



# CRDF Bactericide Field Trial Update

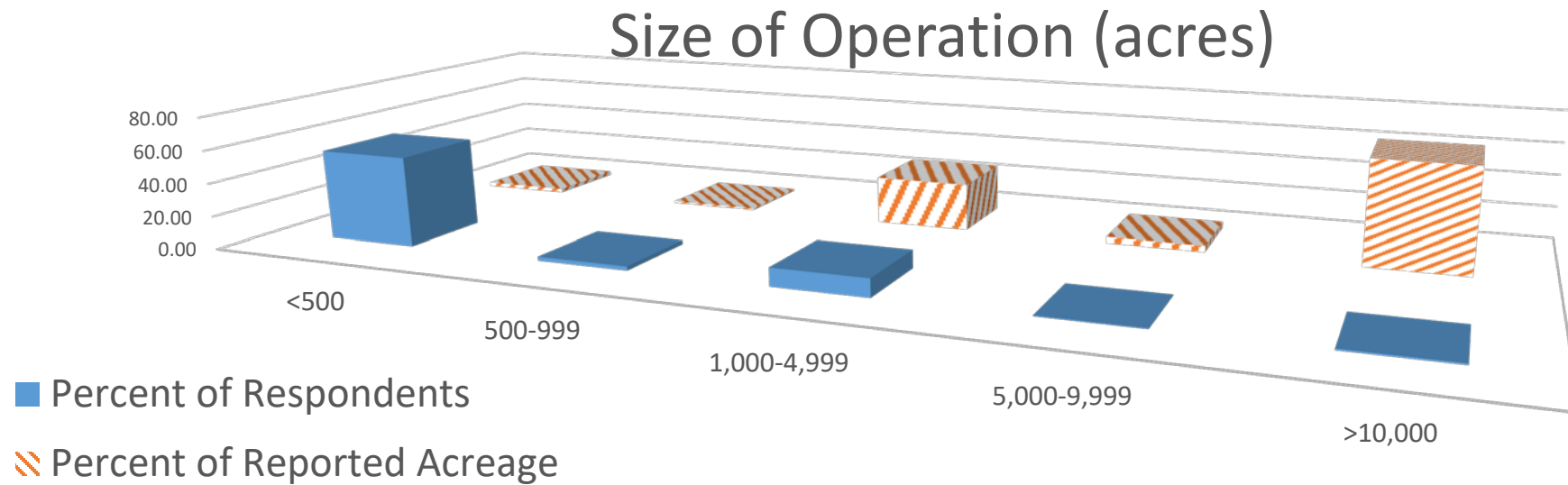
Stephanie Slinski, Project Manager - Bactericides Program

