

Effects of OTC Trunk Injections on Marathon, Bingo, 1424, Sugar Belle and OLL-8 Scions

John M. Chater, Ph.D.

Assistant Professor, Citrus Genetic Improvement Horticulturist

UF/IFAS Citrus Research and Education Center

Lake Alfred

August 21, 2025

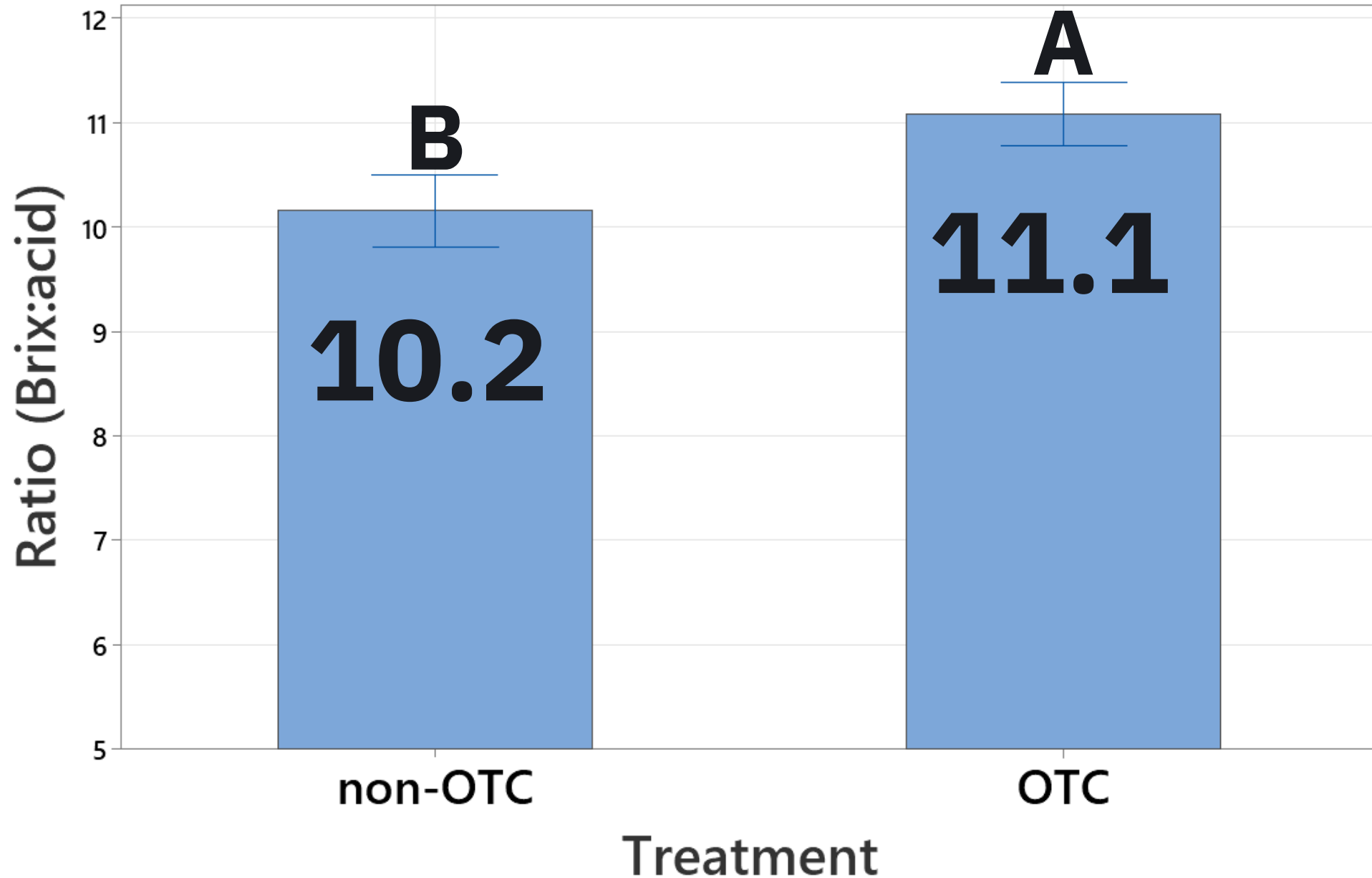
Take home message

- OTC trunk injection can positively affect fruit juice quality of OLL-8 scions on different rootstocks
- OTC can affect fruit quality of fresh market selections
- Often OTC effects are not statistically significant, but effects may be meaningful to growers depending on economics
- Some rootstock-scion combinations were not affected by trunk injections

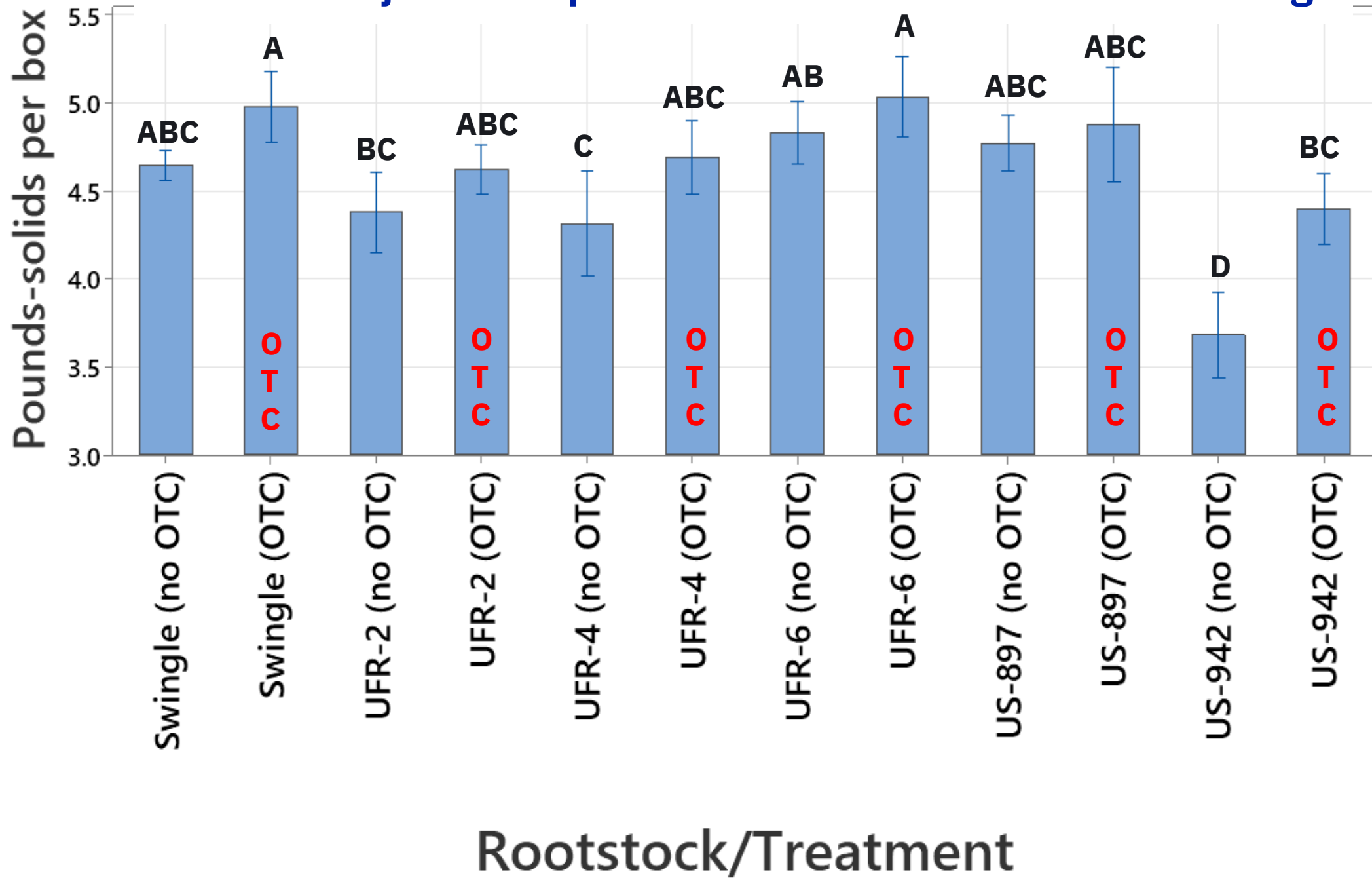
Year 1 OTC study on OLL-8

- OLL-8 on different rootstocks: US-942, US-897, Swingle, UFR-2, UFR-4, UFR-6.
- Trees were older (~10+) except US-942, which was six years old at end of study.
- Three harvests based on grower input; fruit went to packinghouse.

