Broflanilide and Imidacloprid Seed Treatments, Vantacor Adjuvant Evaluation

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Potential seed cane treatments

Goal: Assess potential insecticide seed cane for impacts on SCB injury, red imported fire ants, and yield metrics.

Treatments:

1. Untreated control (UTC)
2. Nurizma (broflanilide), 2.0 fl oz/acre
3. Prev-Am (citrus oil and borax), 10 fl oz/acre
4. Advise Four (imidacloprid), 16 fl oz/acre

Applied with CO2 backpack sprayer (30 gpa) before covering

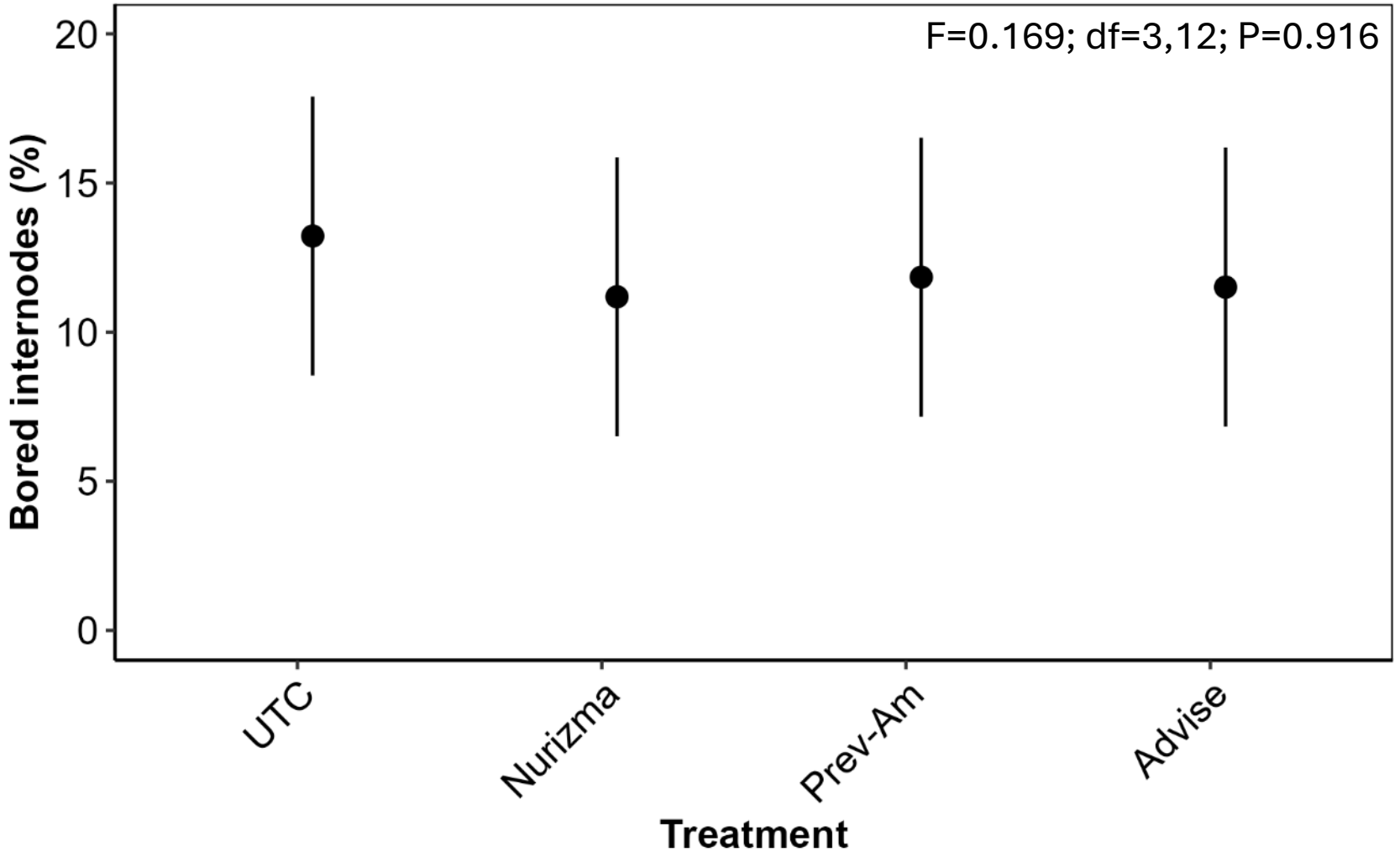
Experimental set-up

- 2025
- USDA field in Houma
- Cultivar: HoCP 14-885
- Crop Age: Plant Cane
- RCBD, 5 reps
- Plot: 3 rows, 20 foot

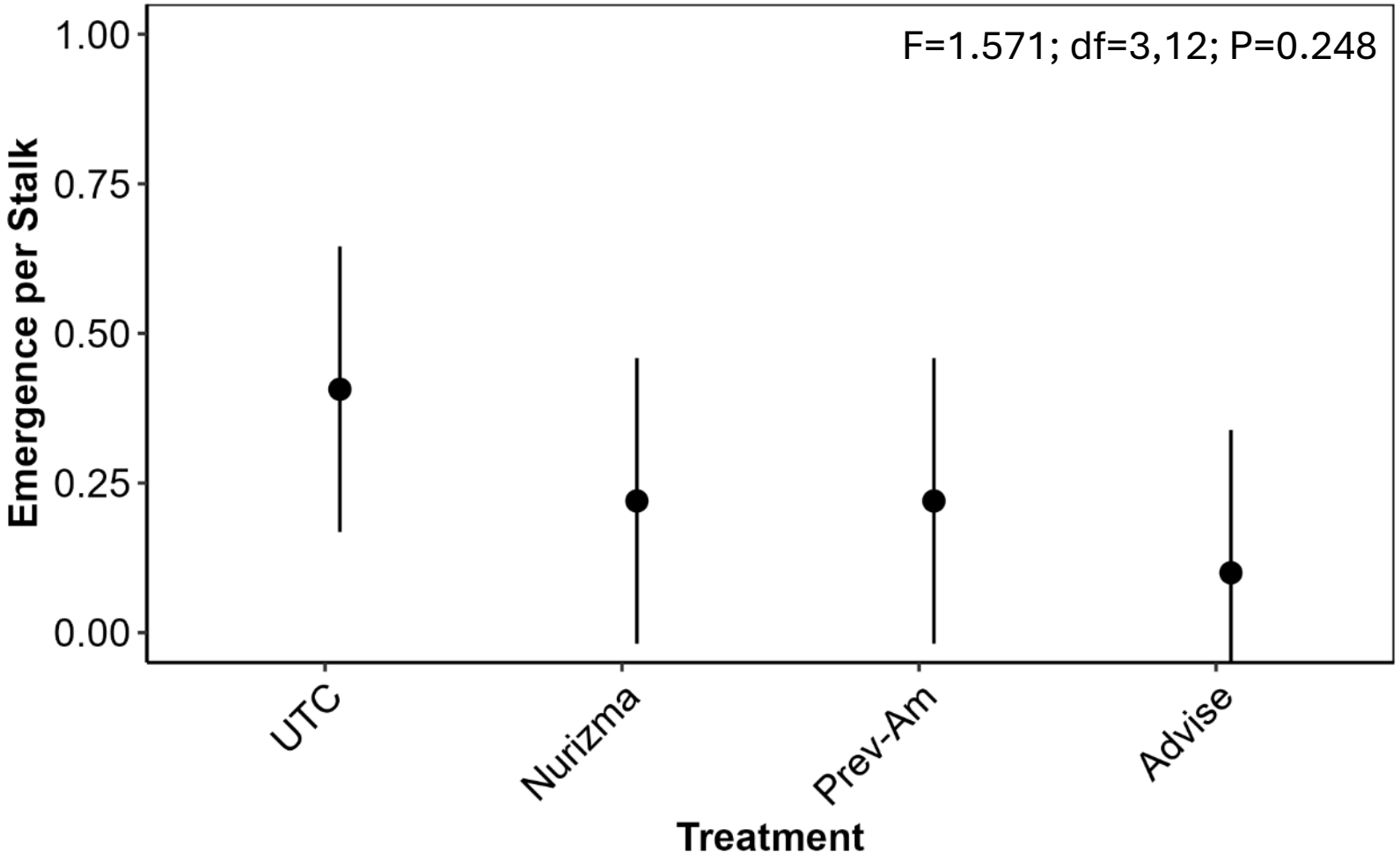
Metrics

- SCB injury and survival
- Red imported fire ant (RIFA) counts
- SCB egg predation
- Spring stand emergence
- Yield

