



# **Update on Bactericides**

## **Citrus Expo**

**August 18, 2016**

**Harold Browning, CRDF**

# Overview of Bactericides Session

- Grower Survey of Bactericide Use
- Grower Field Trials – Dr. Stephanie Slinski
- Multi-Year Research Field Trials – Dr. Bob Shatters
- Grower Panel Discussion of Bactericide Use

# Survey Scope

1. Acreage by variety and region
2. Location of groves
3. Have you already applied bactericides to your groves since March 4, 2016?
4. How many total bactericidal treatments do you plan to apply during the entire season?
5. How are you using the two active ingredients?
6. What percentage of your acreage do you intend to treat with bactericides?
7. Are you making applications at night only, daytime only, or a combination?
8. Are you applying the bactericides alone or in a tank mix?
9. Optional comments

# Profiles of Respondents

- 100 respondents
- 240,305 acres represented

Orange Acres	Grapefruit Acres	Specialty Acres
202,379	29,525	8,401

# Profiles of Respondents

## Respondent Size of Operations

<b>Size of Operation (acres)</b>	<b>Number of Respondents</b>	<b>Total Acres in Size Class</b>
< 500 acres	45	6,165
500 - 999	8	5,791
1,000 – 4,999	32	68,349
5,000 – 9,999	5	33,700
> 10,000	8	126,300

# Profiles of Respondents

## Region(s) of Operation

<b>Location(s)</b>	<b># Respondents</b>	<b>Acreage</b>
Indian River	11	8,995
Ridge	36	37,166
Southwest	33	58,258
Indian River + Ridge	1	1,000
Indian River + Southwest	4	19,190
Ridge + Southwest	12	44,305
All 3 regions	3	71,400

### 3. Have you already applied bactericides to your groves since March 4, 2016?

<b># Treatments Applied</b>	<b># Respondents</b>	<b>Total Acres</b>
0	7	12,025
1	27	36,530
2	38	96,894
3	22	67,458
4	3	10,347

Average number of treatments already made across all respondents 1.87

# 4. How many total bactericidal treatments do you plan to apply during the entire season?

# Applications	# Respondents	Acres
0	2	1,755
1	0	0
2	12	13,725
3	27	50,201
4	27	55,028
5	11	85,329
6	15	24,402
7	1	893
8	1	2,000
9	0	0
10	1	13
11	2	3,360

210,000 acres

Average number of treatments planned for season 4.1



## 5. How are you using the two active ingredients?

<b>Active Ingredient</b>	<b># Respondents</b>	<b>Acres</b>
oxytetracycline	30	50,103
streptomycin	4	8,167
Rotation of both	66	182,034

## 6. What percentage of your acreage do you intend to treat with bactericides?

- 84% (201,724 acres) reported in survey is planned for treatment
- Included are 7 respondents who have not yet treated and 2 who do not intend to apply any bactericides
- Many (65) respondents indicated that they were planning to treat 100% of their acres
- 19 others intend to apply bactericides to more than 80%
- Only 4 respondents indicated that they would treat 50% or less acres

7. Are you making applications at night only, daytime only, or a combination?

<b>Time of Application</b>	<b># Respondents</b>	<b>Acres</b>
Night only	20	27,490
Day only	41	62,764
Day and night	39	150,050

8. Are you applying the bactericides alone or in a tank mix?

<b>Spray Tank Contents</b>	<b># Respondents</b>	<b>Acres</b>
Tank Mix	72	180,620
Bactericide alone	28	59,684

## 9. Optional comments

- Trees at the age of 3-10 years I see some improvement. Older trees no improvement at all, continue decline
- 1st app was alone, the app we plan to apply this week will be a tank mix
- Leaving 4 rows per block unsprayed with bactericides for comparison
- I intend to focus bactericide applications in the early fall and late spring to maximize effects on active greening. These will be timed appropriately both prior to and after harvest for earlies and valencias. Summer time sprays will utilize essential oils as a greening suppressant for any new infections that might occur.

# Additional Comments

- Not sufficient enough data to justify the cost on anything more than a trial basis at this point
- We are applying to all acres that we plan to keep more than 1 year. We applied the first application at night and the second from 4 am to 1 pm work schedule.
- We have experimented with some surfactants and that trial work is ongoing. We also experienced some fruit burn where we had applied copper, oil and insecticides followed by oxytetracycline and Li700 a few days later. No further applications have been made.
- The better the potential crop, the more applications (6) the older blocks with less potential, (2-3) applications
- We do have control blocks with no bactericides for comparison.



**Thank you!**

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