

# Managing Herbivory in Row Crops

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TRAILCAM21

07/02/2024 08:49PM



# WHAT'S THE ISSUE?

## Deer diet:

1. Browse
2. Forbs
3. Mast
4. Other food items

# DEER HABITAT QUALITY IN AGRICULTURAL LANDSCAPES



# DEER DETERRENTS

1. Fencing
2. Chemical repellents
3. Lethal removal
4. Other deterrents



Image from Michigan State University Extension

# CURRENT RESEARCH

- **Generally limited**
- **58 articles published ~80 years (between 1940 and 2018), less than half on crops**

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Contents lists available at [ScienceDirect](#)

Journal of Environmental Management

journal homepage: <http://www.elsevier.com/locate/jenvman>



Review

Deer damage: A review of repellents to reduce impacts worldwide

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**DETERRENCE  
EFFECTIVENESS IS  
AFFECTED BY  
FORAGE AVAILABILITY**

- 1. Forage availability**
- 2. Crop species**
- 3. Deer density**

# HOW CAN WE HELP?

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- Research
- Extension





# UF DAMAGE ESTIMATES RESEARCH

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**Sudeep Sidhu's and David  
Tillman's labs, Ethan Carter and  
Mark Mauldin**

**Thank you to Craig Bishop, Michael  
Davis, Dustin Land, Shedrick McGriff,  
and Jeff Pittmann**





# PEANUT FIELDS

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- **12 fences (6 fields) - monitoring inside and outside**
- **Collected: height, stem count, harvest**



# COTTON FIELDS

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- 16 fences (4 fields) - monitoring inside and outside
- Collected: height, stem count, harvest





# LOGISTICS

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# DEER MONITORING

- Camera traps were monitoring each cage
- Picture processing still in process (more than 200,000)



# DEER MONITORING



**High variability in deer  
detections**



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# UF DAMAGE ESTIMATES RESEARCH

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**Some field didn't visibly show any difference in height or biomass**







# PEANUT RESEARCH RESULTS

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- Lower height (2-22; 11 and 7)
- Lower stem count
- Lower yield