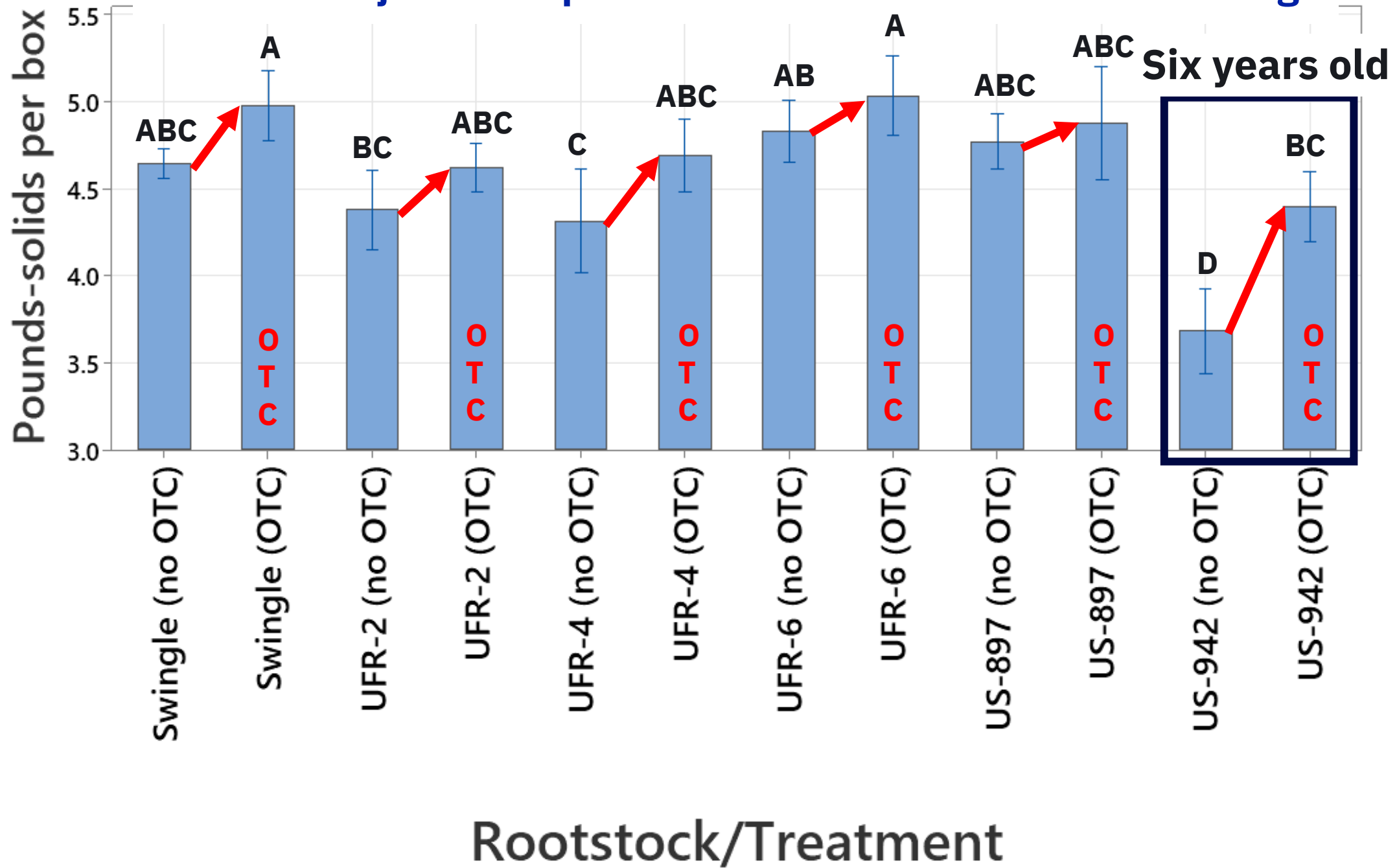
OTC trunk injection improves OLL-8 ratio



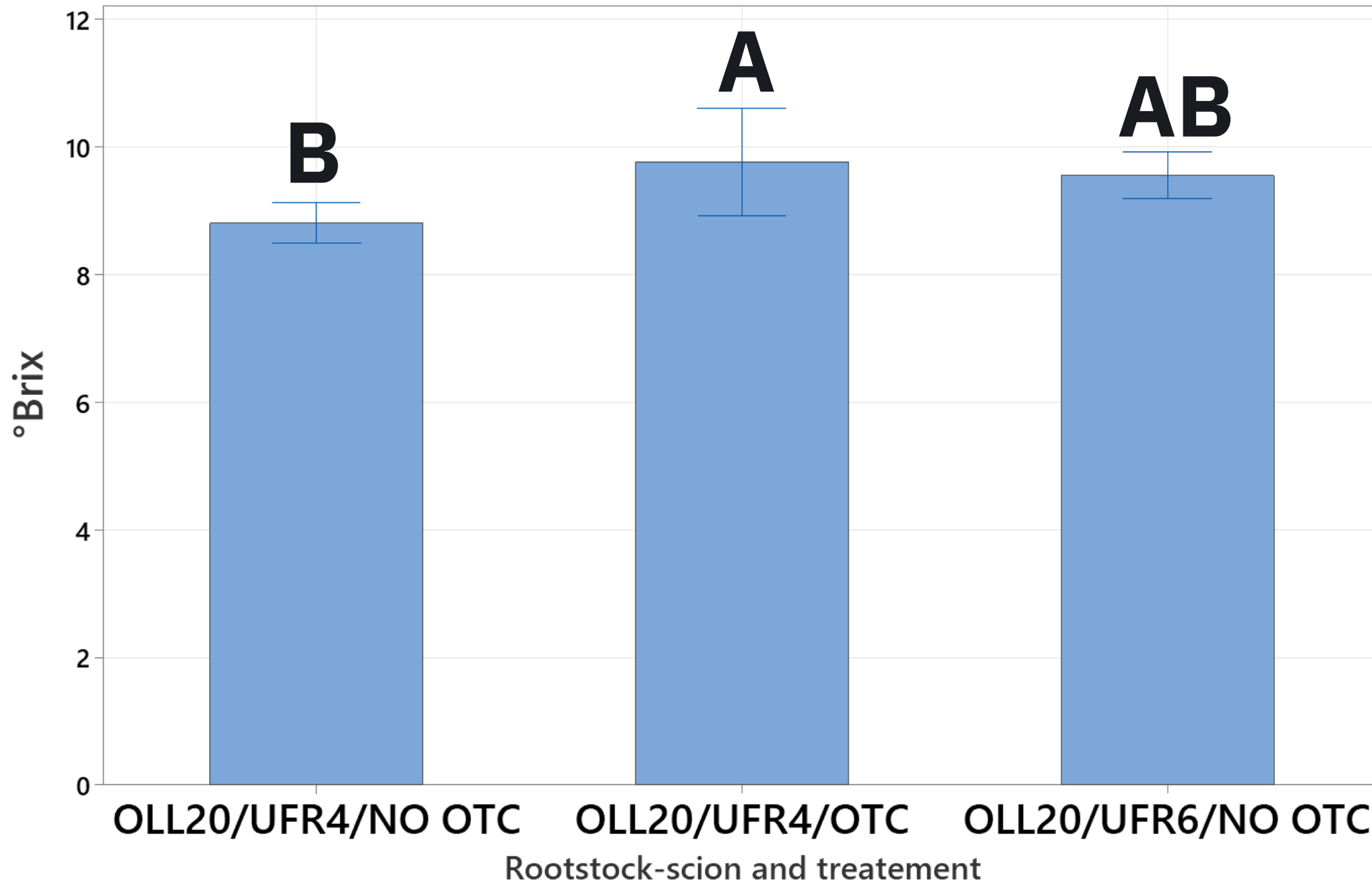
OTC trunk injection improves LBS-solids in OLL-8 sweet orange