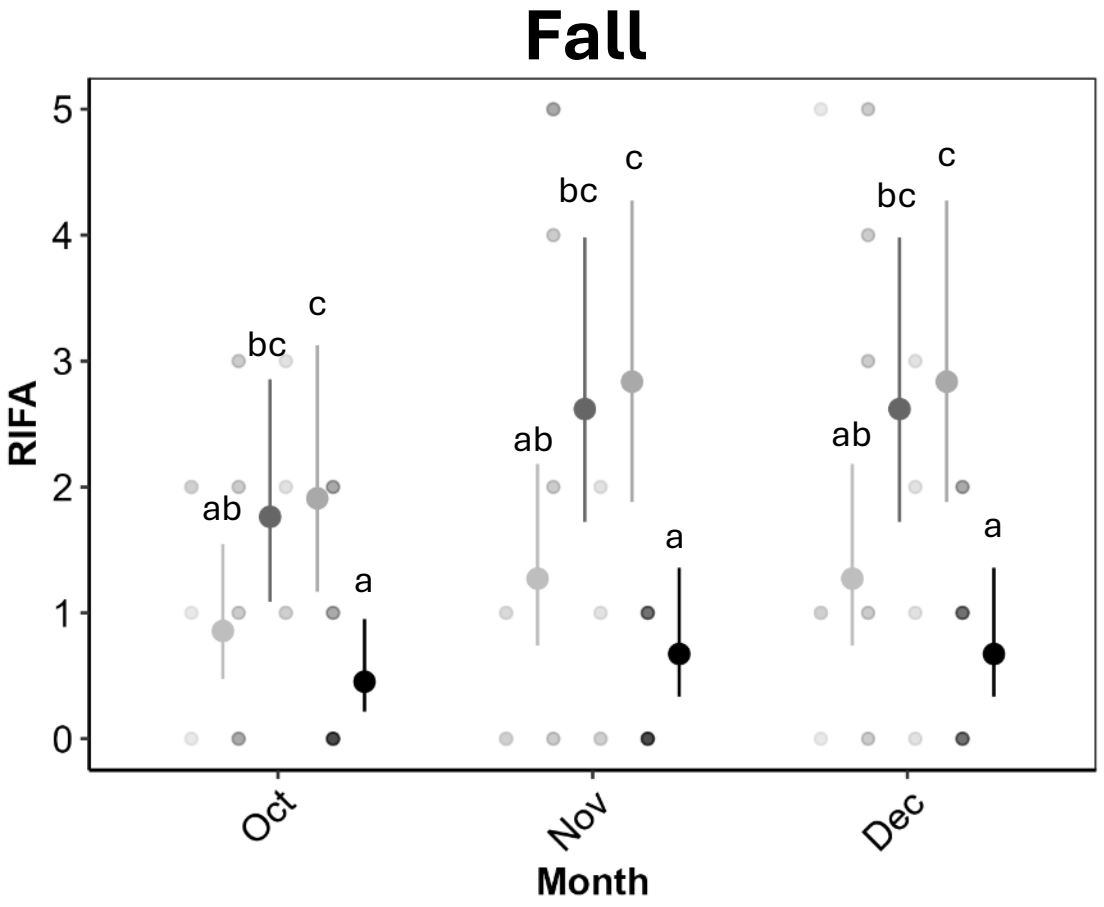
No differences in SCB injury



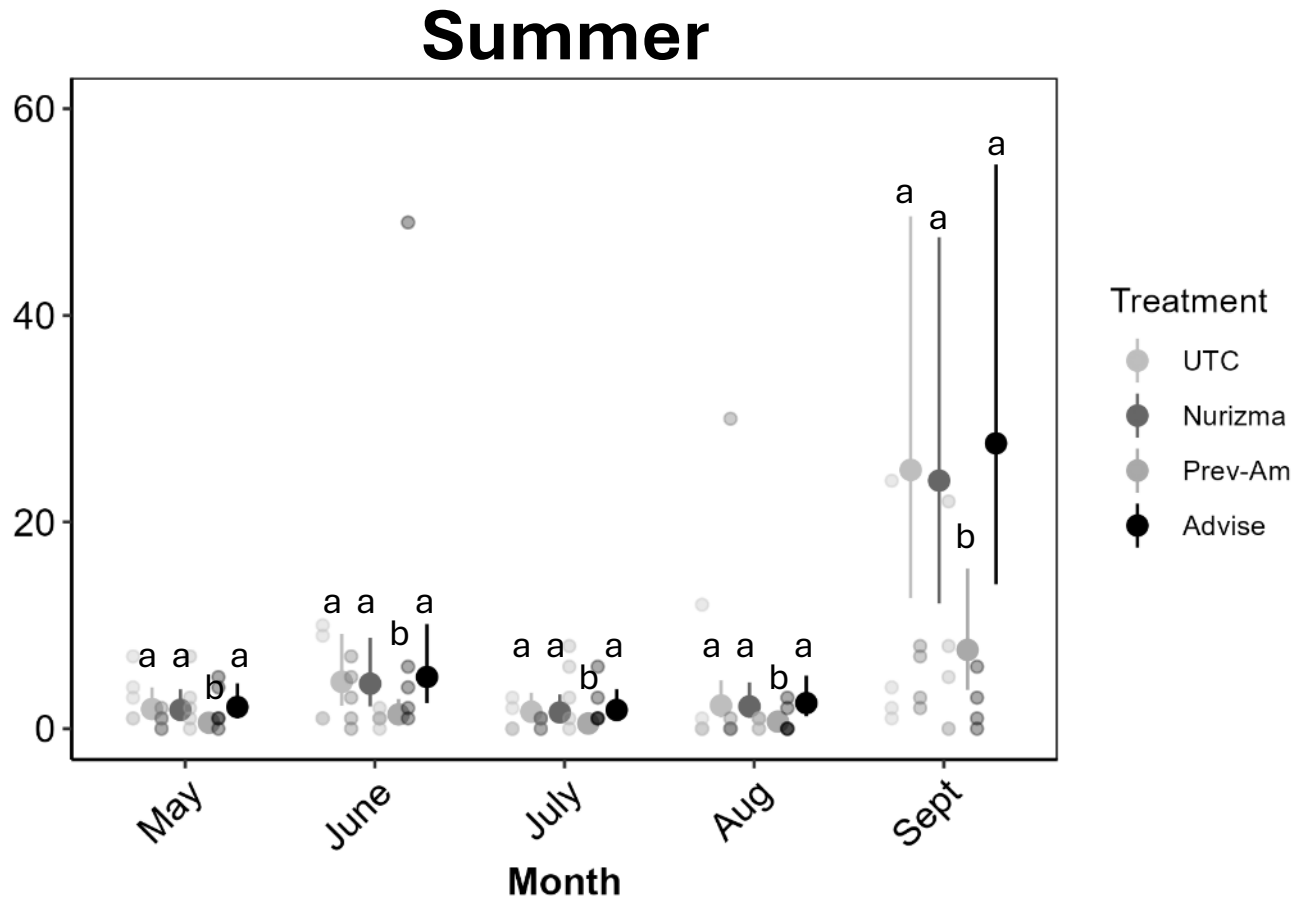
No differences in SCB survival



Significant, but not huge differences in RIFA

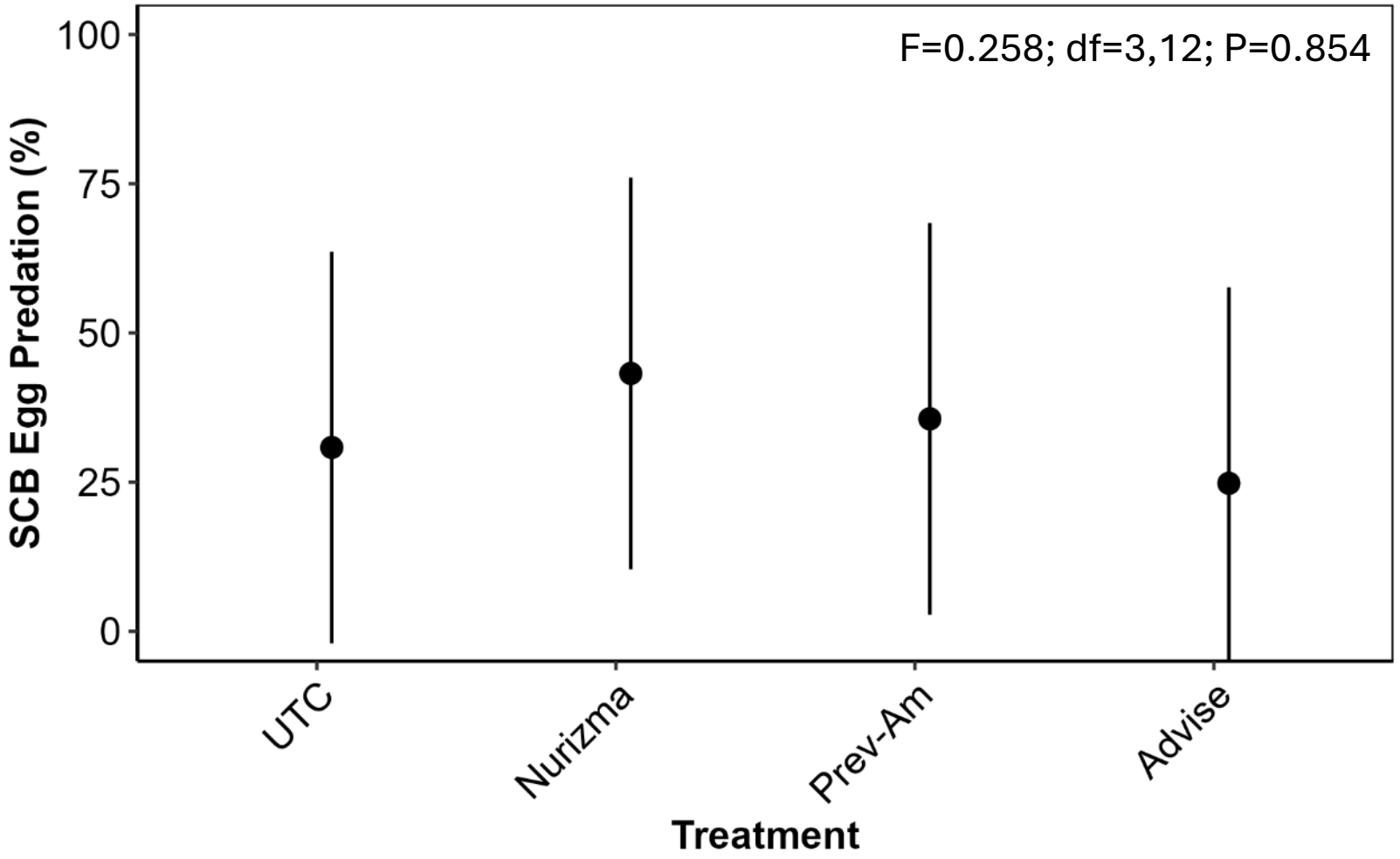


Treatment: χ^2=20.86; df=3; P<0.001
Month: χ^2=2.74; df=2; P=0.254

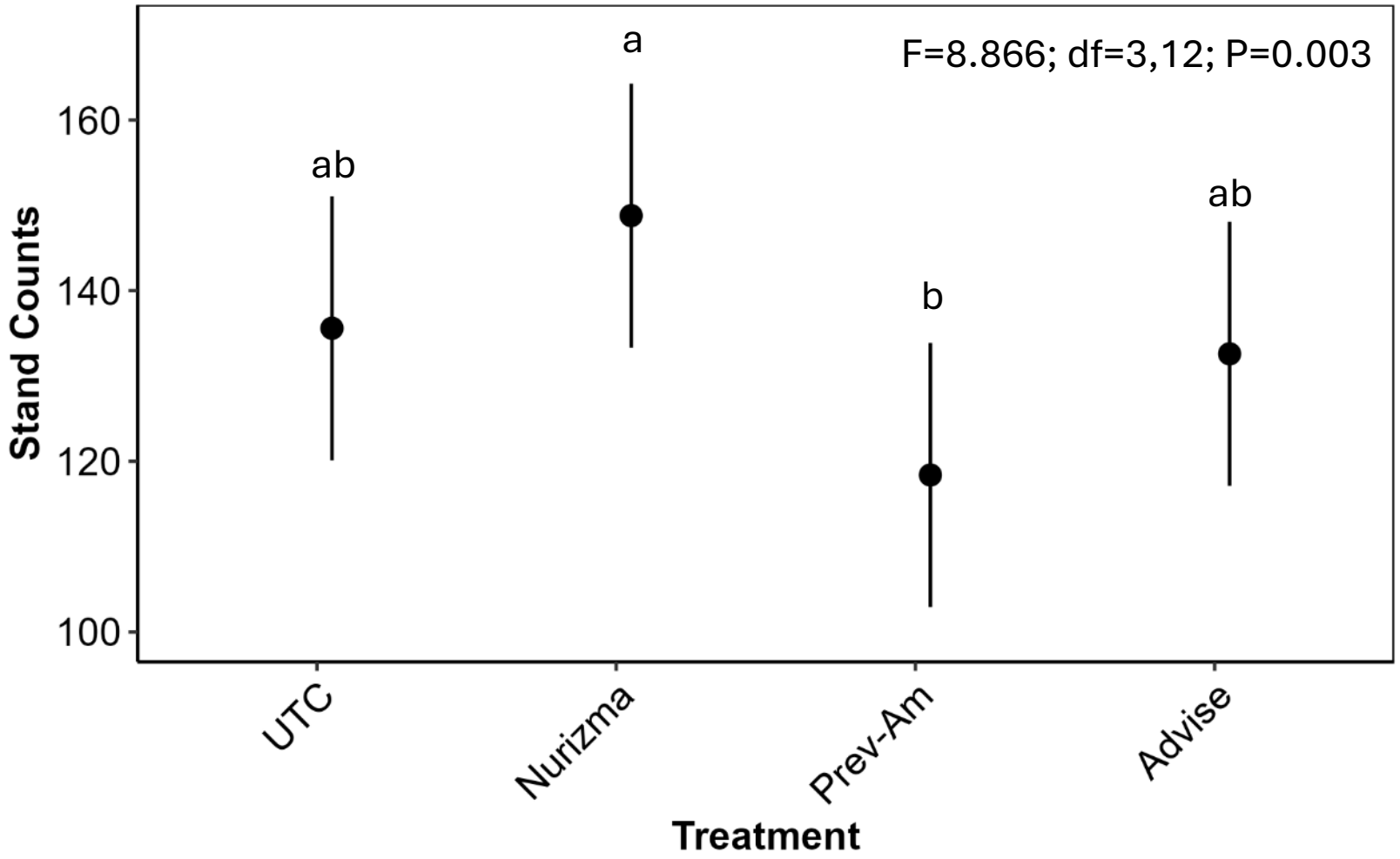


Treatment: χ^2=101.64; df=3; P<0.001