Citrus Expo, August 17, 2017



# Bactericide Survey 2017

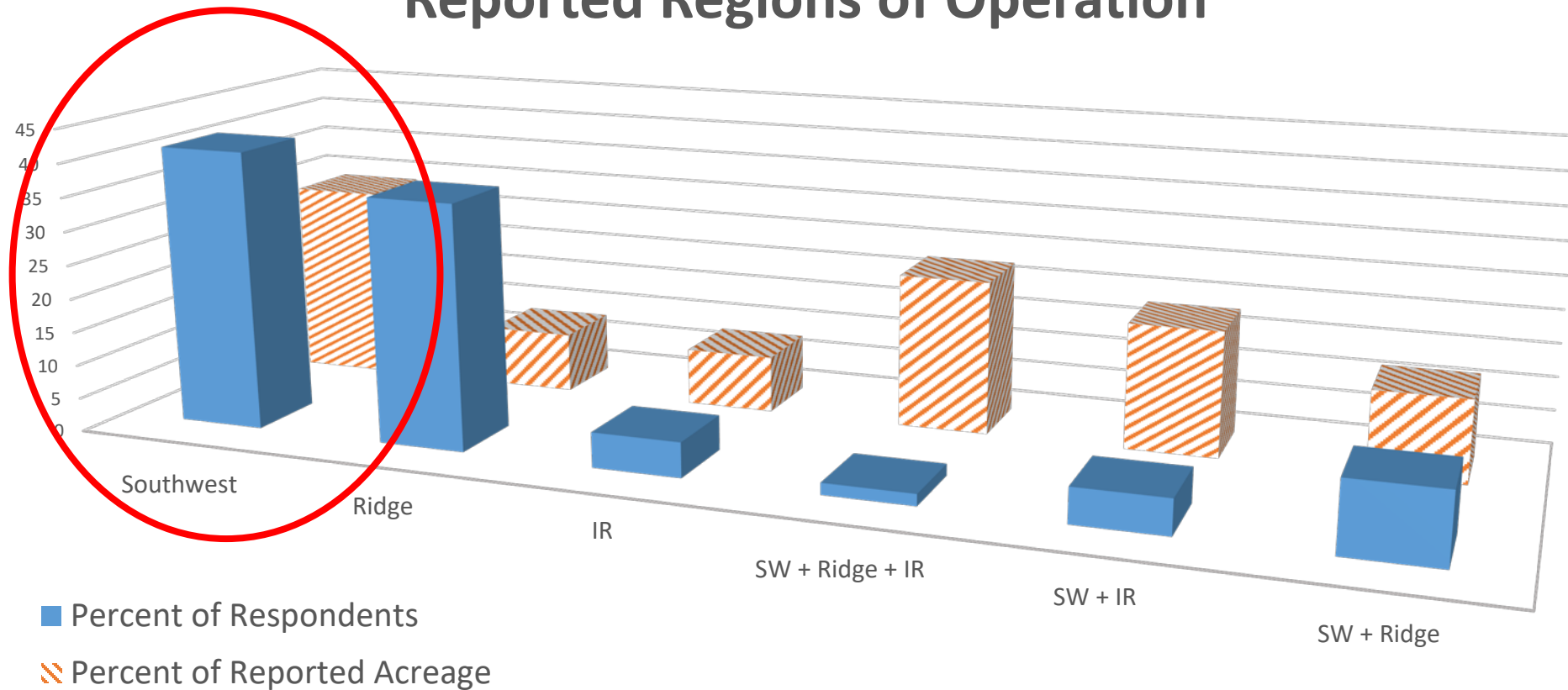
- 57 respondents
- Represents 131,294 acres, mostly oranges
- Half the respondents and acreage as last year





