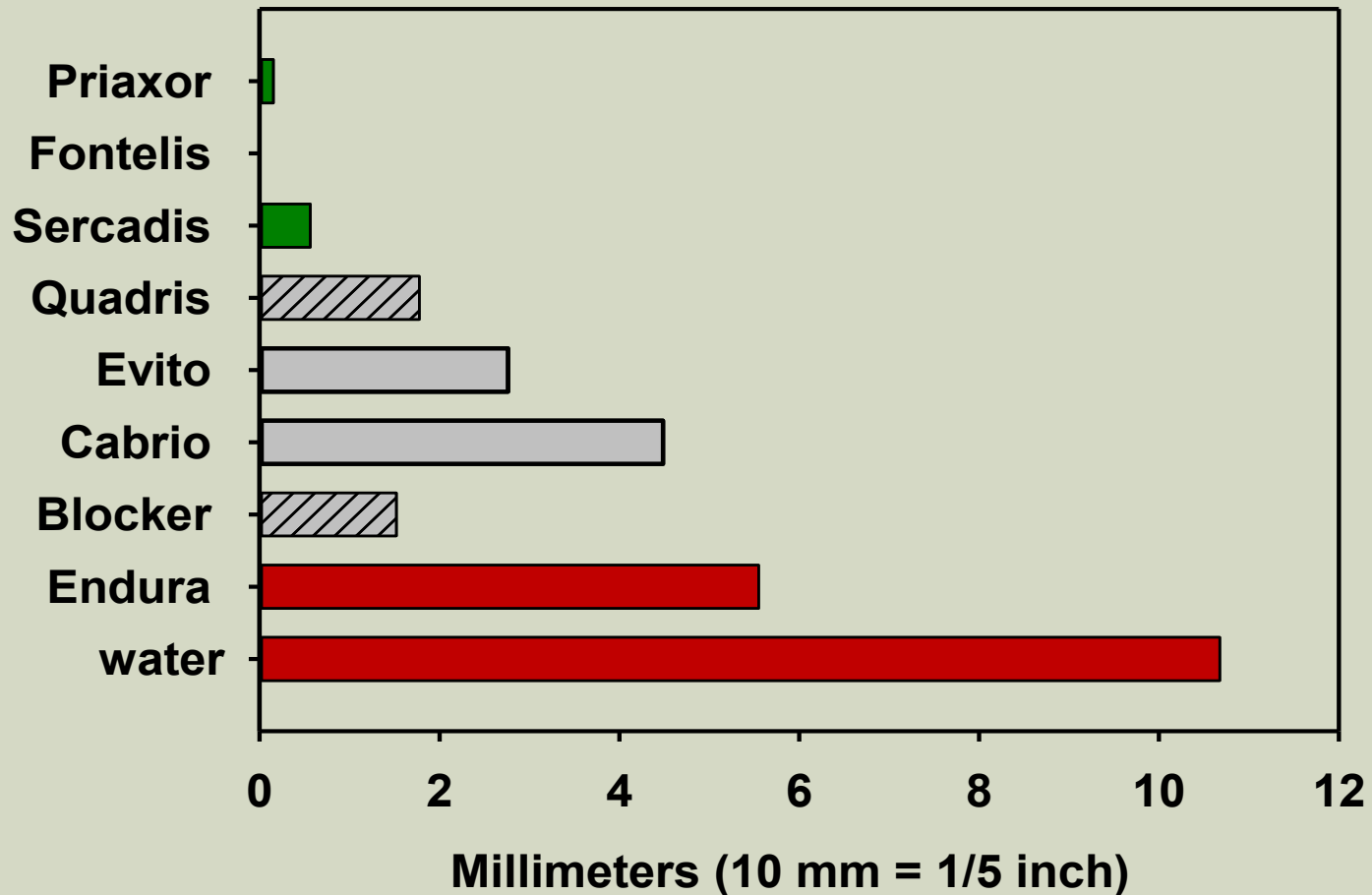
Fontelis



Cabrio



Diameter of Sr Colonies on Tomato Stems Treated with Fungicides



PRELIMINARY RECOMMENDATIONS

Priaxor (7+11)

- 4 to 8 fl oz
- 3 applications
 - BUT: 2 sequential applications, then spray a fungicide with a different mode of action [?]
- 7 day PHI

Fontelis (7)

- 16 to 24 fl oz/A
- Directed spray to the base of the plant
- 5-10 days after transplanting
- Second application 14 days later
- Continue applications with an effective fungicide with a different mode of action [?]

Cucurbit Spray Programs for 2015

Start with protectant:
chlorothalonil or mancozeb

Downy mildew

Gummy stem
blight,
anthracnose

Powdery mildew

Ranman

Gavel

Quadris
Top

Quintec

Torino

Acknowledgement of Funding

- **Improving Control of Southern Blight and Minimizing Losses in Tomato Crops with Use of Effective Fungicides**
 - South Carolina Department of Agriculture, Specialty Crop Block Grant Program – FY 2015
 - **Funded \$29,999 (2015-2016)**
- **Seaside Farms, Haigler Farms**
 - \$2,500 each (2014)