Month: χ^2=852.30; df=4; P<0.001

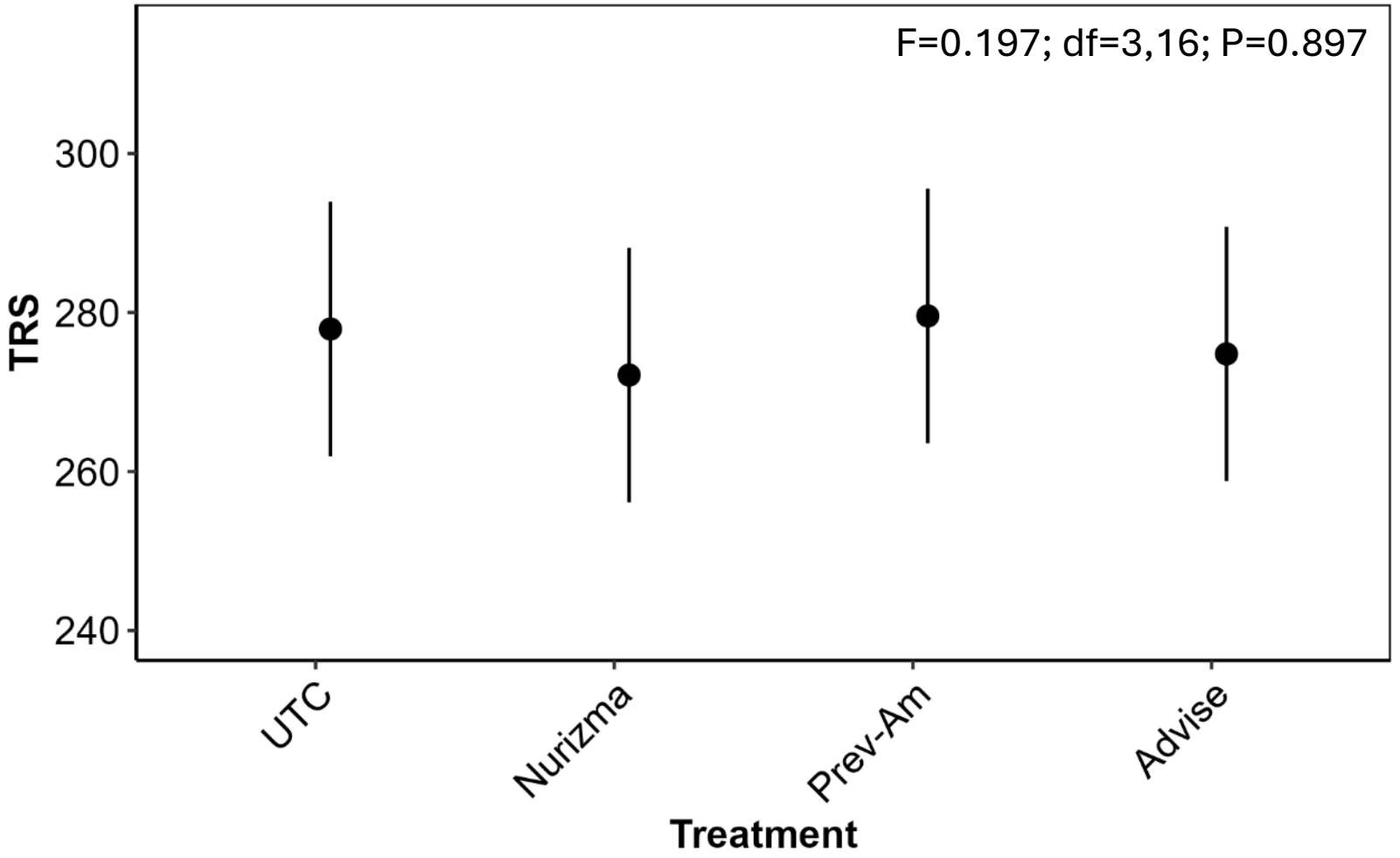
No change in SCB egg predation



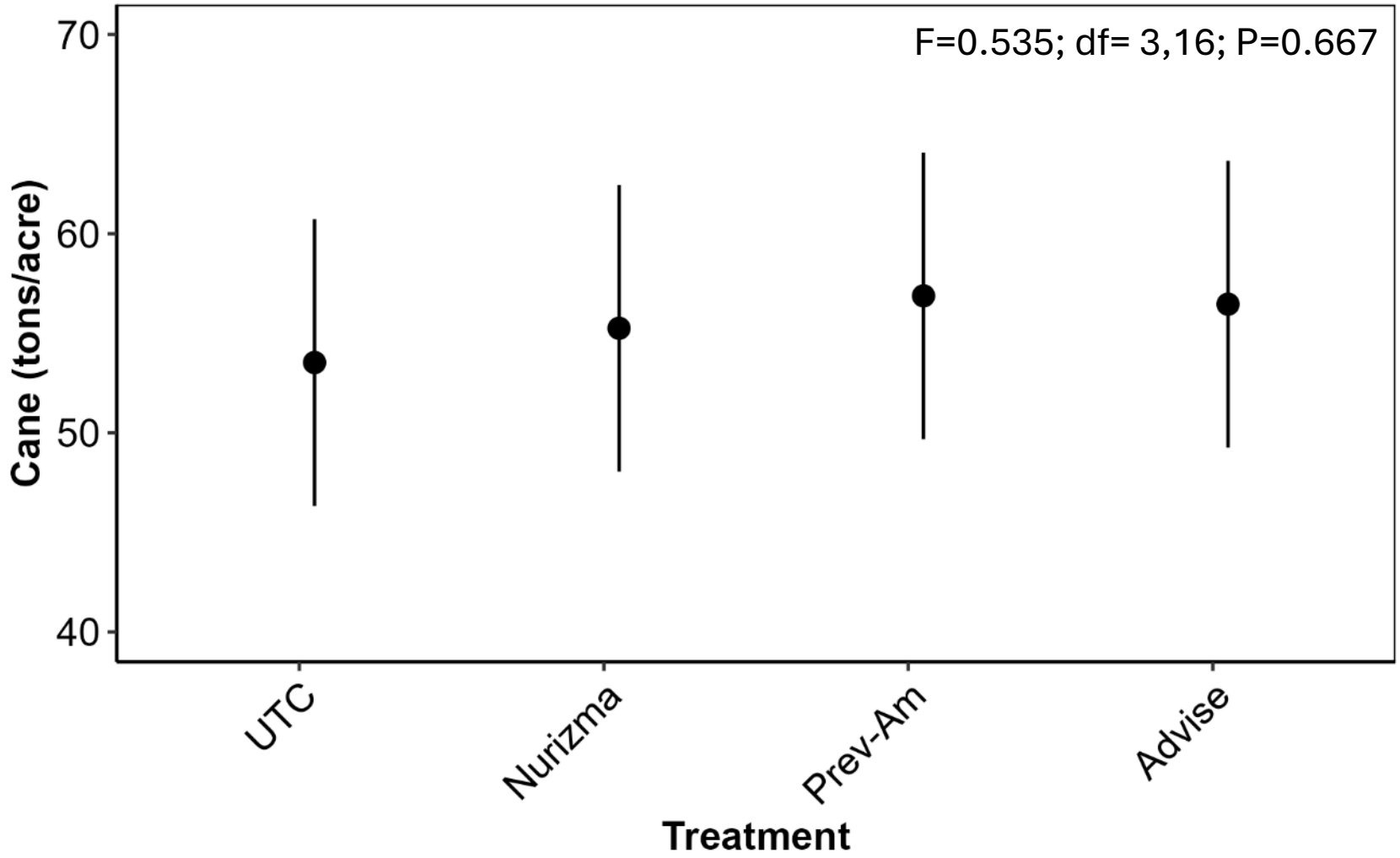
Marginal benefits for spring stand counts



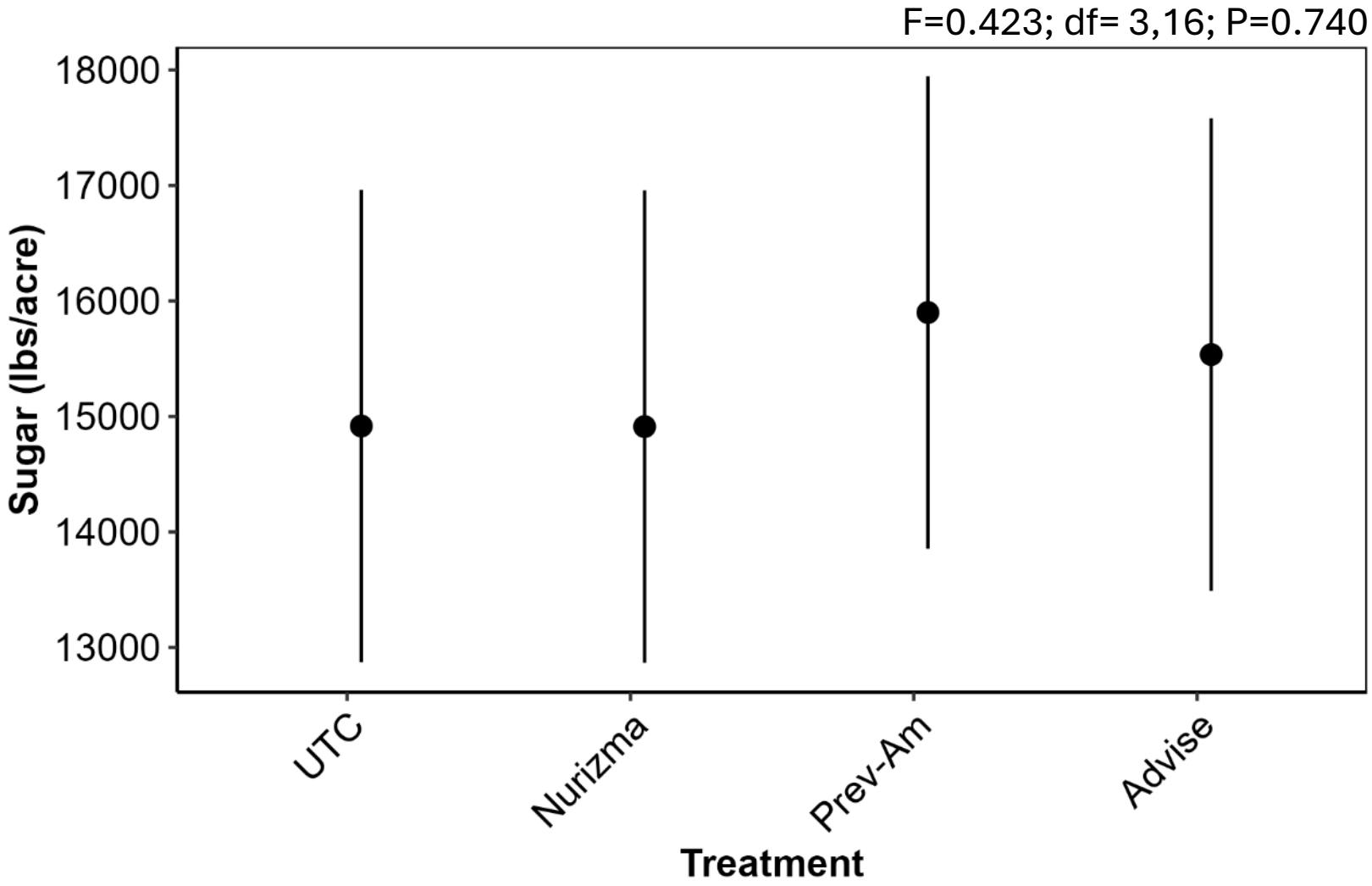
No effects on TRS



No effects on TCA



No effects on sugar



Conclusions

- We didn’t find any yield bumps
- Except for a slight bump in spring emergence with broflanilide
- But there did not appear to be any large negative interactions with
  - SCB injury
  - SCB egg predation
  - Red imported fire ant presence*
    - Imidacloprid-treated plots had fewer ants right after planting
    - In lab tests, broflanilide killed fire ants outright

Evaluated new adjuvant additions for SCB

Goal: Assess different adjuvants/additives with Vantacor for SCB control and yield.