OTC trunk injection improves LBS-solids in OLL-8 sweet orange



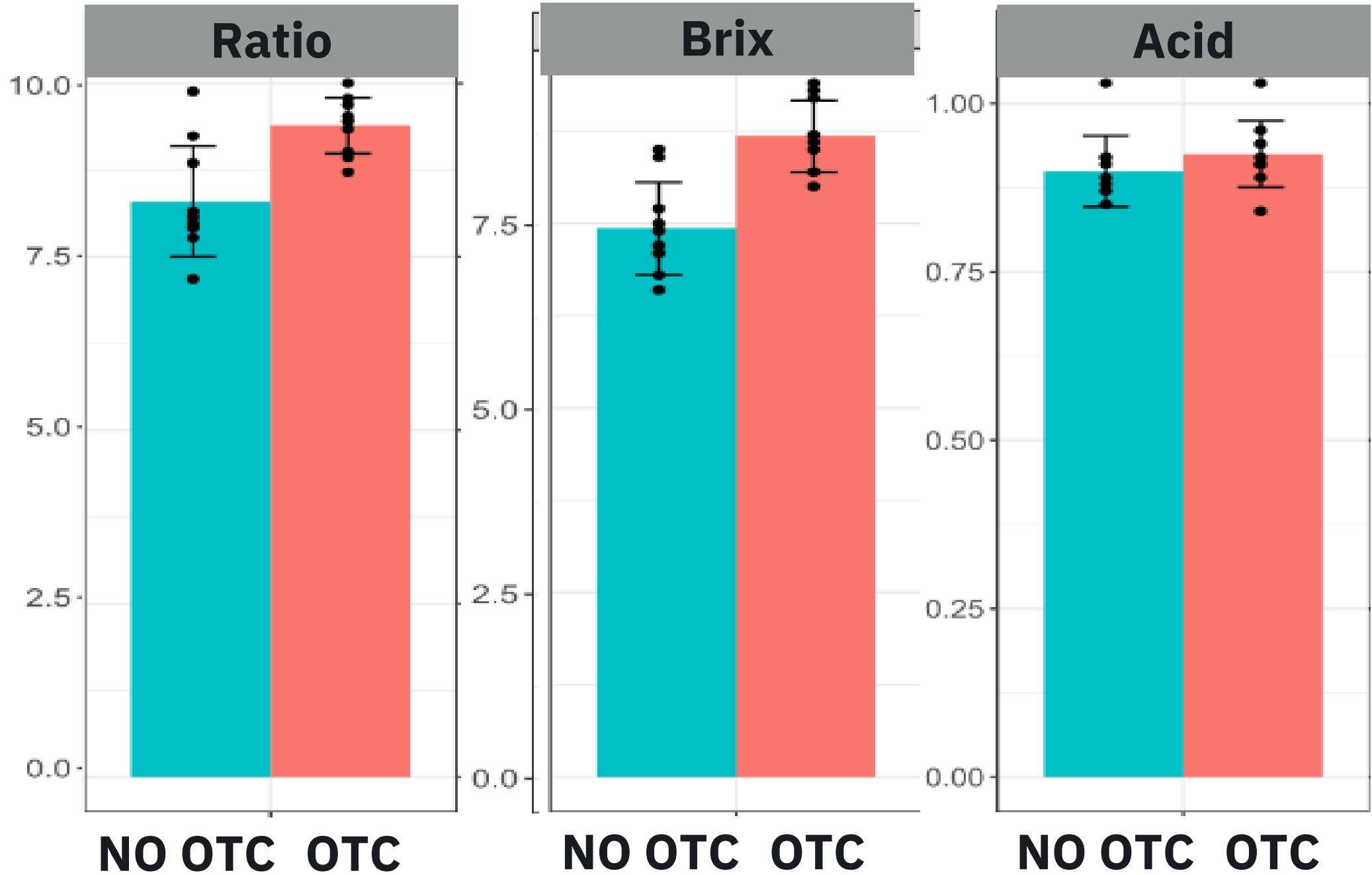
OTC increased Brix in OLL-20 on UFR-4



For UFR-4, all Non-injected failed market testing

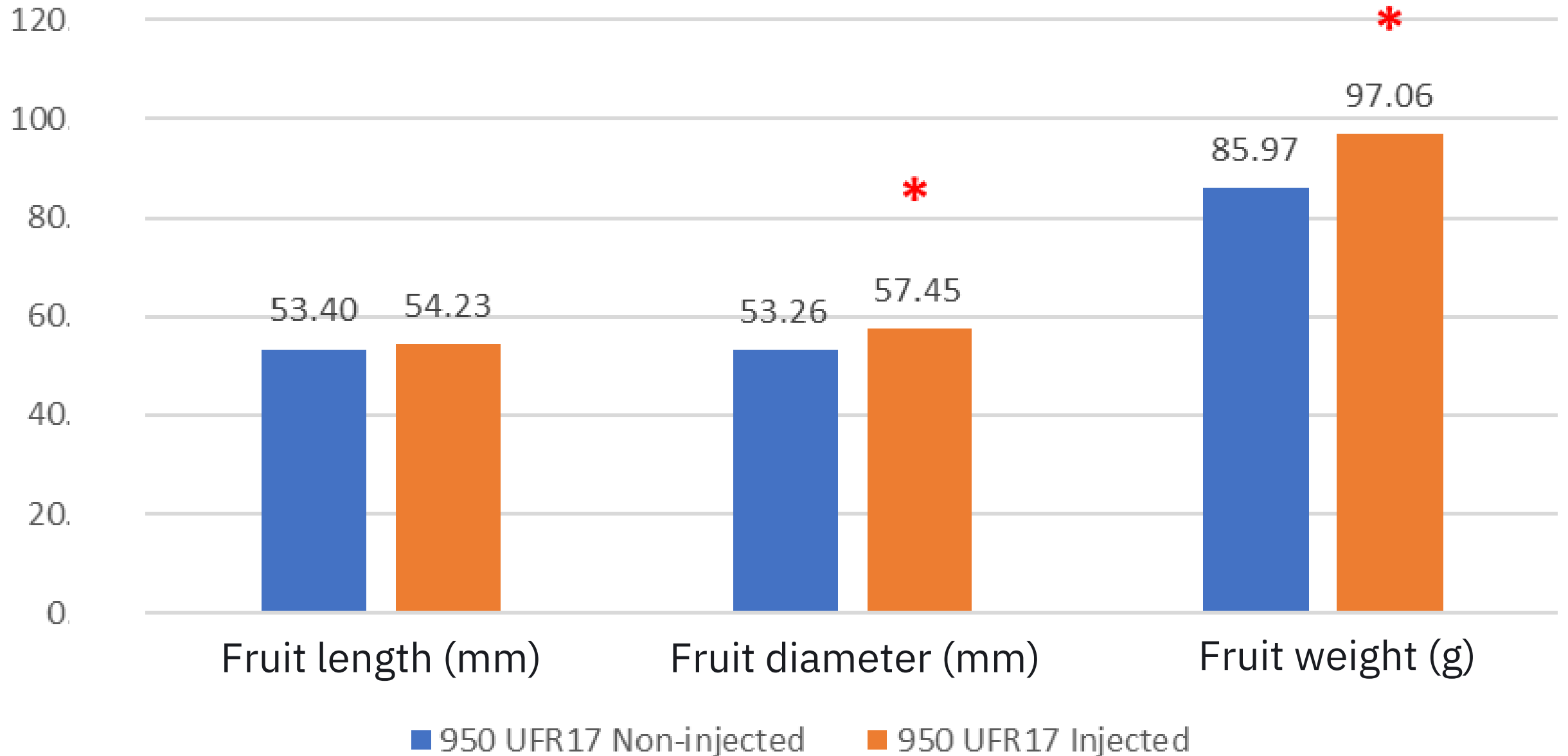
Only one injected sample failed

OTC increased Brix and Ratio in OLL-20 on UFR-4

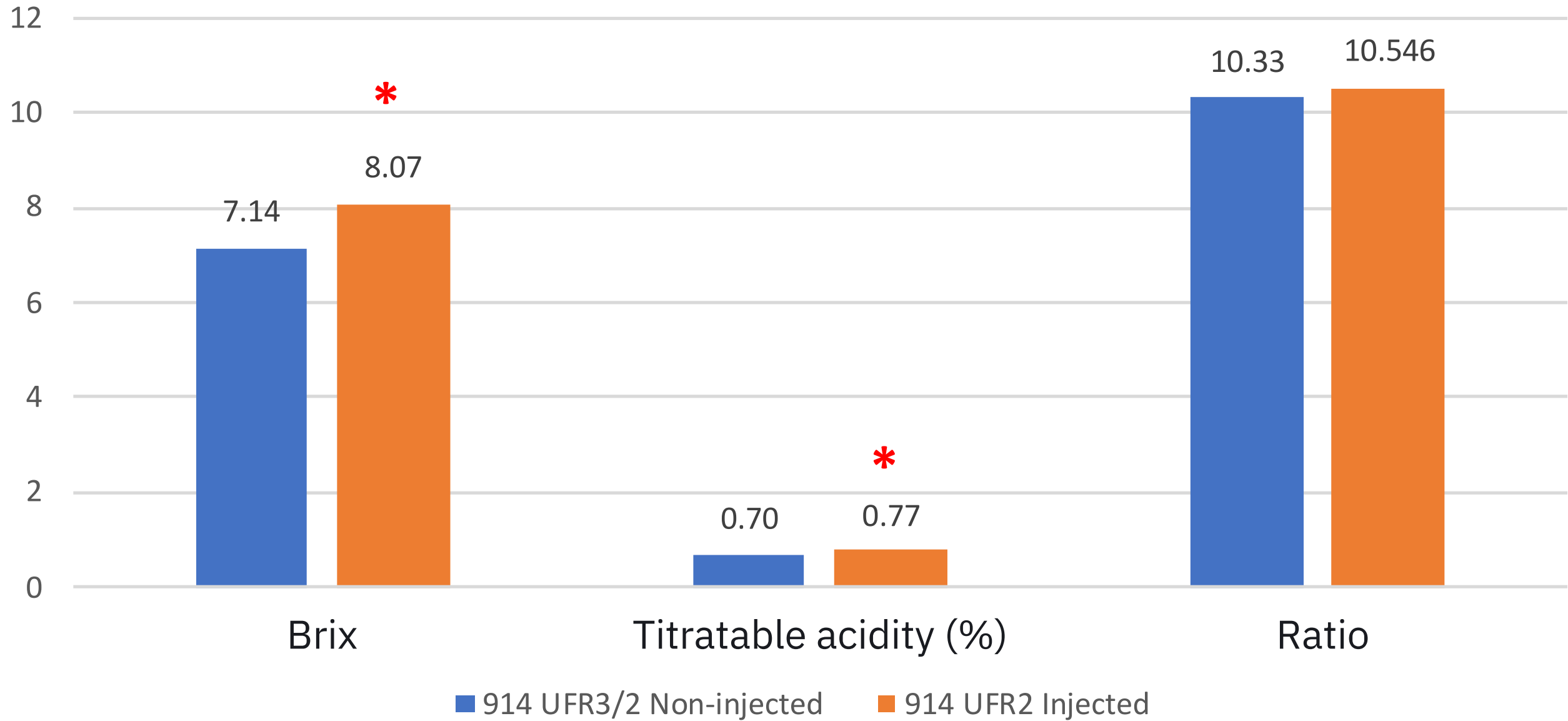


950 UFR17

Height, Diameter, Weight



914 UFR3 / UFR2 Brix Acid Ratio



OTC effects for Year 1

OTC positively affected Brix and/or Ratio for:

- 914
- Sugar Belle
- Greenie
- Marathon
- OLL-4, OLL-6, OLL-10, OLL-20
- B9-65 Valencia
- Other unreleased accessions (711, 12-2-33, etc.)

OTC effects for Year 1

OTC positively affected size and/or weight for:

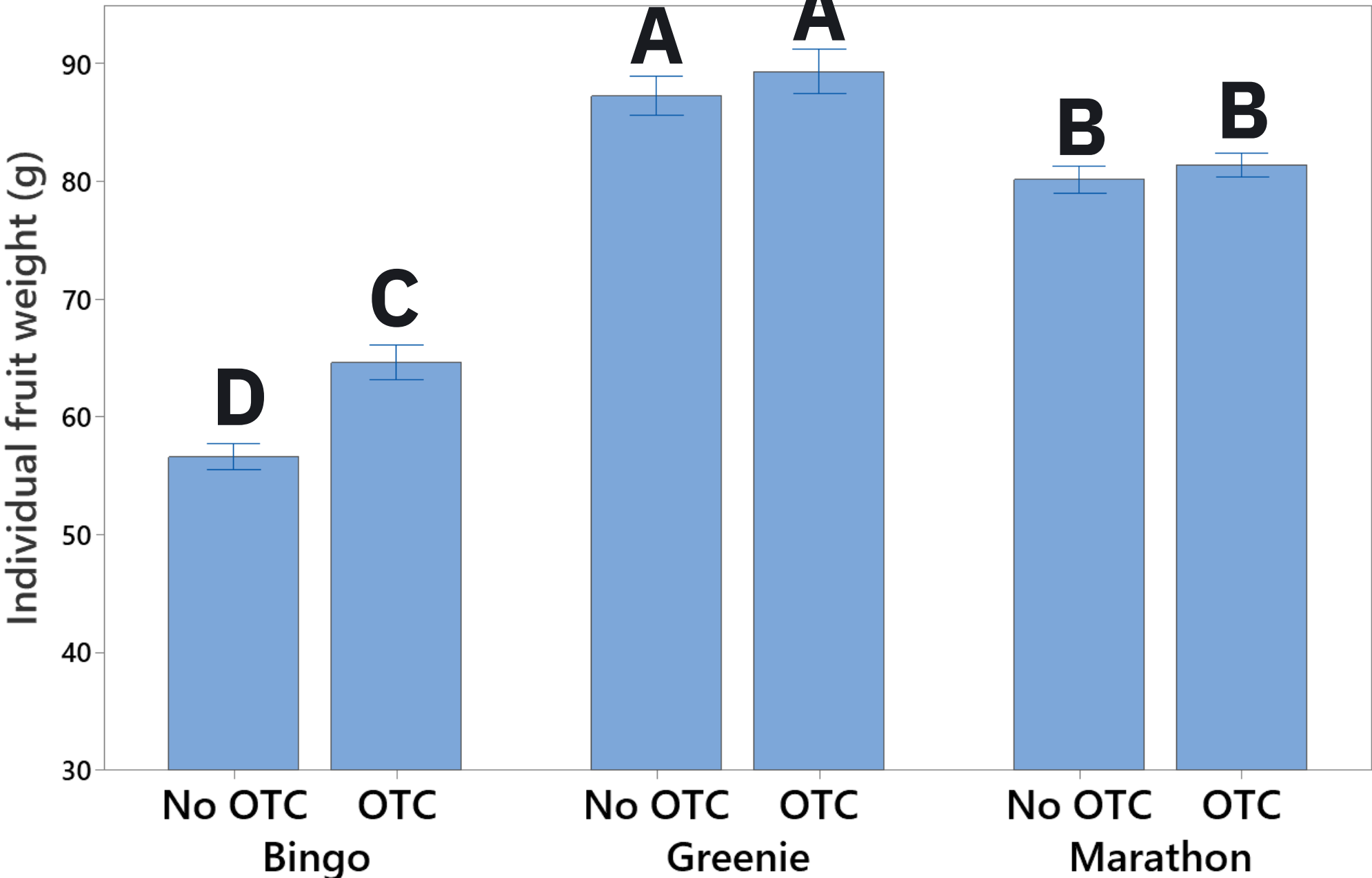
- 950
- Sugar Belle
- Bingo
- Greenie
- Marathon
- OLL-4
- B9-65 Valencia
- Other unreleased accessions