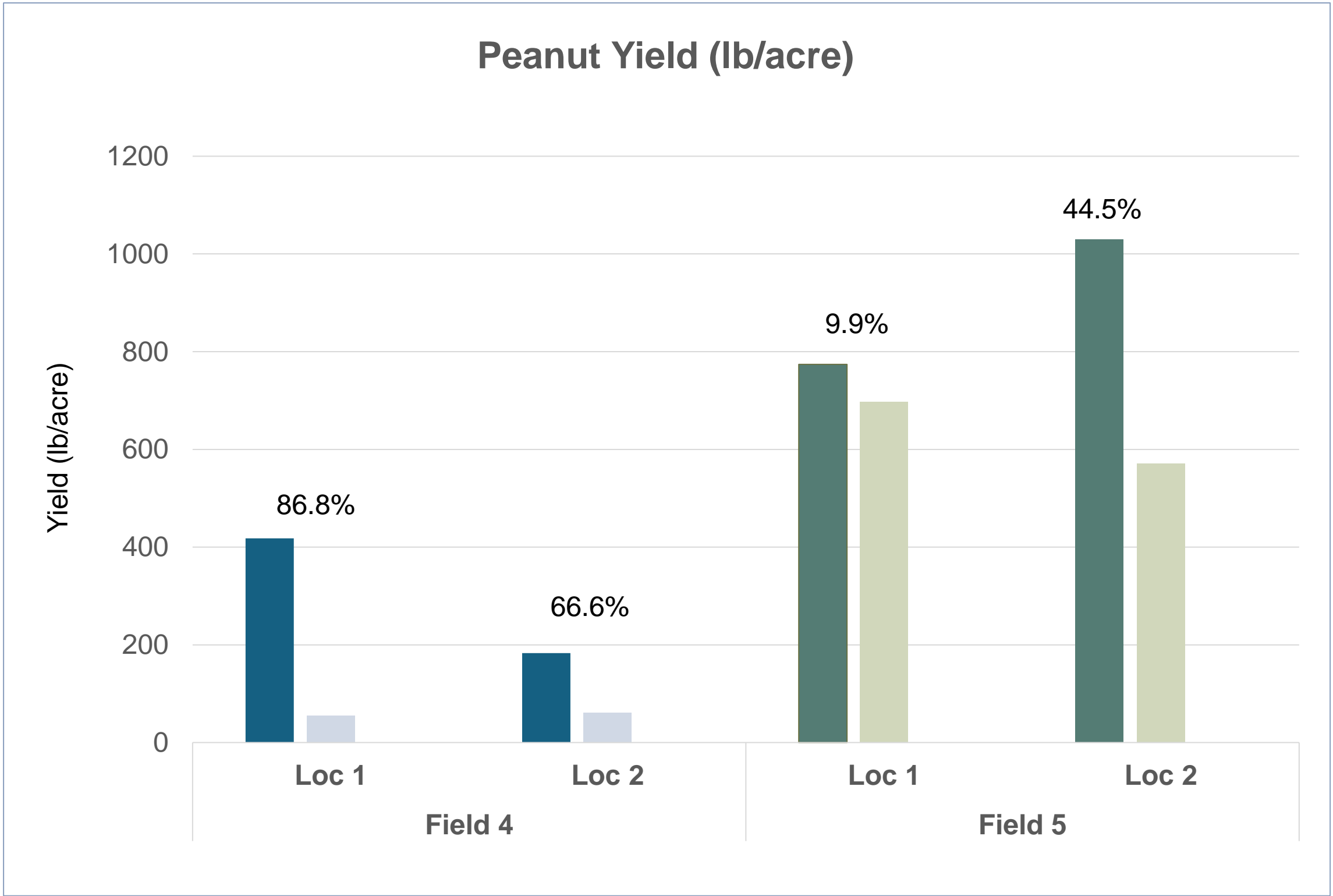
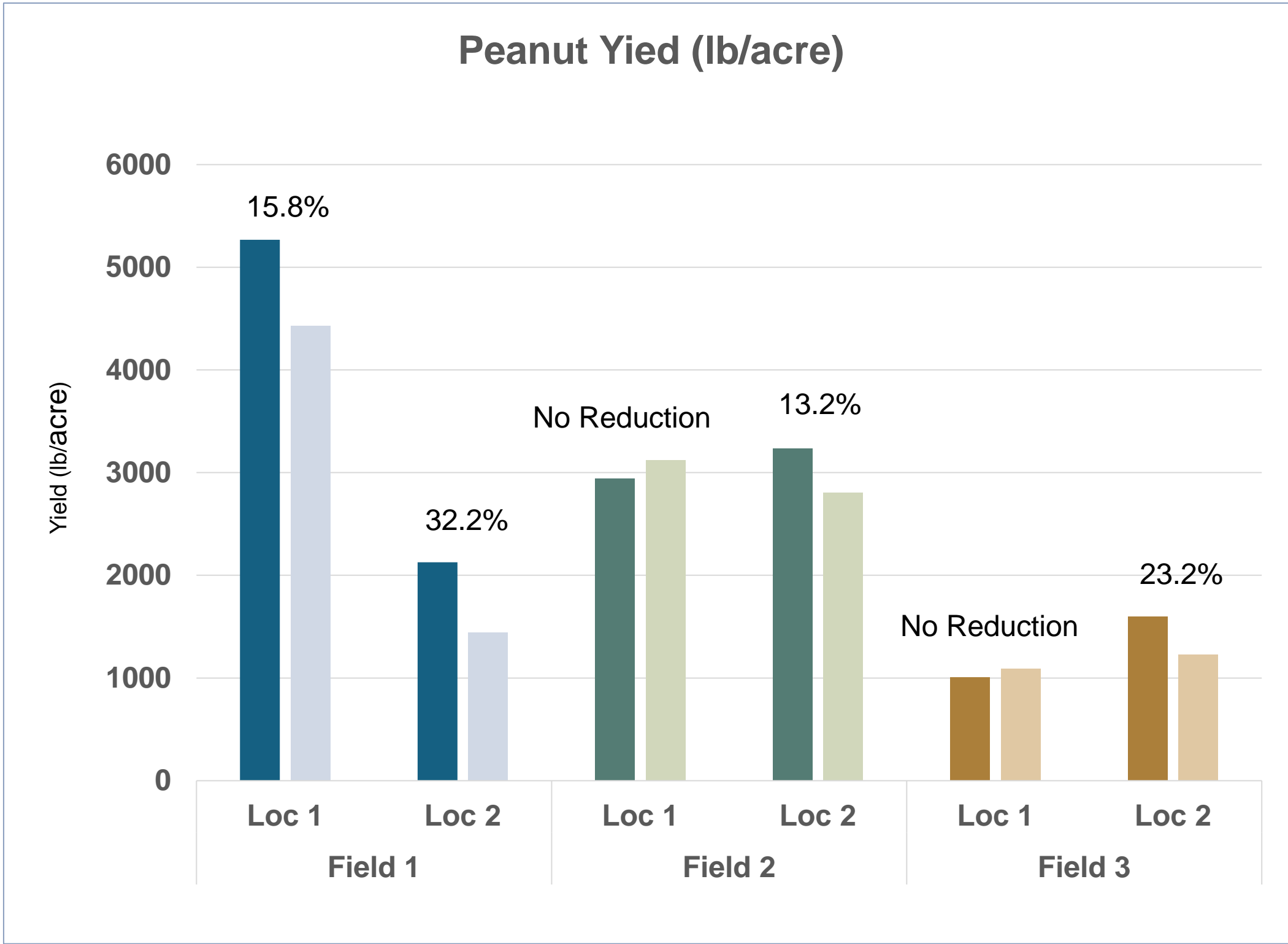
# PEANUT RESEARCH RESULTS