Treatments:

1. Standard: Vantacor + methylated seed oil (Destiny HC)
2. Vantacor + Prev-AM
3. Vantacor + ORO-HSMOC
4. Vantacor + Prev-AM + Galactek
5. Vantacor + ORO-HSMOC + Galactek
6. Untreated control (UTC)

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Borax and oil-based **insecticide**, **miticide**, and **fungicide**

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6. Untreated control (UTC)

High performance methylated seed oil (60%)

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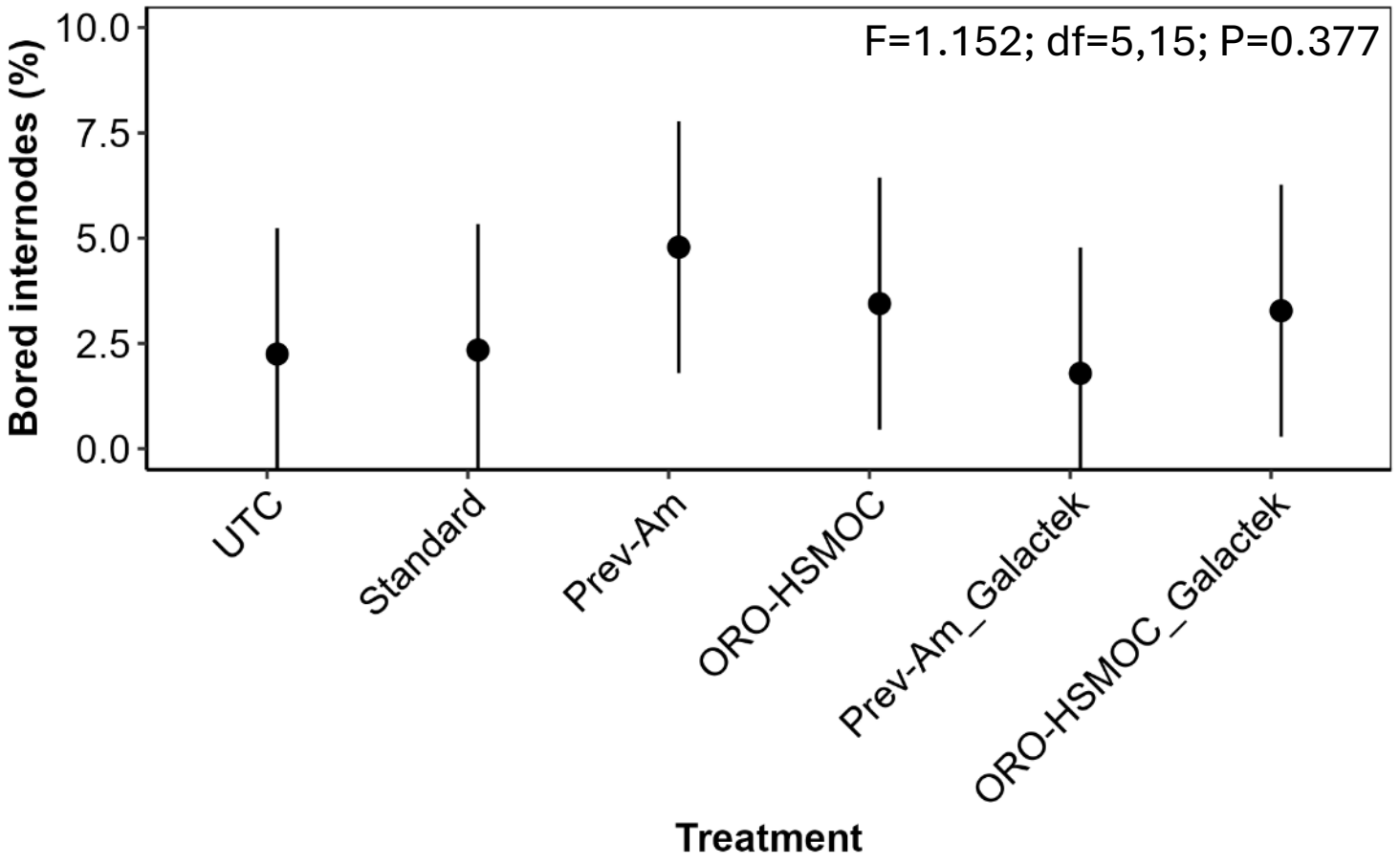
6. Untreated control (UTC)

Stimulant for plant growth and nutrient uptake

Test 1, 2024

- Grower’s field in Vacherie, LA
- Cultivar: Ho 12-615
- Crop Age: Plant Cane
- Design: RCBD, 4 reps
- Plots: 3 rows, 16 foot
- Ambient SCB pressure
- Assessed percent bored internodes

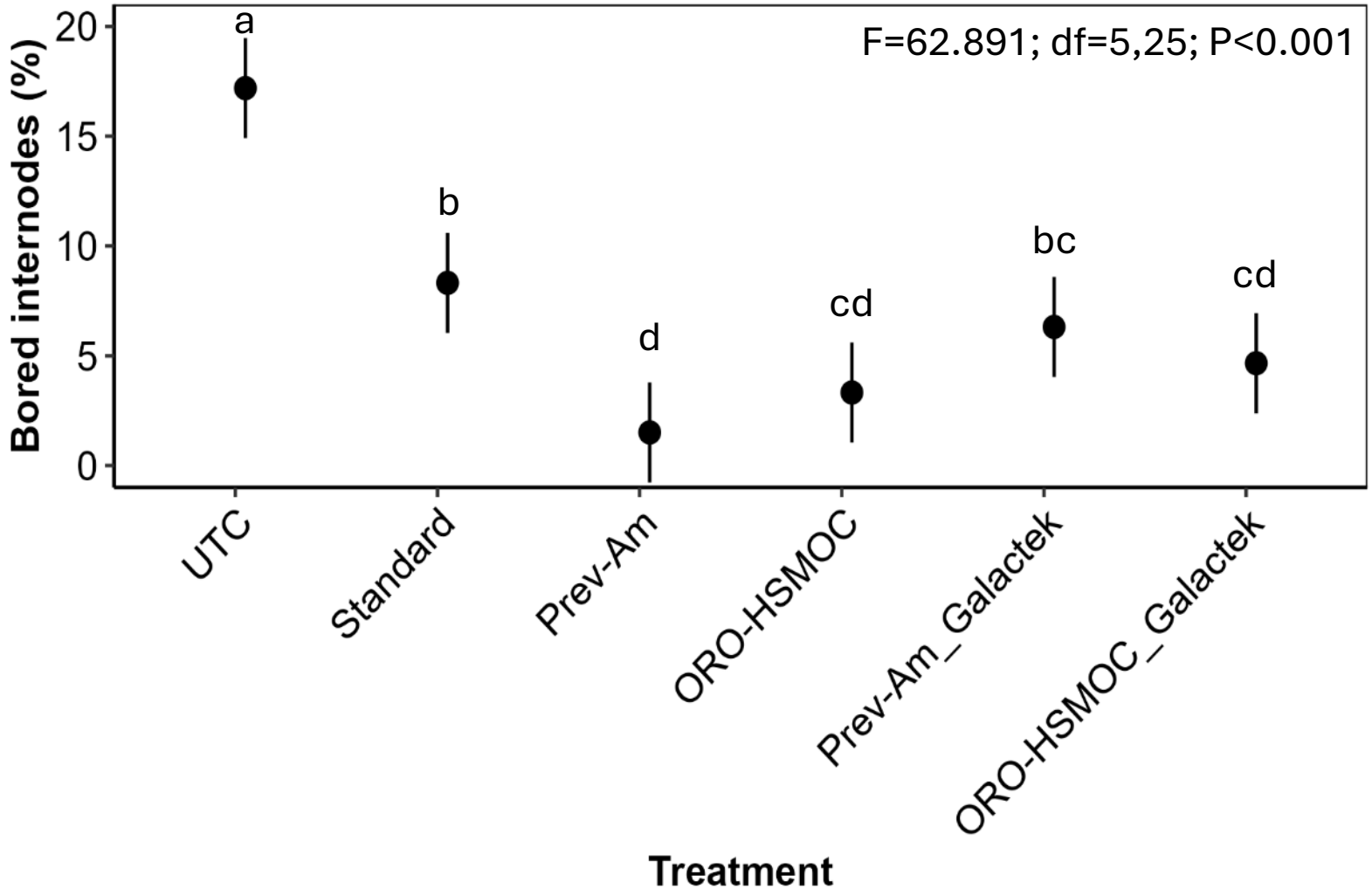
No significant differences in SCB injury