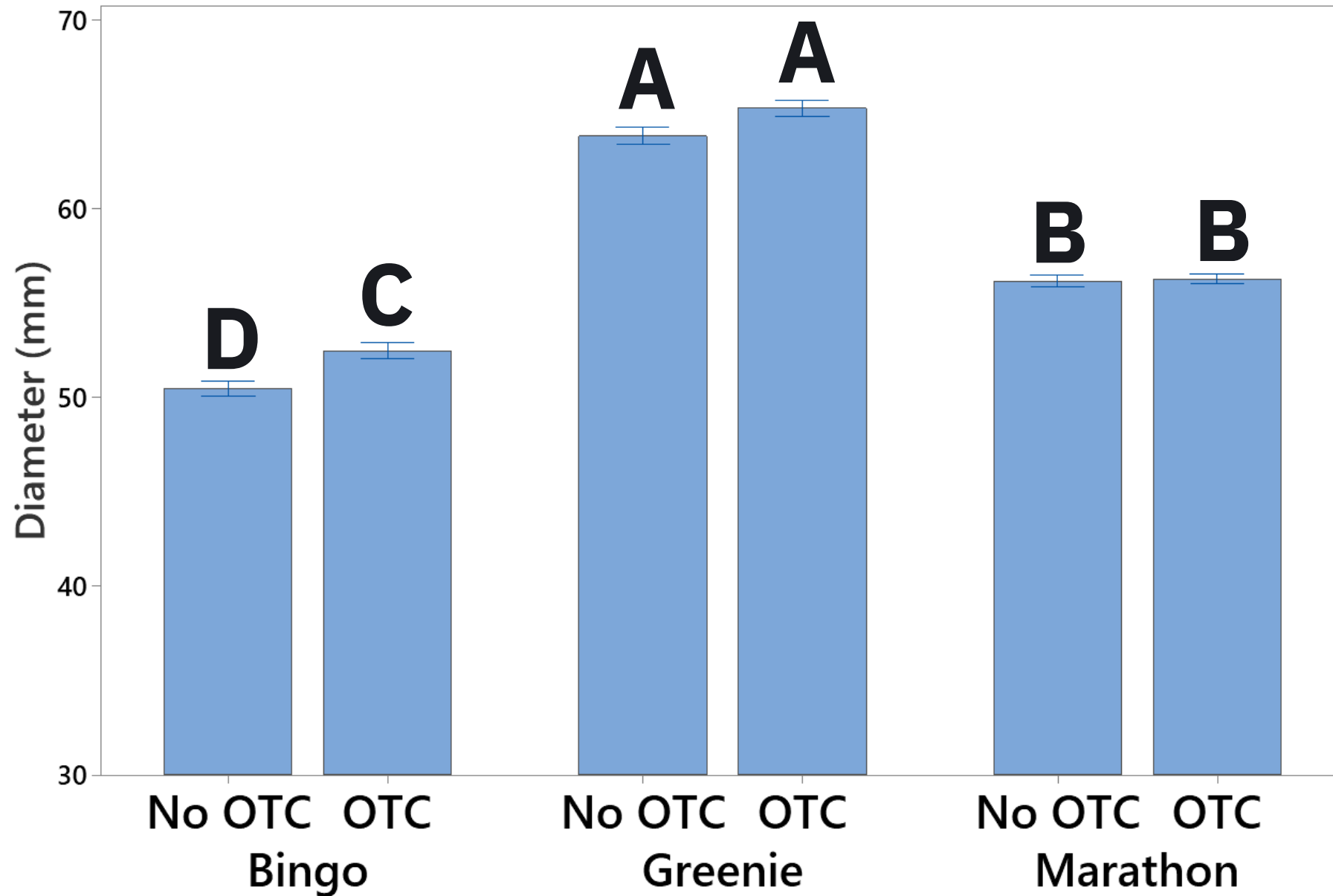
OLL-8 sweet orange



OTC trunk Injection positively increased ‘Bingo’ fruit weight



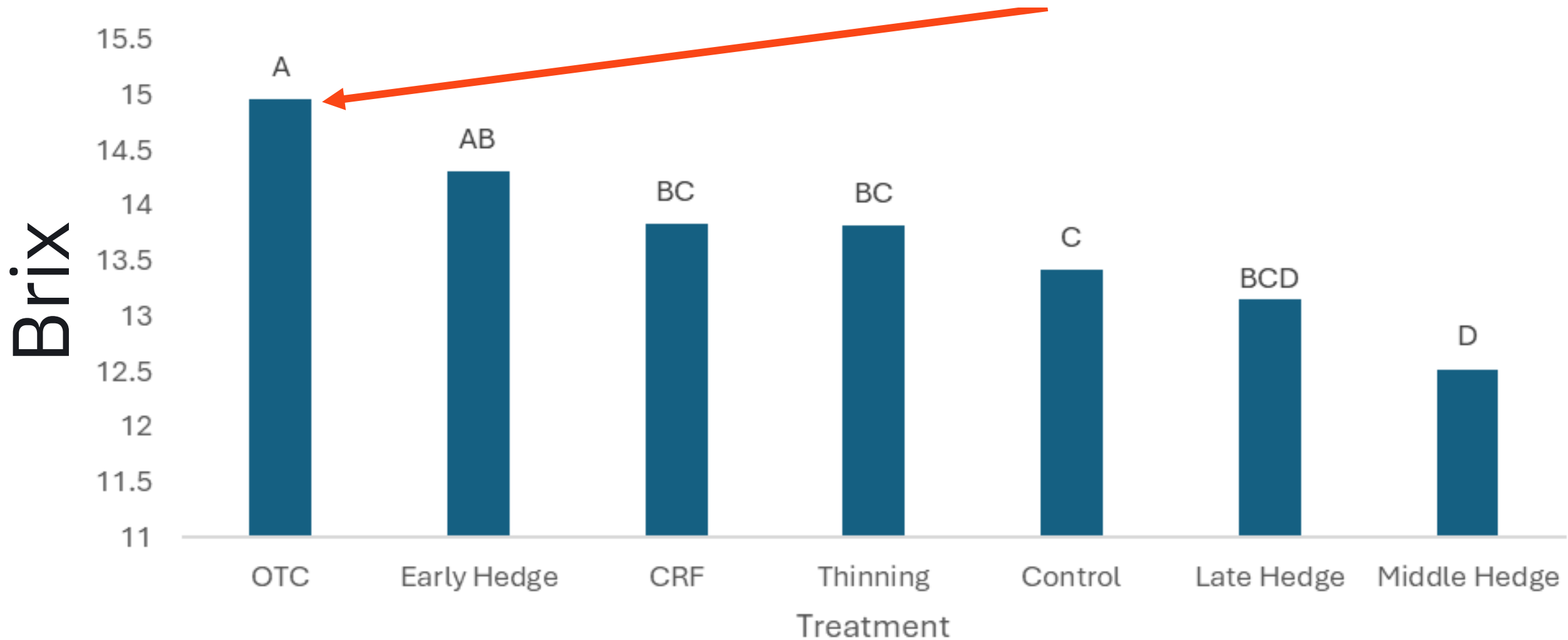
OTC trunk Injection positively 'Bingo' fruit size



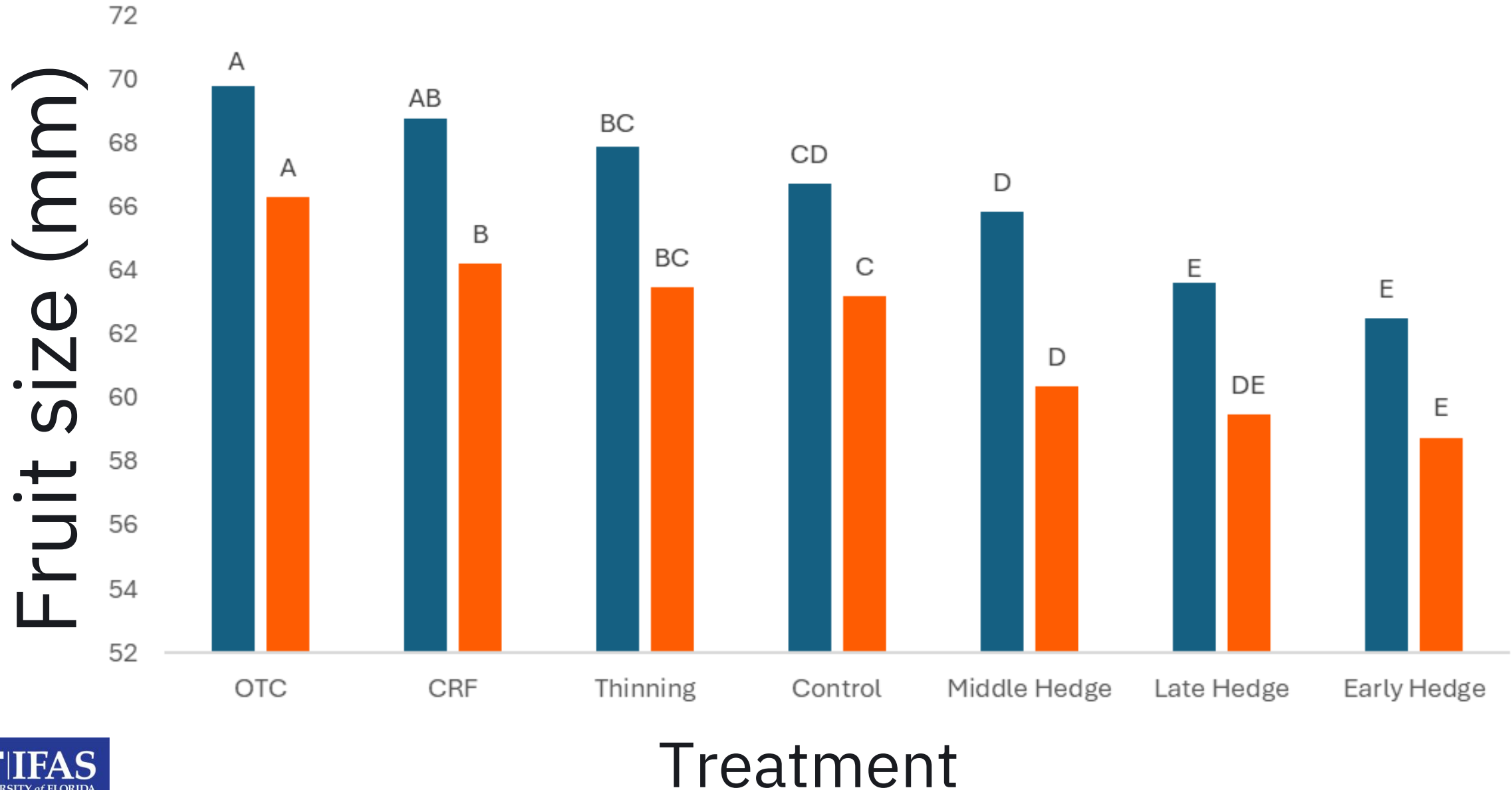
Sugar Belle soft fruit mitigation study

- Sugar Belle has been having soft fruit in Central and South Florida
- Some growers reported OTC worked for them, made packout with OTC
- Mickey Page reported hedging works, Dr. Grosser reported CRF works
- Growers and packers asked to inject Sugar Belle, so we set up an experiment with OTC, CRF, hedging, and thinning treatment. Injection was very late in season (October, w/ acetic acid; **OFF LABEL**).