# Bactericide Survey 2017

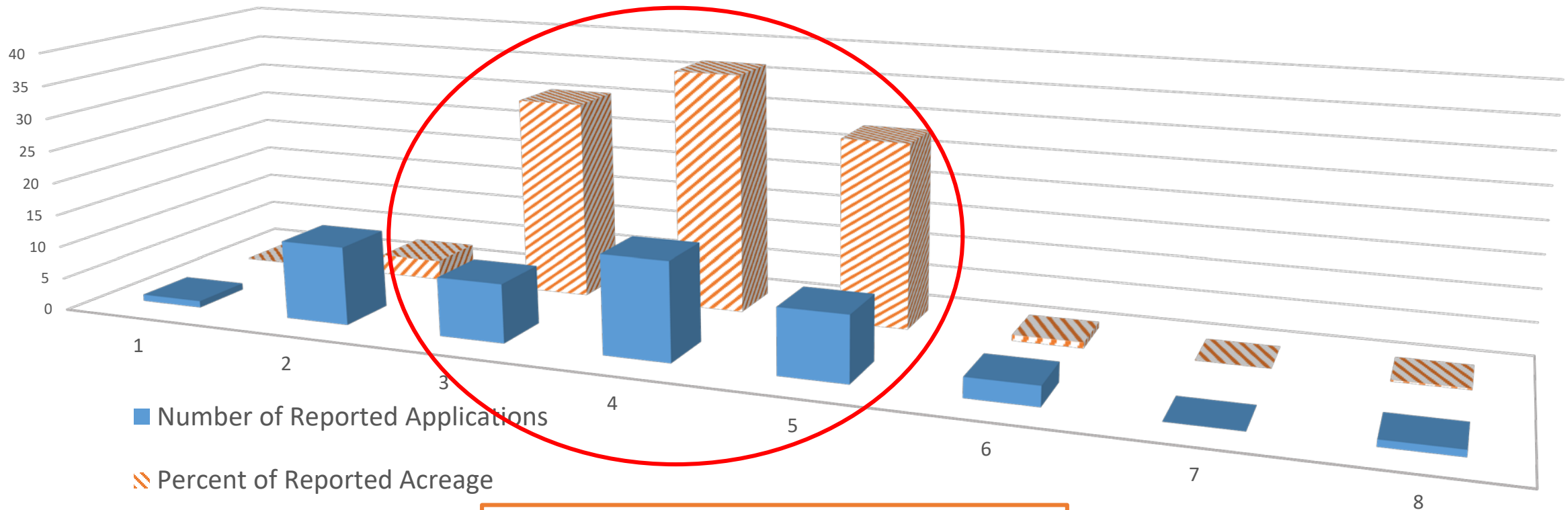
## Reported Regions of Operation





# Bactericide Survey 2017

## Reported Applications by Percentage Acreage 2016/2017

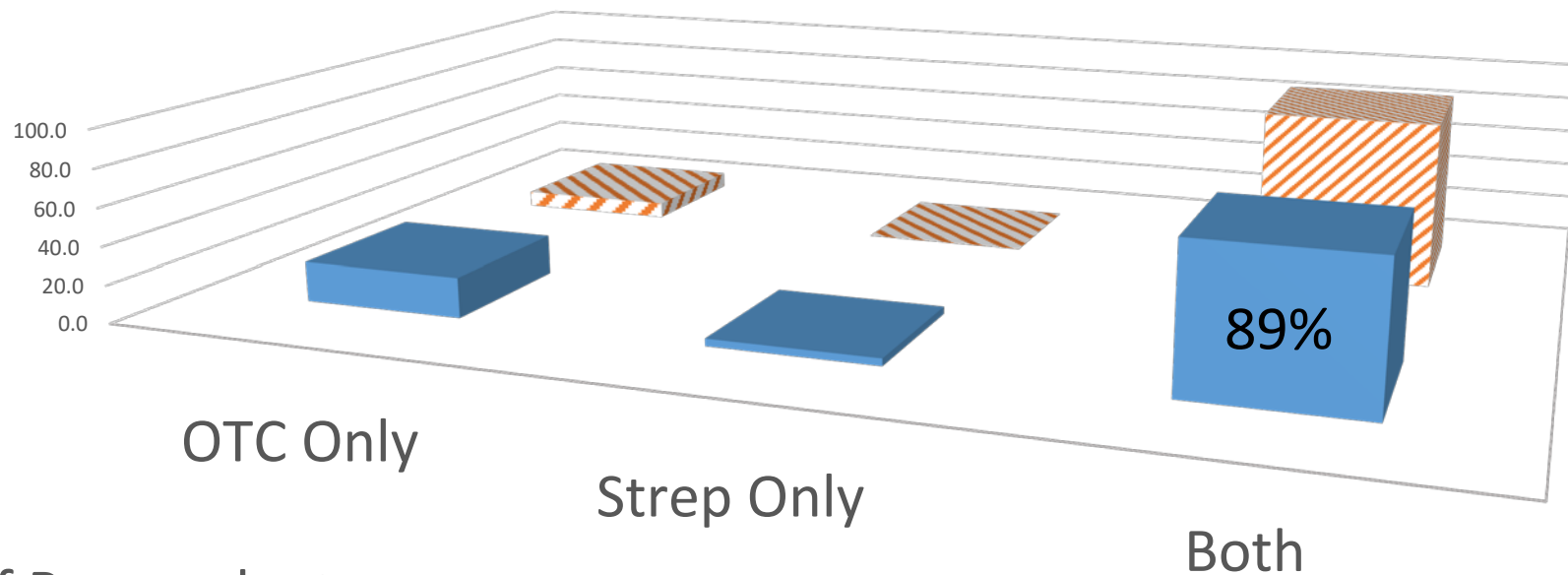


Average of 3.4 Applications