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- Lower height
- Lower stem count (3-17; 9 and 7)
- Lower yield



# UF DAMAGE ESTIMATES RESEARCH



**CAN YOU TELL US  
HOW MANY \$?**

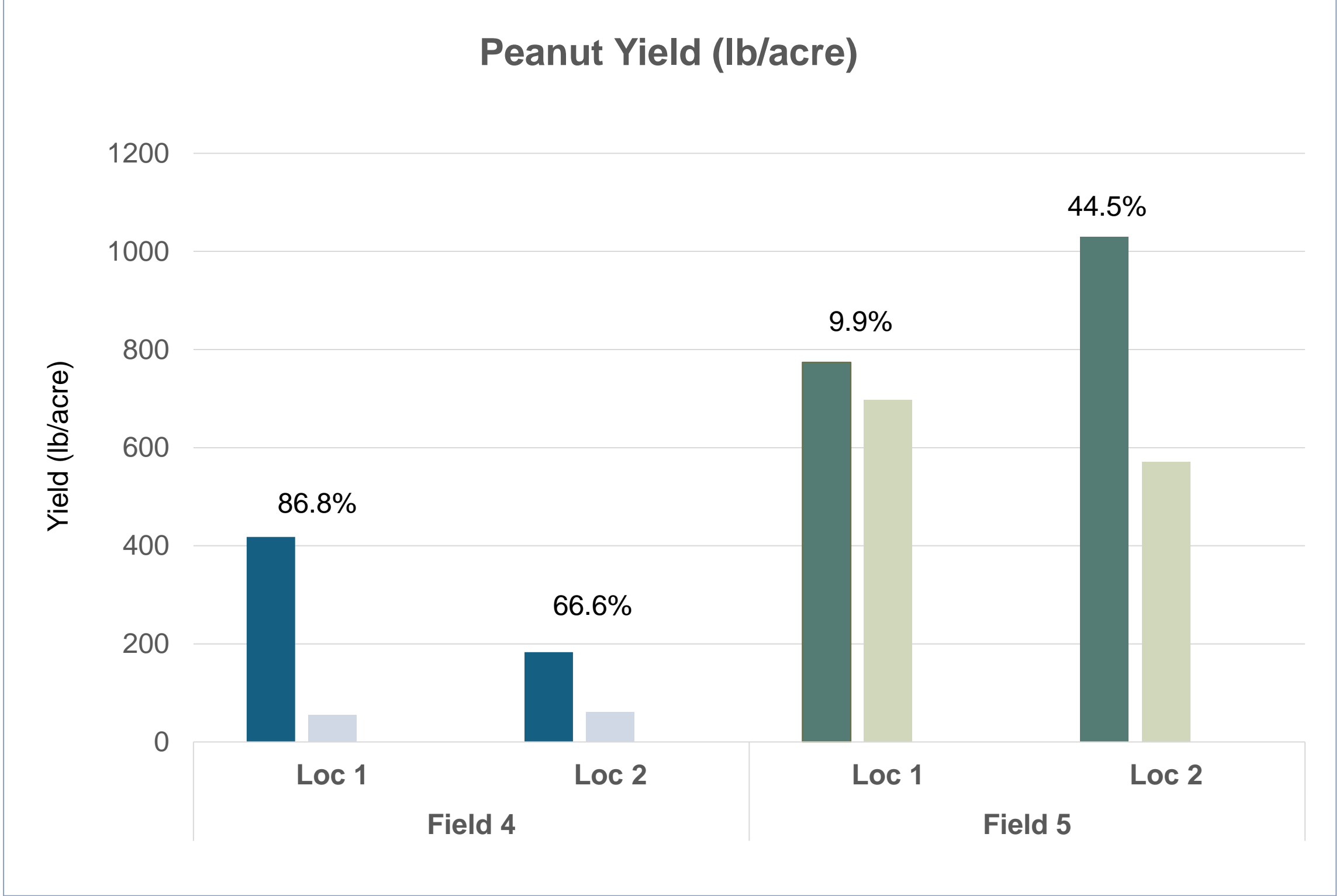
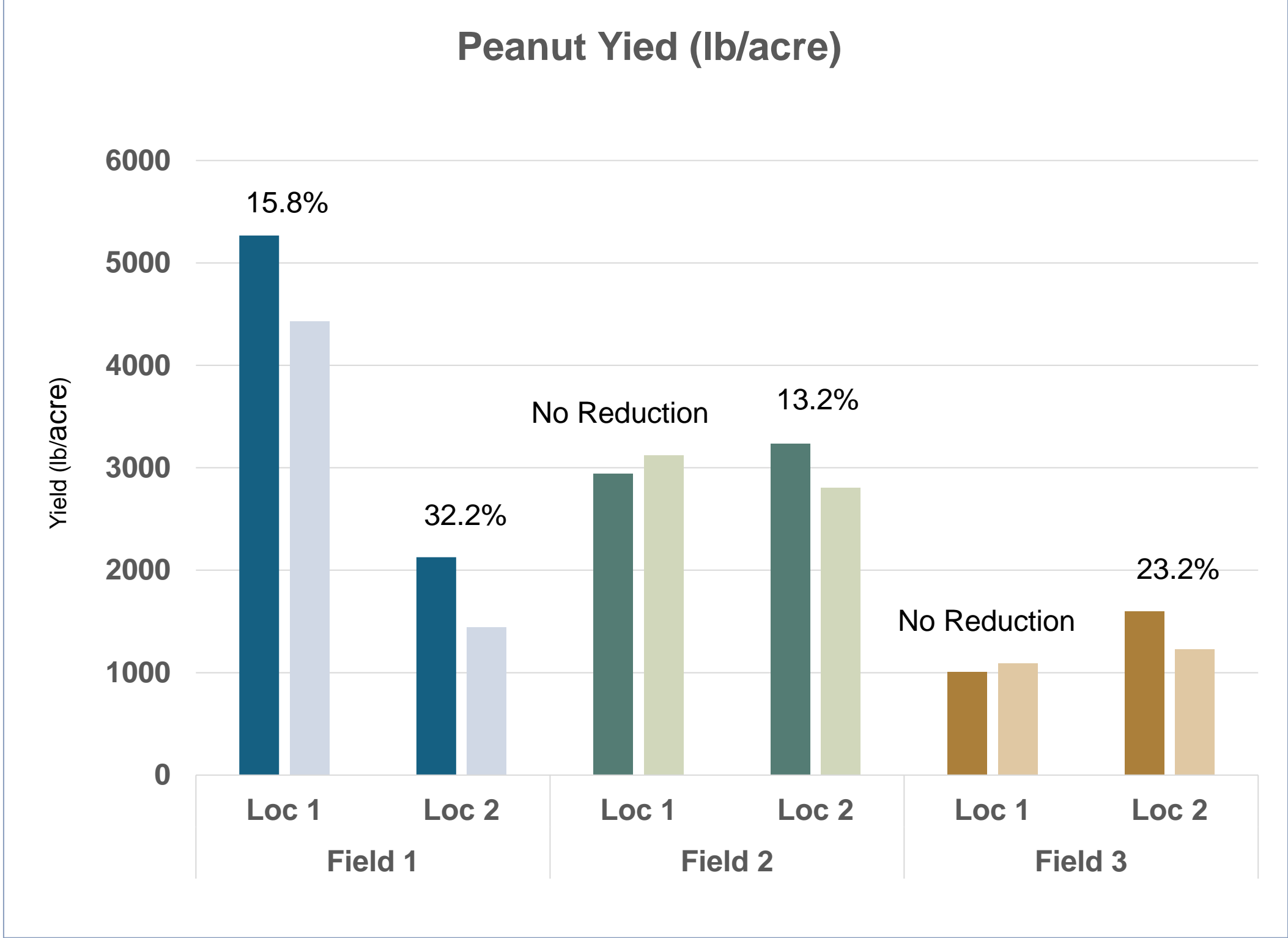
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**CAN YOU TELL US  
HOW MANY \$?**

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**Not at the moment!**

# PEANUT YIELD RESULTS



# COTTON RESEARCH RESULTS

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- Lower height (21-70; 45 and 43)
- Lower stem count
- No effect on yield