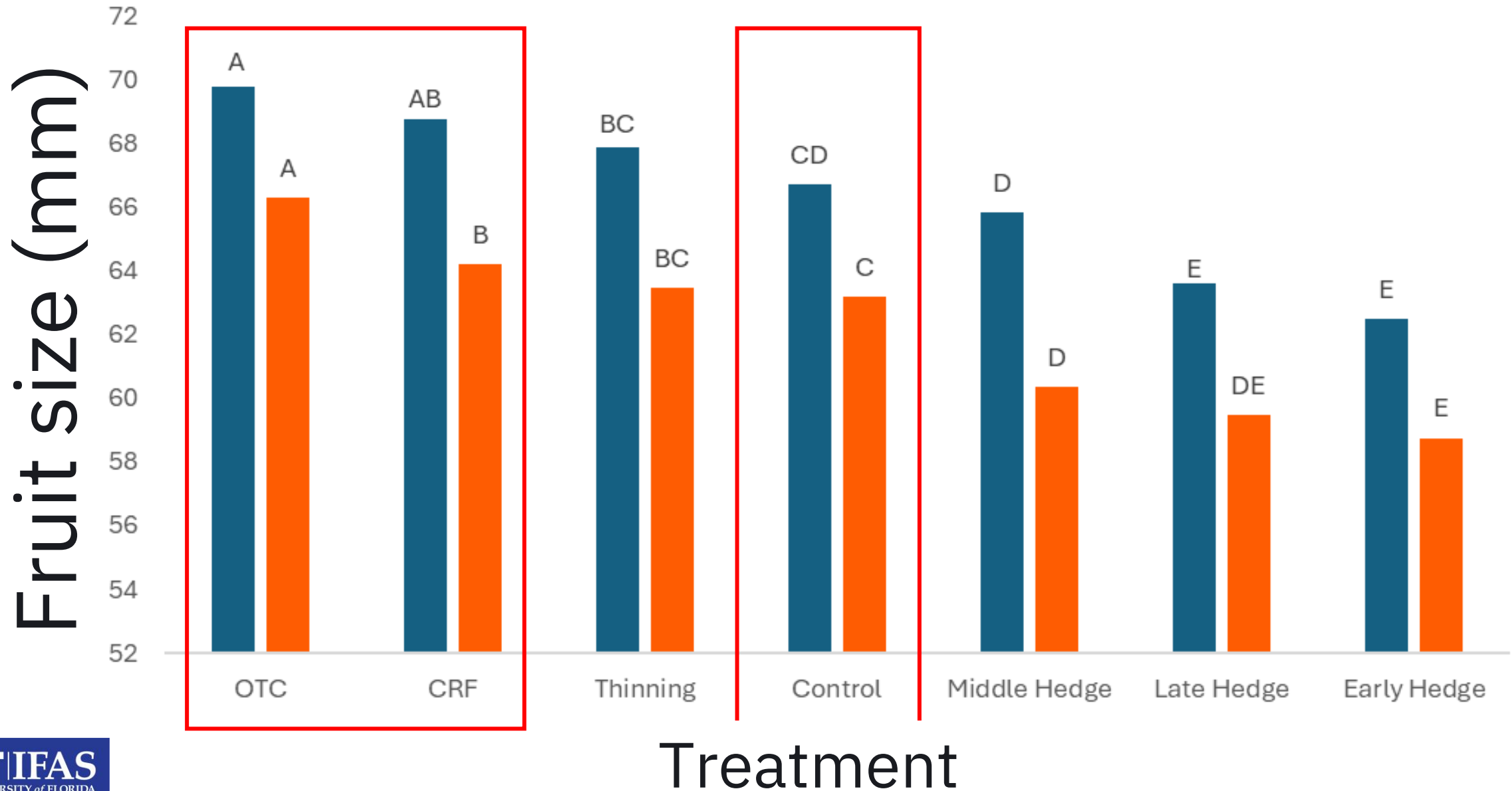
Sugar Belle averaged 14.95 Brix with OTC



OTC and CRF increased fruit equatorial (orange bars) and longitudinal (blue bars) diameter versus control



OTC and CRF increased fruit equatorial (orange bars) and longitudinal (blue bars) diameter versus control



Conclusions

- OTC trunk injection improves ratio and lbs-solids of OLL sweet orange budlines and can help fruit loads pass market testing
- OTC trunk injection has potential to increase fresh market quality traits, such as individual fruit size and weight in the HLB environment
- Economic analyses are crucial to determine economic impacts of OTC
- More data are needed for growers, packers and processors

Take home message

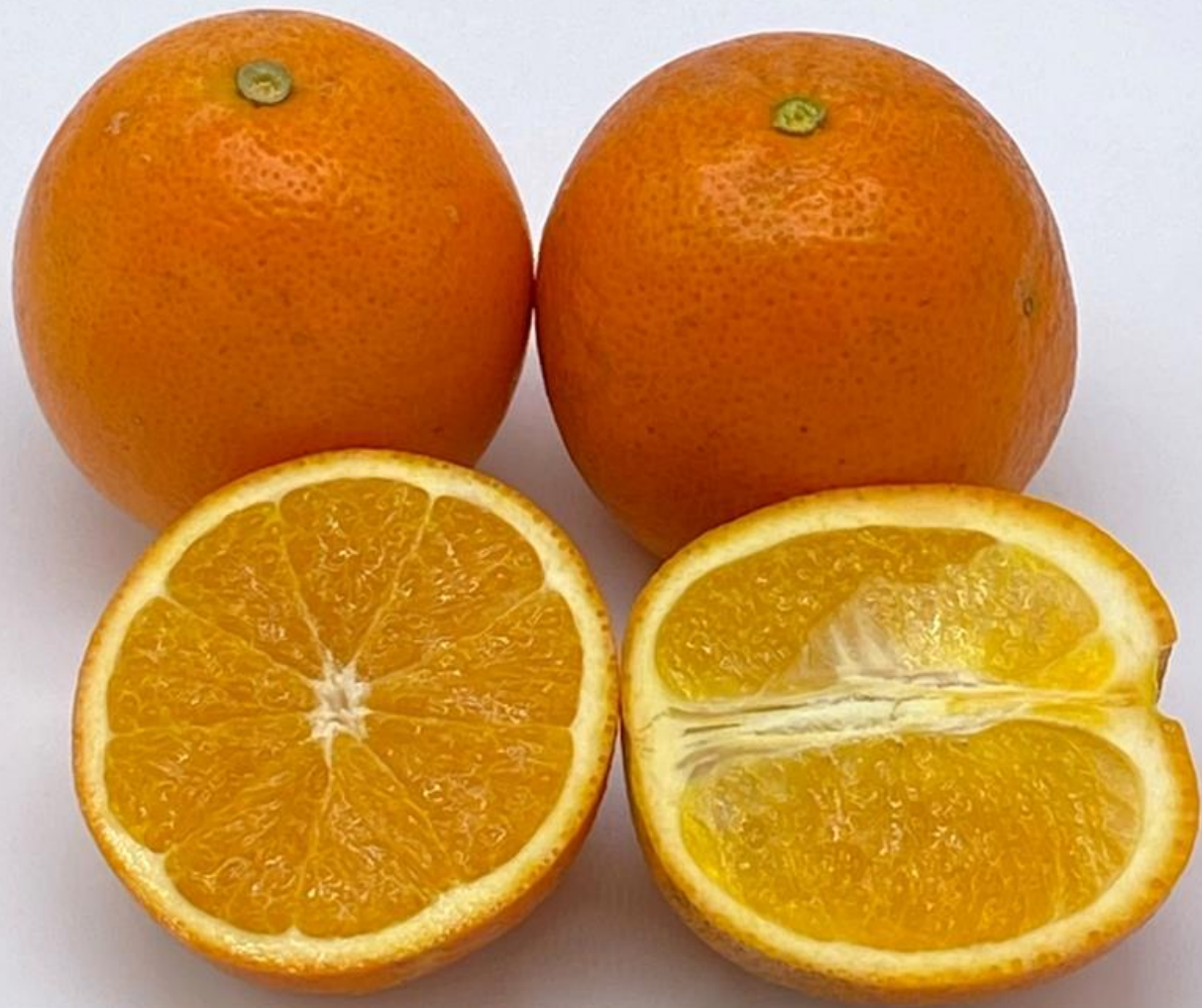
- OTC trunk injection can positively affect fruit juice quality of OLL-8 scions on different rootstocks
- OTC can affect fruit quality of fresh market selections
- Often OTC effects are not statistically significant, but effects may be meaningful to growers depending on economics
- Some rootstock-scion combinations appear to not be affected by trunk injections

New Releases from UF/IFAS Citrus Breeding

- **Sweet Oranges:** ‘OLL DC-3-36’, ‘OLL DC-3-40’, ‘Hamlin 14-10’, ‘Hamlin N13-32’, ‘N40-16-7-11 Valencia’
- **Orange-like hybrids:** ‘1859’
- **Mandarins:** ‘RES 19-56’, ‘RBA 13-18’, ‘C4-10-42’, Gator Bites