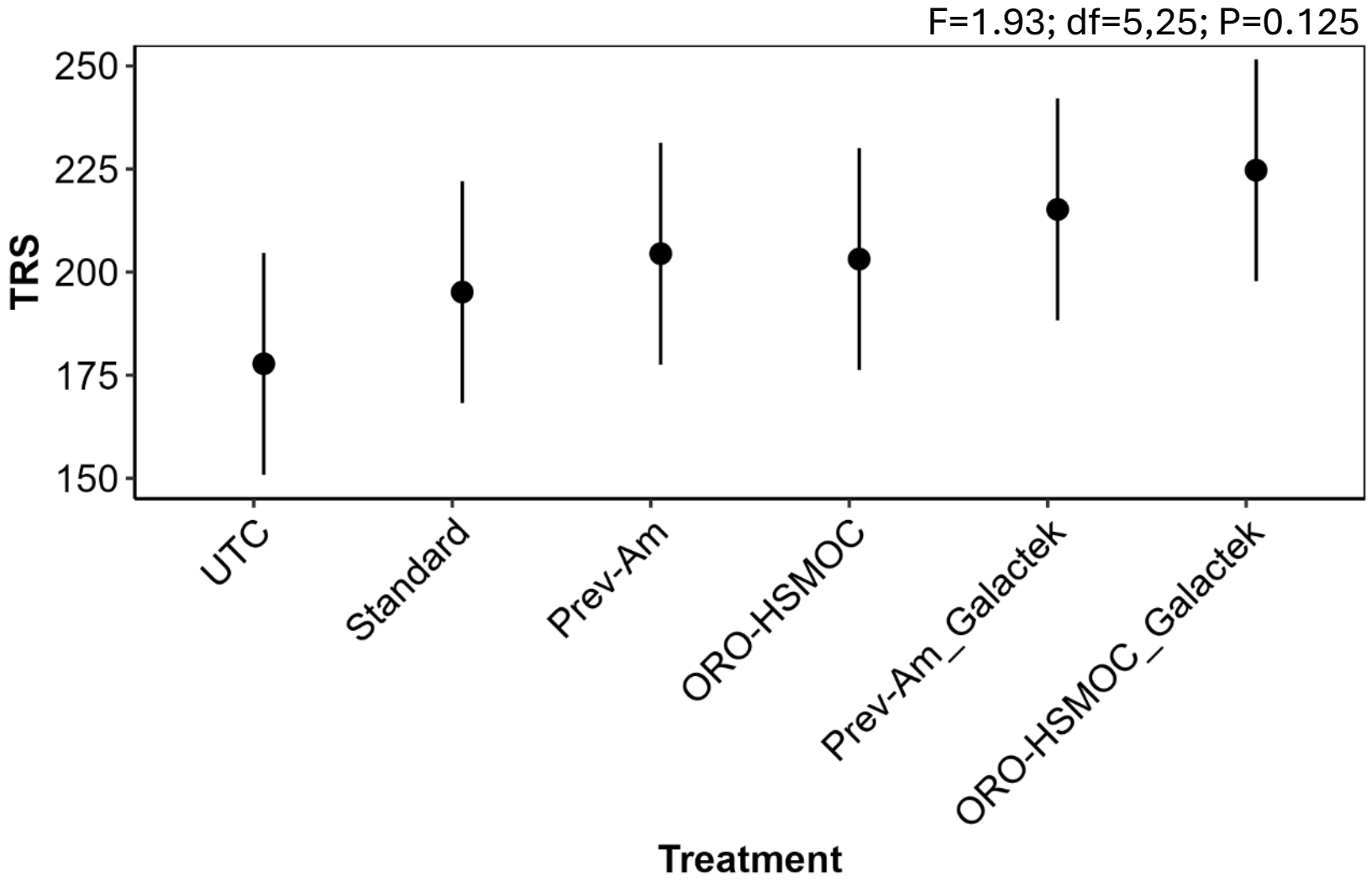
Test 2, 2025

- USDA field in Houma, LA
- Cultivar: HoCP 14-885
- Crop Age: Plant Cane
- Design: RCBD, 6 reps
- Plots: 2 rows, 16 foot
- Assessed bored internodes and yield
- Inoculated with SCB