# Bactericide Survey 2017

## Reported Active Ingredient Applied



■ Percent of Respondents  
▨ Percent of Reported Acreage



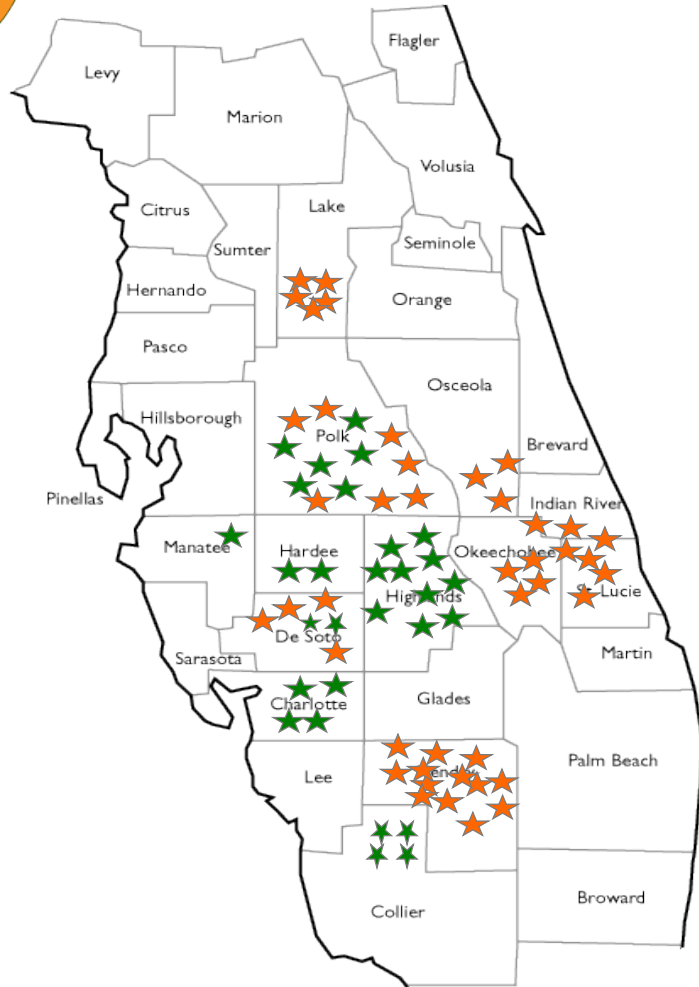
# Grower Bactericide Trials

## Purpose

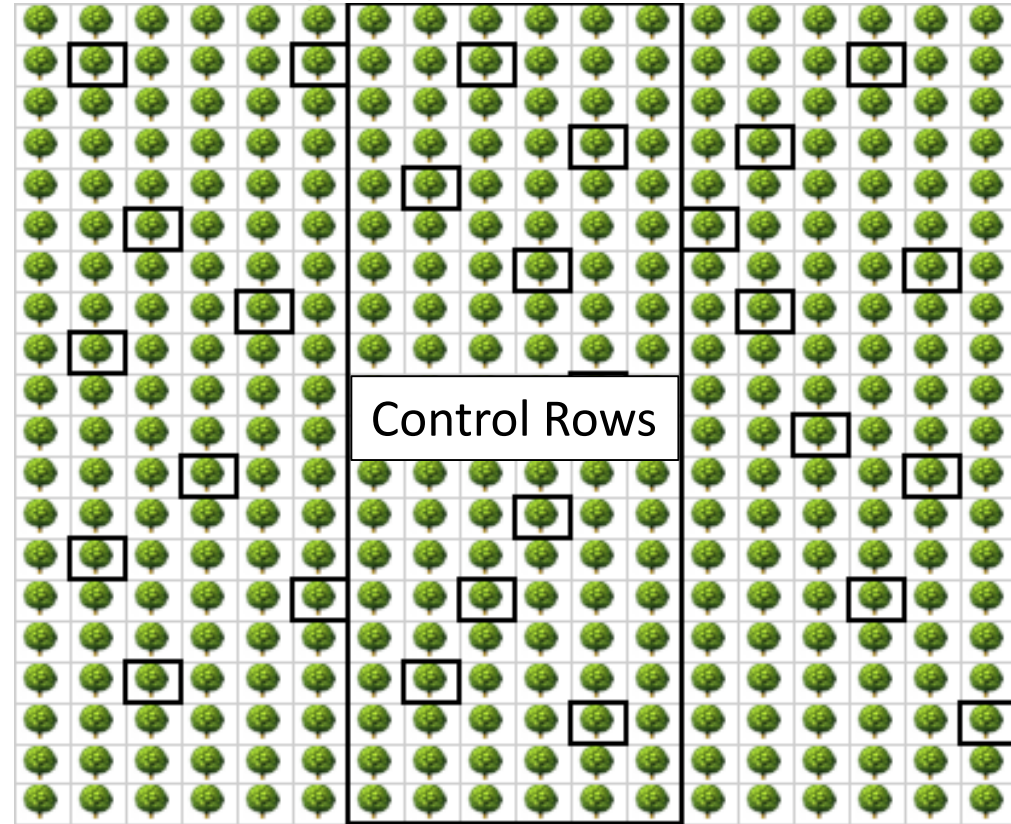
- To gather data to provide growers with information on the use of Mycoshield<sup>®</sup>, Fireline<sup>™</sup> and Firewall<sup>™</sup>
- Evaluating grower bactericide programs
  - Any adjuvant, tank mix, timing etc.
  - All regions
  - Any variety
- Simple field trials



