



**IS BIGGER ALWAYS  
BETTER?  
A CRO's  
PERSPECTIVE**



## BACKGROUND

- CRO/Crop Consultant in South Texas
- MS and Ph.D. in Plant Breeding and Genetics
- Two years in Hybrid Rice Breeding and Genetics
- Breeding and Academic Research
- Current Role for 12 Years



## TRIAL NEEDS

What is the overall goal of the trial?

Quick efficacy trial vs. full season trial?

How are applications made?

Single vs multiple applications?

Data to be collected?

Does it go to harvest?

Things to consider with all trials:

- Size of the trial
- Placement of the trial (on-farm vs off-site)
- Field and soil uniformity
- Field site history
- In-season management
- Harvest (if required)
- Post harvest?

## DEFINING BIGGER

- More reps
- More treatments or entries
- Larger plots
- Amount of data captured



## CONSIDER THE SIZE OF THE TRIAL:

- 4 reps vs. 6 reps vs. 8 reps
- Number of treatments
- Large vs small plots
- Buffer rows within the trial
- Row spacing (30s vs. 32s vs. 40s)
- Border rows and fallow areas





## PLACEMENT

How Do Bigger Trials Affect Site Selection:

On-farm vs off-site

Field and soil uniformity

Field site history

Uniformity of pest pressure

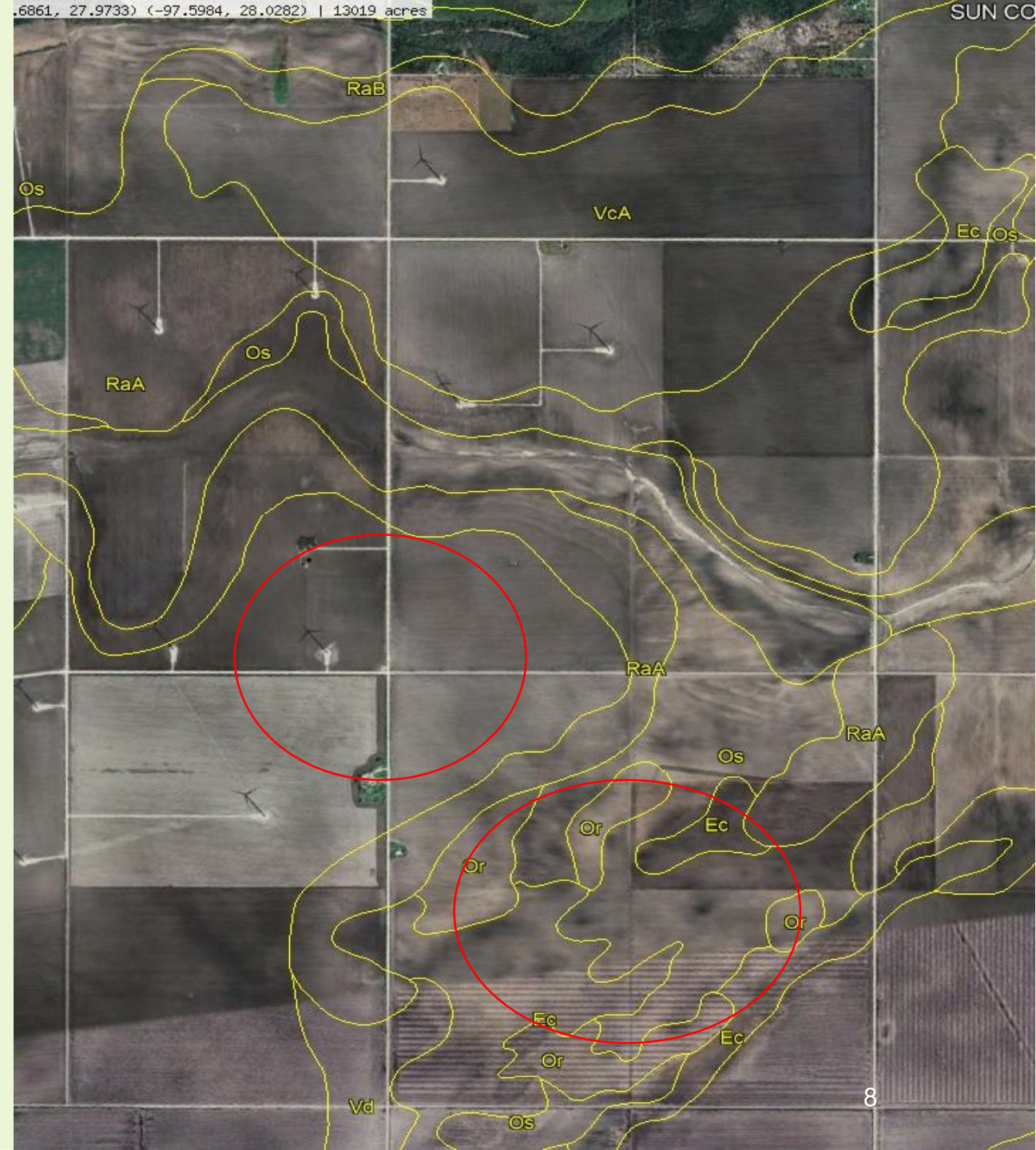
## ON-FARM VS OFF-SITE



- How does the size of a trial impact where it gets placed?
- On-farm vs. off-site
- Owned vs. rented
- Farm size
- Trial footprint (0.25 A vs 5 A)
- Management
- Neighbors
- Cost of on-farm vs. off-site
  - Cooperator reliability?
- What about next year?
  - Rotational restrictions

## FIELD AND SOIL UNIFORMITY

- How uniform are your fields?
- Soil uniformity in your fields?
- Potential exists for increased in-field variation with larger trials





## FIELD SITE HISTORY

- **On-farm vs. off-site**
- **Thorough on-farm records**
- **Off-site can be spotty**
- **Do larger trials have differing site histories?**



## UNIFORMITY OF PEST PRESSURE:

- Target pest?
- Mobile vs. stationary pest
- Easily identifiable
- Large vs. small plots?
- What will get the best results?

## IN-SEASON MANAGEMENT

- Larger trials = more resources
- Does that matter?
- Plan for the task
- On-farm vs. off-site



## THINKING ABOUT HARVEST AND BEYOND

- Time investment for harvesting small vs large trials
- Hand vs. mechanical
- Subsampling vs. whole plot
- Crop specific
- Post-harvest management
- Approximately 20-30 mins to hand harvest 2 lbs of cotton



## SOME EXAMPLES



TRIAL TYPE	Entries/Treatments	Reps	Applications	Acres
RAC	3	1	Multiple	0.14 (1.5)
Herbicide efficacy	7	4	1	0.26
Insecticide efficacy	15	4	2	0.60
Biologic efficacy	6	8	1	0.76
Biologic efficacy	13	9	1	1.95
Insecticide efficacy	5	15	1	~5

# SO, IS BIGGER ALWAYS BETTER?



## **IT DEPENDS!**

Overall goals for the trial

What are we testing?

Will more reps, larger plot,  
more land help?

What crop?

Increased cost?

- Insecticide trials
  - Herbicide trials
- Fungicide trials
  - Biologics
- PGRs
  - Agronomic trials

THANK YOU

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