Decreased SCB injury

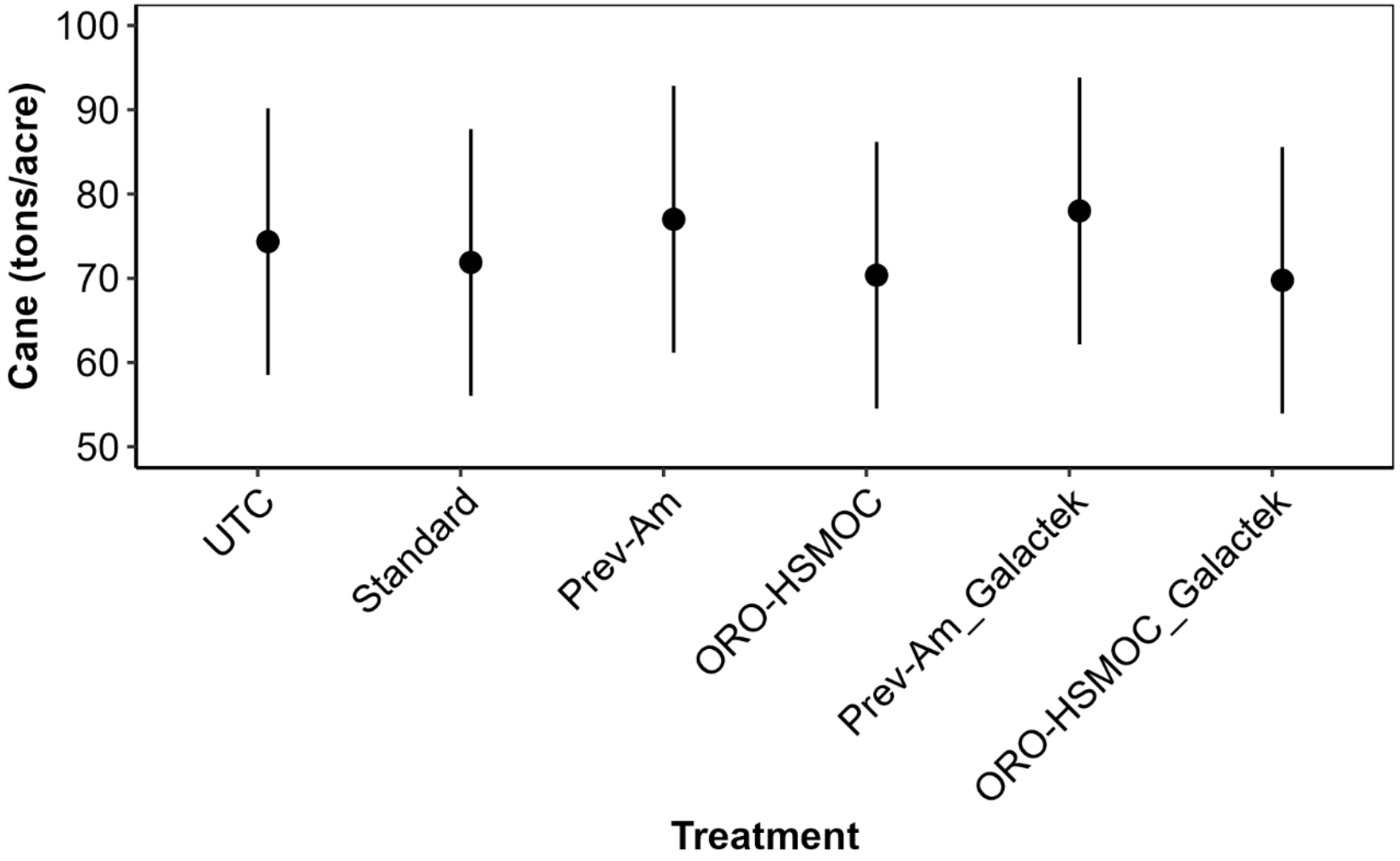


No differences in TRS

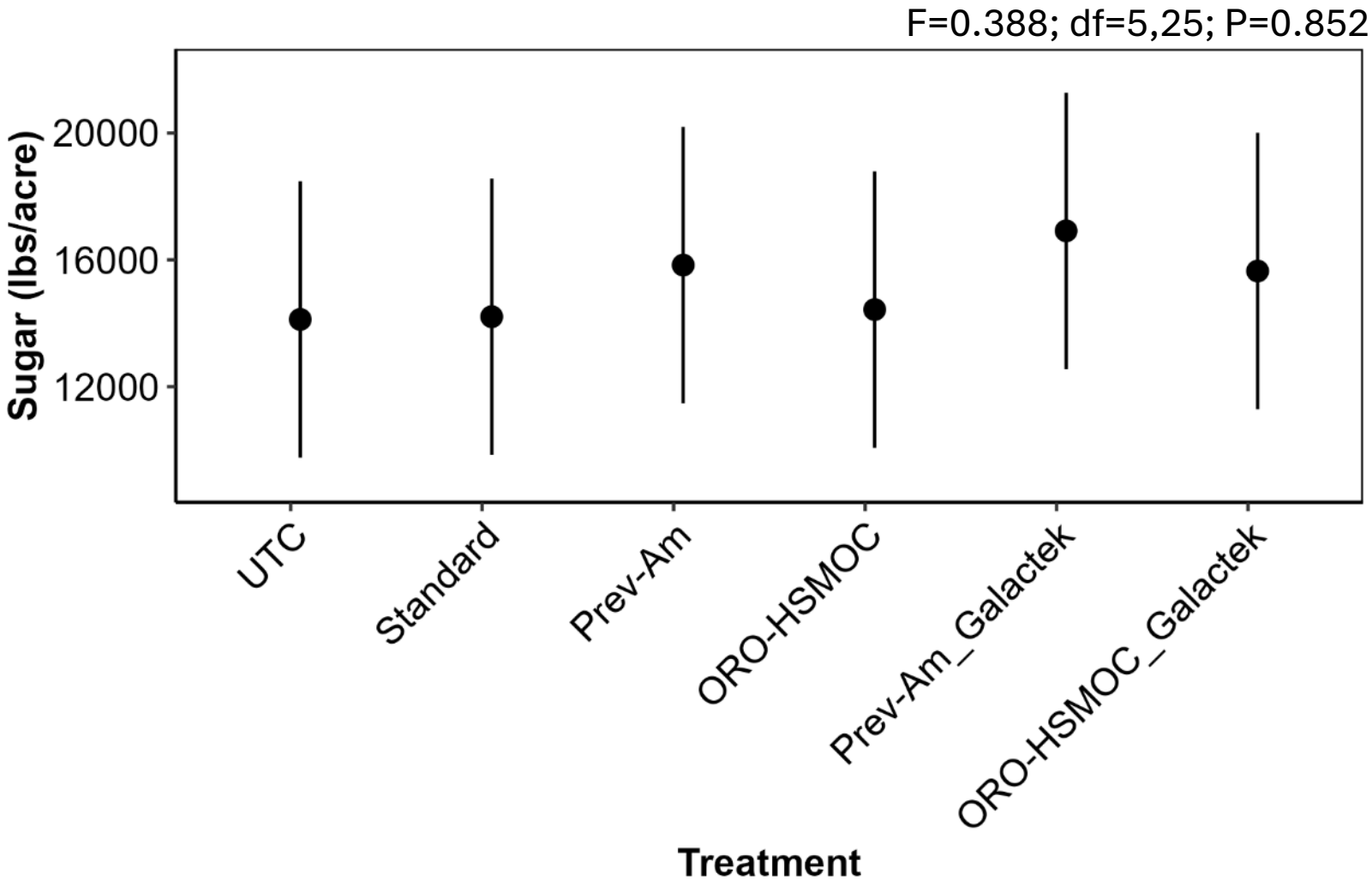


No differences in TCA

F=0.265; df=5,25; P=0.928



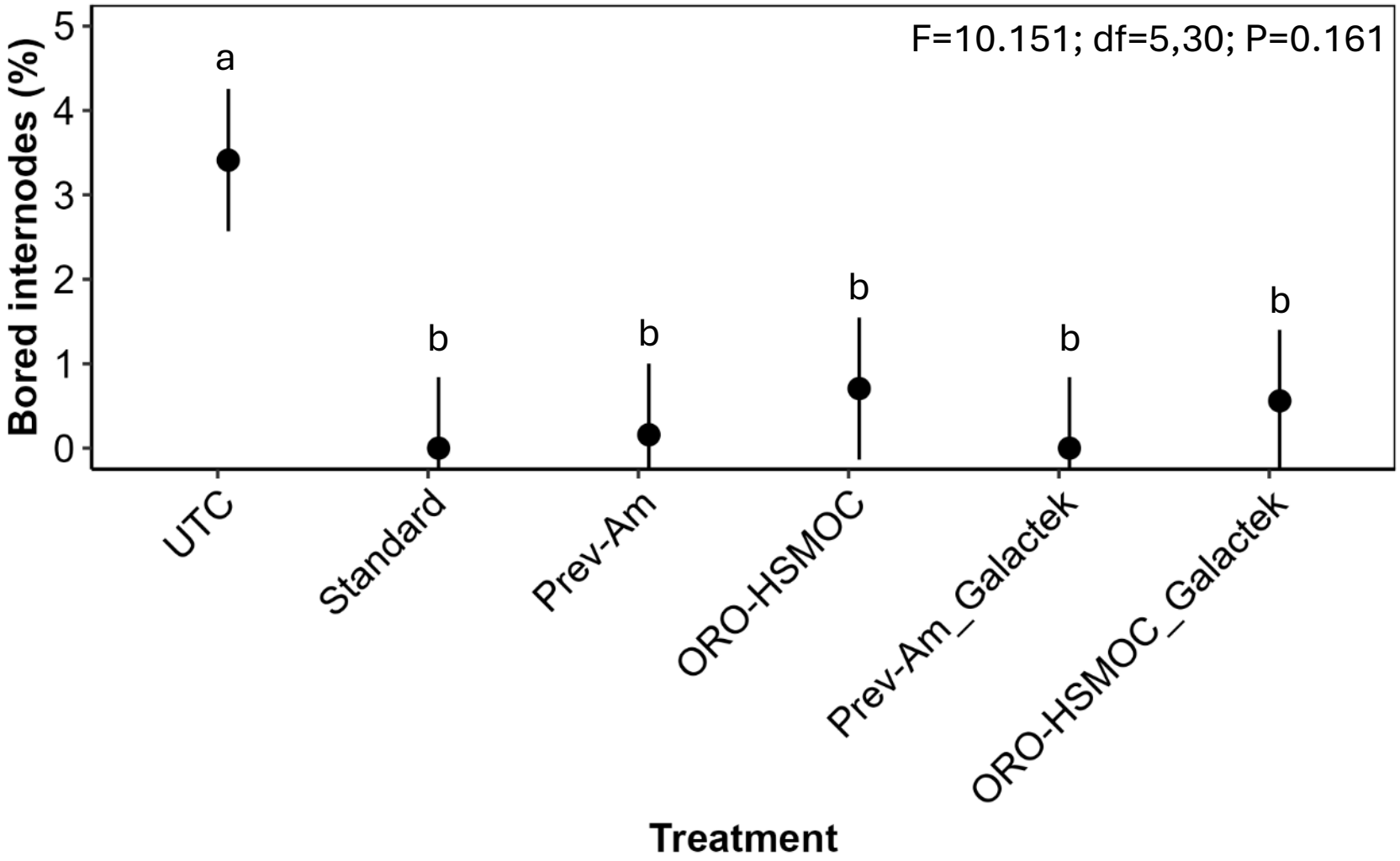
No differences in sugar



Test 3, 2025

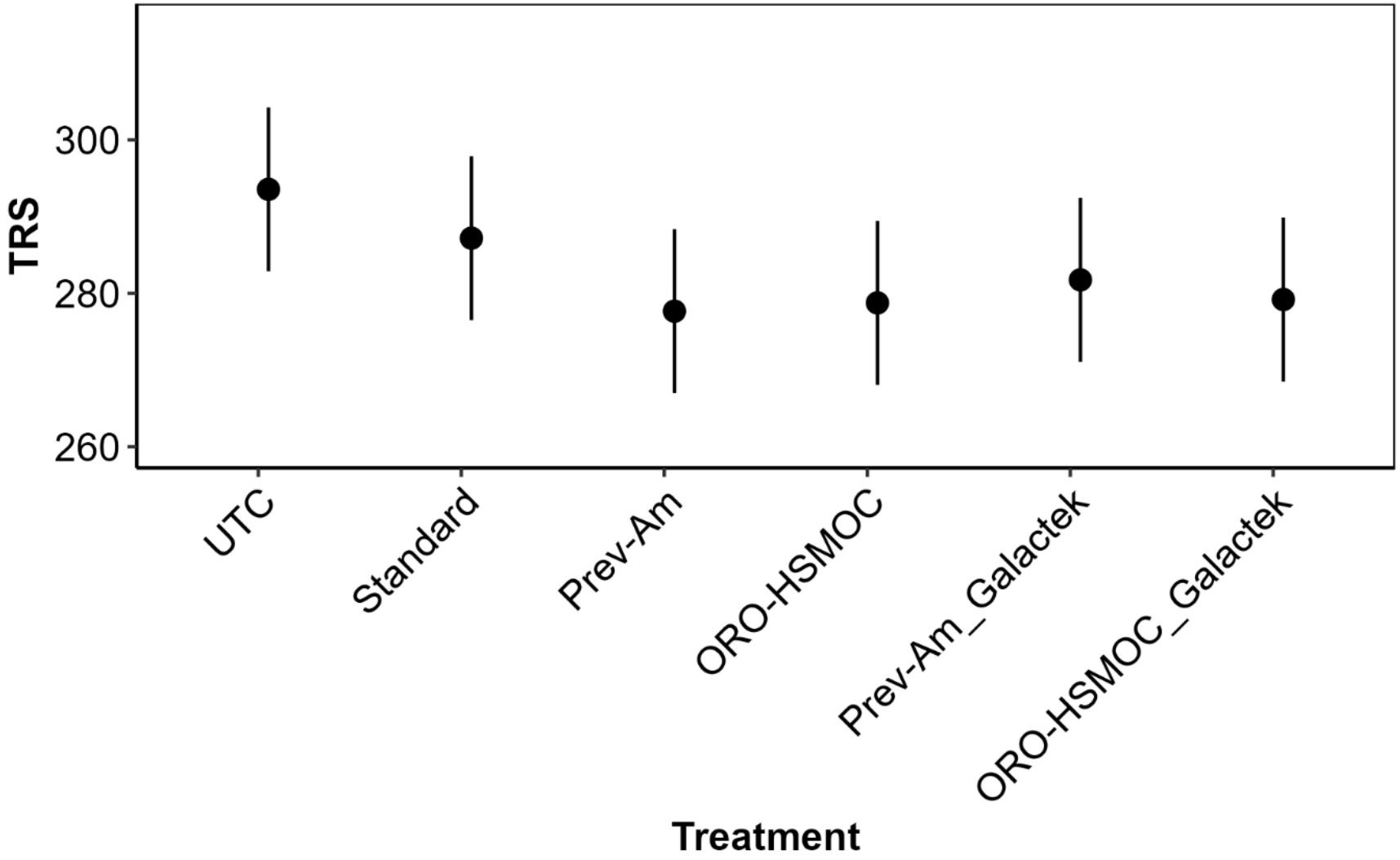
- USDA field in Schriever, LA
- Cultivar: HoCP 00-950
- Crop Age: 2nd Ratoon
- Design: RCBD, 6 reps
- Plots: 3 rows, 16 foot
- Assessed bored internodes and yield
- Inoculated with SCB