# COTTON RESEARCH RESULTS

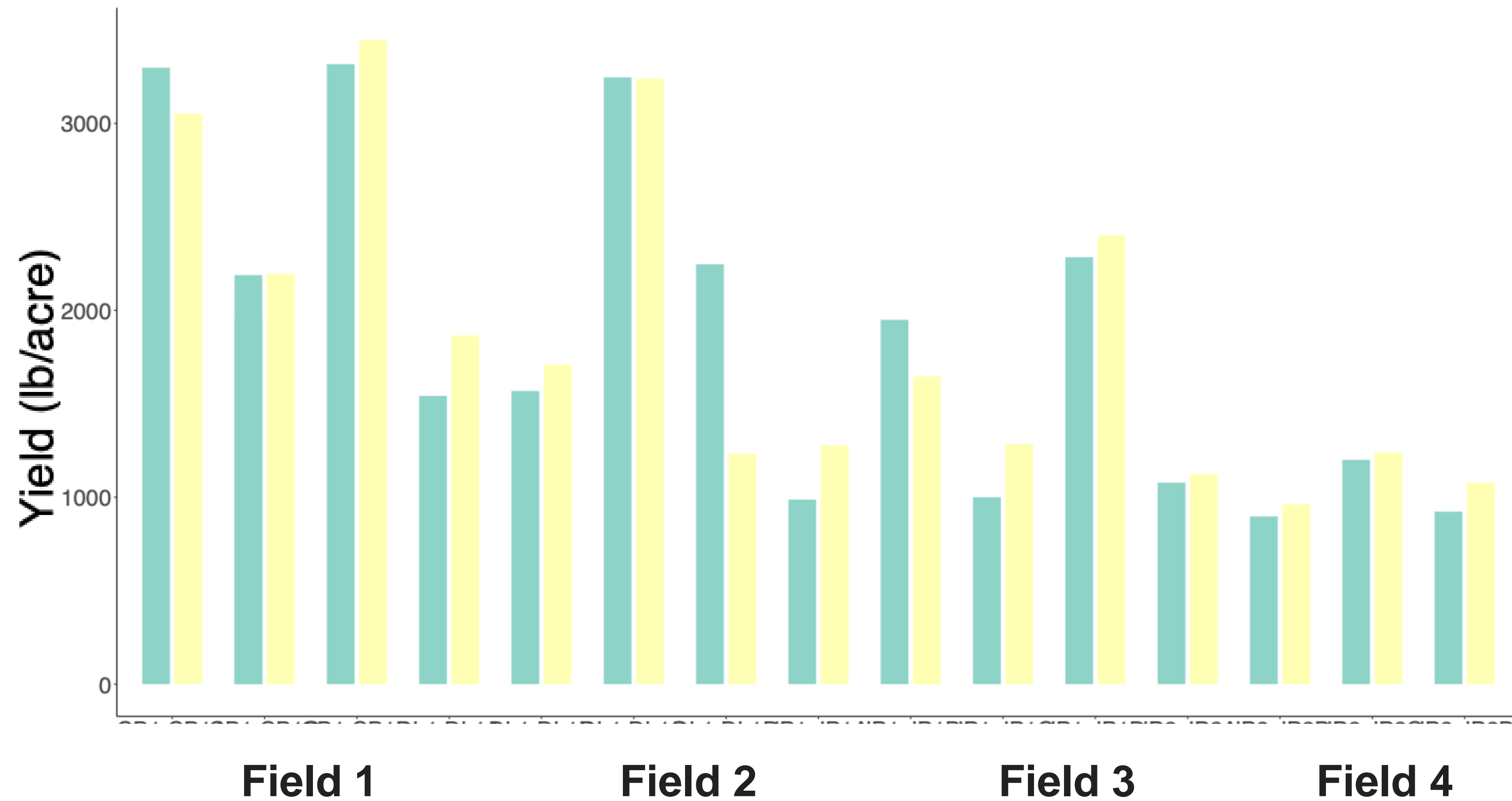
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- Lower height
- Lower stem count (3-8; 5-5.9)
- No effect on yield





# COTTON YIELD RESULTS



**DOES IT MEAN DEER  
DID NOT AFFECT  
COTTON?**

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**DOES IT MEAN DEER  
DID NOT AFFECT  
COTTON?**

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**No!**

# COTTON DYNAMICS

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- Fence timing
- Broader economic analysis (11 fields replanted)



WHERE DEER  
AFFECTED BY  
THE FENCE?



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# FUTURE PLANS

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- **Yield research - grower reports and FWC**
- **Peanut and cotton varieties**
- **Deterrents**



**THANK YOU**