New Releases from UF/IFAS Citrus Breeding

- **Lemons:** 'CE-D5-1-9-42' Low-seeded Lemon, among others
- **Lime-like:** Fiestaville ('C4-5-14')
- **Grapefruit:** Crimson Queen 'N40-16-11-7'
- **Rootstock:** 'Orange 14'



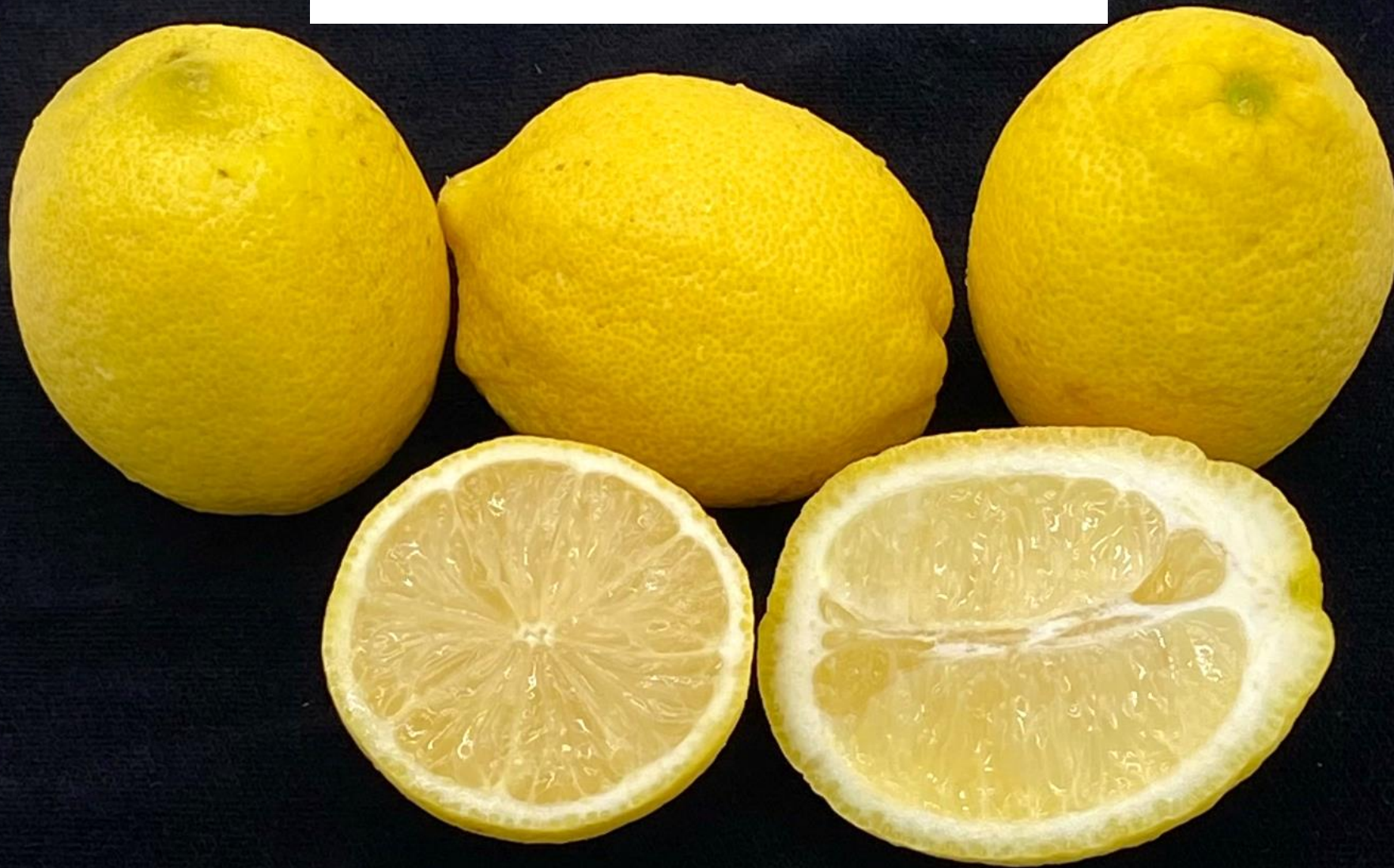
‘1859’





‘RES 19-56’

‘CE-D5-1-9-42’





‘RBA13-18’

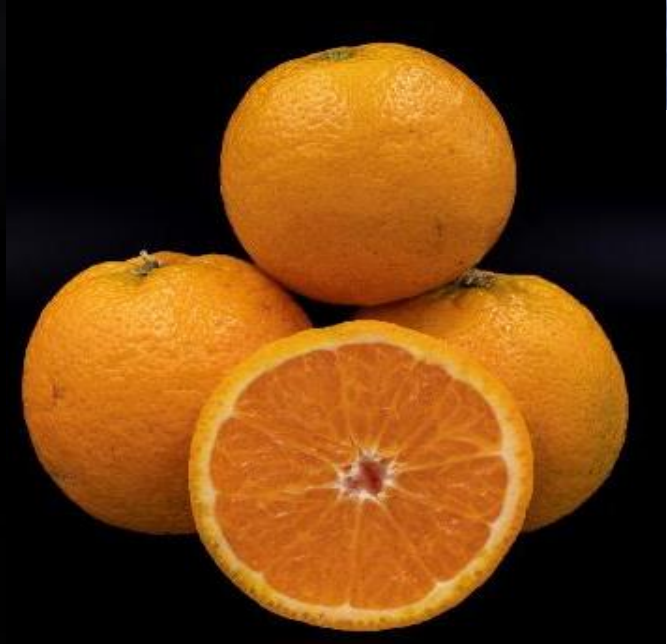
More IFAS Releases



KE-9-9



C7-12-18



C4-14-51



Valencia N40-16-7-11



Dark Red Grapefruit N40-16-11-7



Honey Murcott 18A-10-47



Cybrid Dancy KW-5-7

2025



Citrus Fall Field Days

Hosted by UF/IFAS Extension Polk County and UF/IFAS Citrus Research and Education Center

*Visit three different sites to view the latest promising scion and rootstock combinations in field trials. Each field day will begin at 8:30 am. **Registration is requested for each field day.***

SEPT 17: Private Grove; OLLs on different combos, new rootstocks

OCT 8: CREC; IPCs and CUPS

NOV 19: Eagle Lake viewing new selections including the new OLL DC lines.



Field Day #1 - September 17, 2025

UF/IFAS Citrus Research and Education Center
700 Experiment Station Road, Lake Alfred
Meet at UF/IFAS CREC and then caravan to
J. Griffin Properties in Haines City.

View OLL budlines on multiple rootstocks

In-field transportation will be provided.

<https://september2025fieldday.eventbrite.com/>

Field Day #2 - October 8, 2025

UF/IFAS Citrus Research and Education Center
700 Experiment Station Road, Lake Alfred

Learn the latest on protected cropping systems in citrus (CUPS and IPCs)

<https://october2025fieldday.eventbrite.com>

Field Day #3 - November 19, 2025

UF/IFAS Eagle Lake Block, Eagle Lake
Coordinates: 27.97356° N, 81.75966°W

Visit the site with multiple UF/IFAS-bred selections including OLL-DC-36 and OLL-DC-40

<https://november2025fieldday.eventbrite.com>

Thank you CRDF,
NVDMC, CDFA, and
USDA NIFA for funding



**Emily Worbington, M.S.
Biological Scientist**



**Joseph Volpe
Ph.D. Graduate Student**



jbator@ufl.edu