Decreased SCB injury

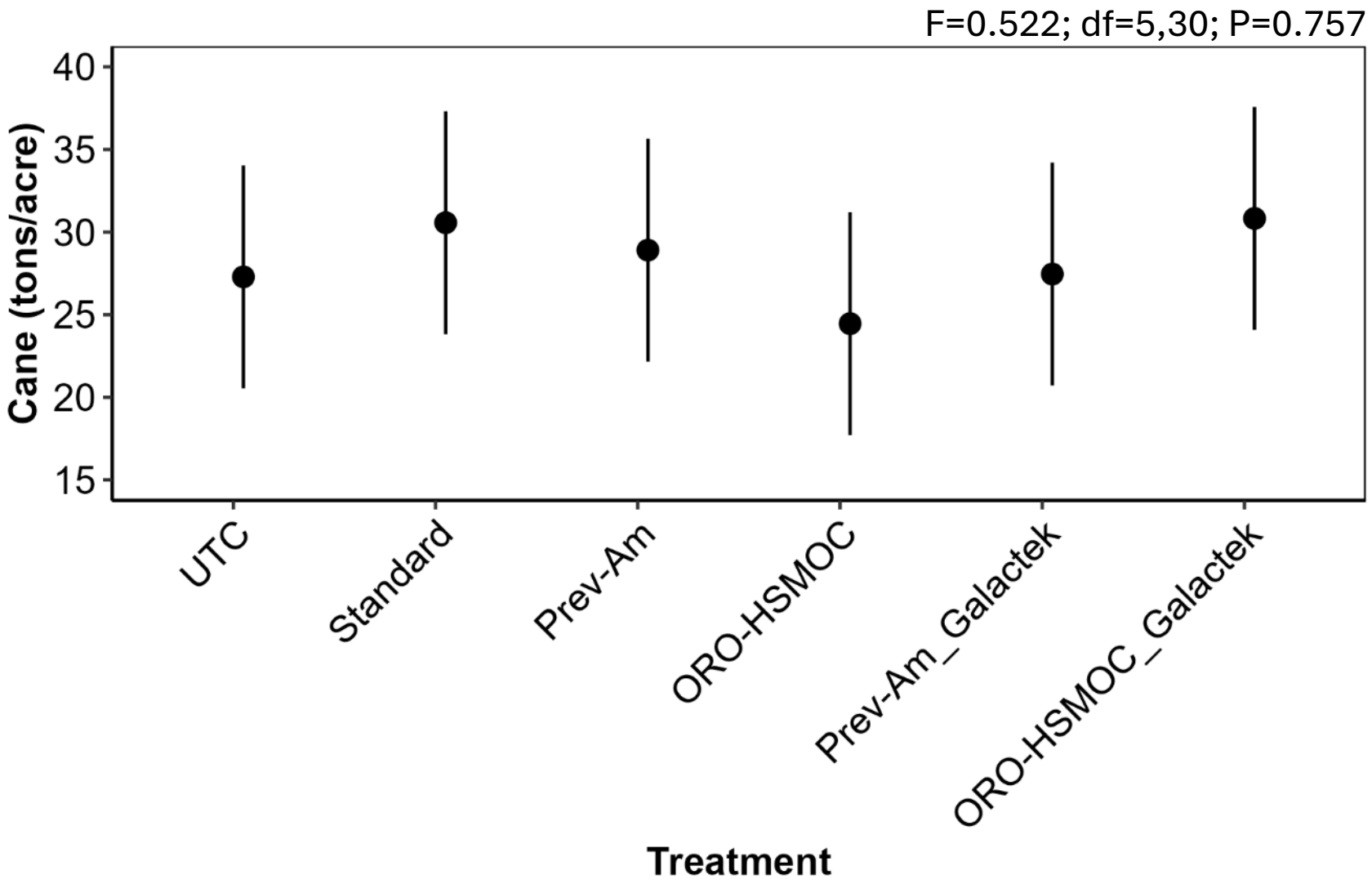


No differences in TRS

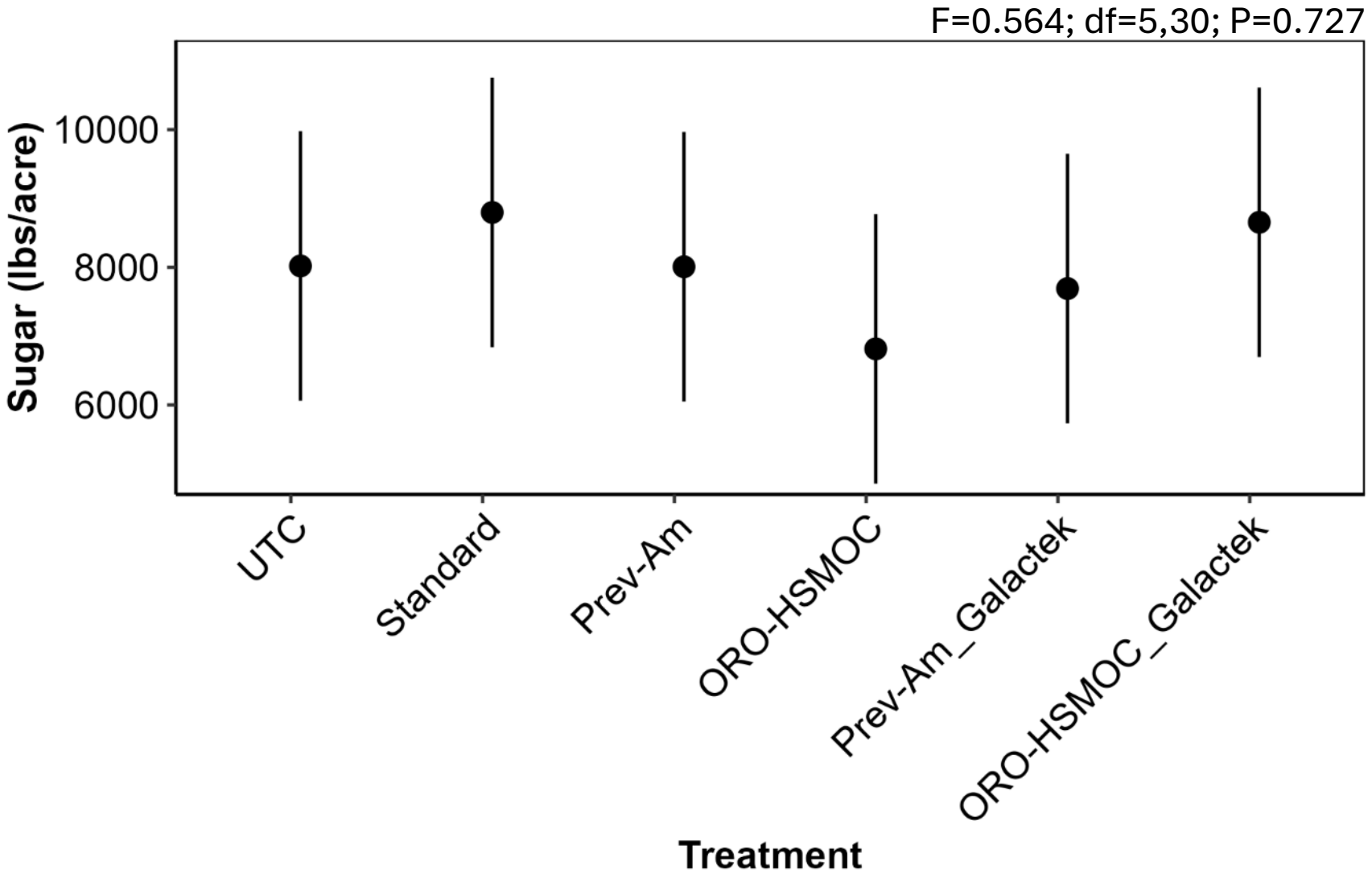
F=1.75; df=5,30; P=0.161



No differences in TCA



No differences in sugar



Conclusions

- Looks like all combinations work just as well as standard MSO in combination with Vantacor
- So, it might be useful if you want to spot treat hemipteran pests or prevent fungal infections*
- We haven’t done in-house efficacy tests in cane yet

Acknowledgements

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American Sugar Cane League
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Questions?