# Grower Bactericide Trials



## Trial Design – Not RCB



Treated Block

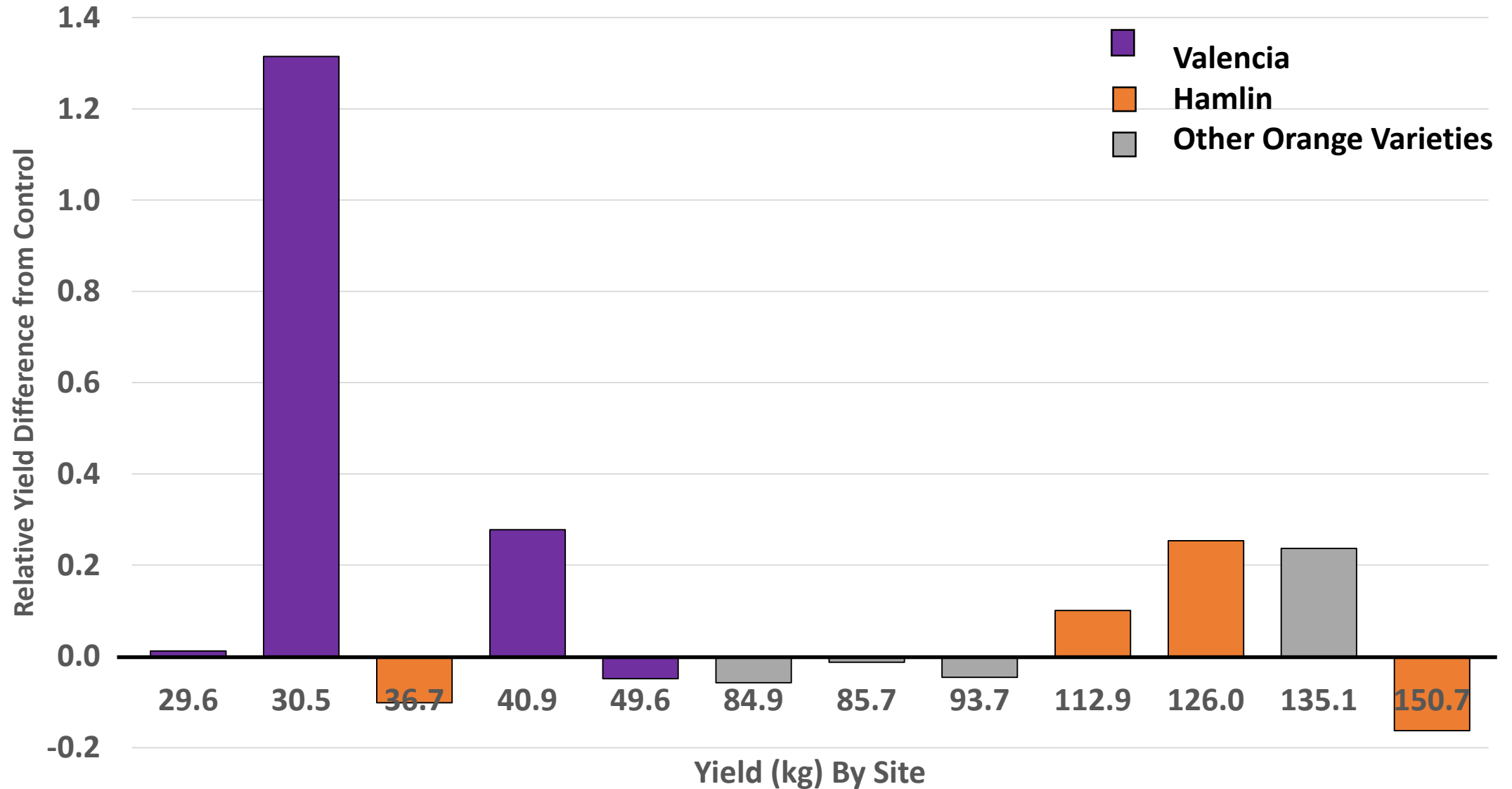


# Grower Bactericide Trials

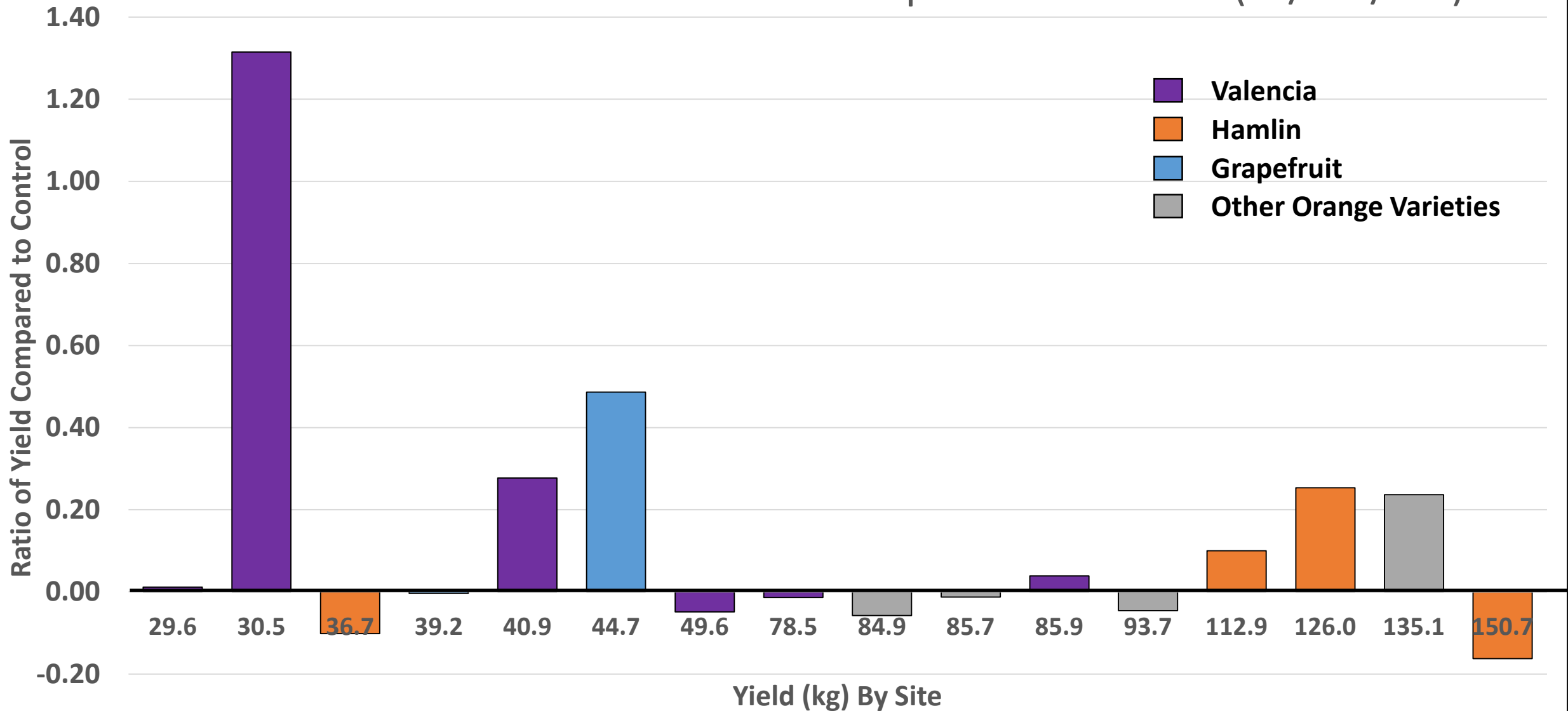
- Data collected
  - PCR (copy number or  $C_t$ )
  - Fruit Drop
  - **Yield**
  - Disease Severity
- Bactericide usage
  - FL only = 8 sites
  - MS only = 4 sites (3)
  - FL/MS = 7 sites
  - FL/FW = 21 sites (20)
  - FL/FW/MS = 28 sites (14)
- 37 of these sites with 2016/17 Yield Data
- Individual site analysis tells gives us a little information
- Grapefruit/Hamlin data were inconclusive due to small number of growers.
- Evidence suggests that multiple years of treatment are necessary



## CRDF Grower Trial: Yield Data Compared to Control (FL/FW)



# CRDF Grower Trial: Yield Data Compared to Control (FL/FW/MS)





# Grower Bactericide Trials

All Citrus	Recommended Adjuvant Used?	# Sites	Total Trees	Yield		
				Relative Difference	P-Value	Confidence Interval
All Data	Yes	21	1000	+9%	0.0041	99.6%
All Data	No	18	850	-4%	0.0914	91%



# Grower Bactericide Trials-Valencia

All Valencia	Recommended Adjuvant Used?	# Sites	Total Trees	Yield		
				Relative Difference	P-Value	Confidence Interval
All Data	Mixed	23	1090	+7%	0.0055	99.5%
All Data	Yes	7	320	+25%	0.0001	99.99%
All Data	No	15	730	-1%	0.5452	45%

Take home:

- These data show an improvement
- Using a recommended adjuvant appears to be important

# Biopesticide Trial

**Purpose:** Evaluate the efficacy of several botanical oil products that are presently available to growers

- Thyme Guard (Agro Research International)
- Ecotrol Plus (Keyplex)
- OnGuard EO (AgXplore)
- Xplode (AgXplore)

**Application timing:** Every 60 day

**2 sites:** ~6 yo Hamlin

Year two of trial started in June





Thanks to:

- Grower Cooperators
- Bob Shatters, USDA ARS
- Kim Wood, Shatters Lab USDA ARS

**CRDF is proud to provide support to the Florida citrus industry**