

The Latest on Trunk Injection

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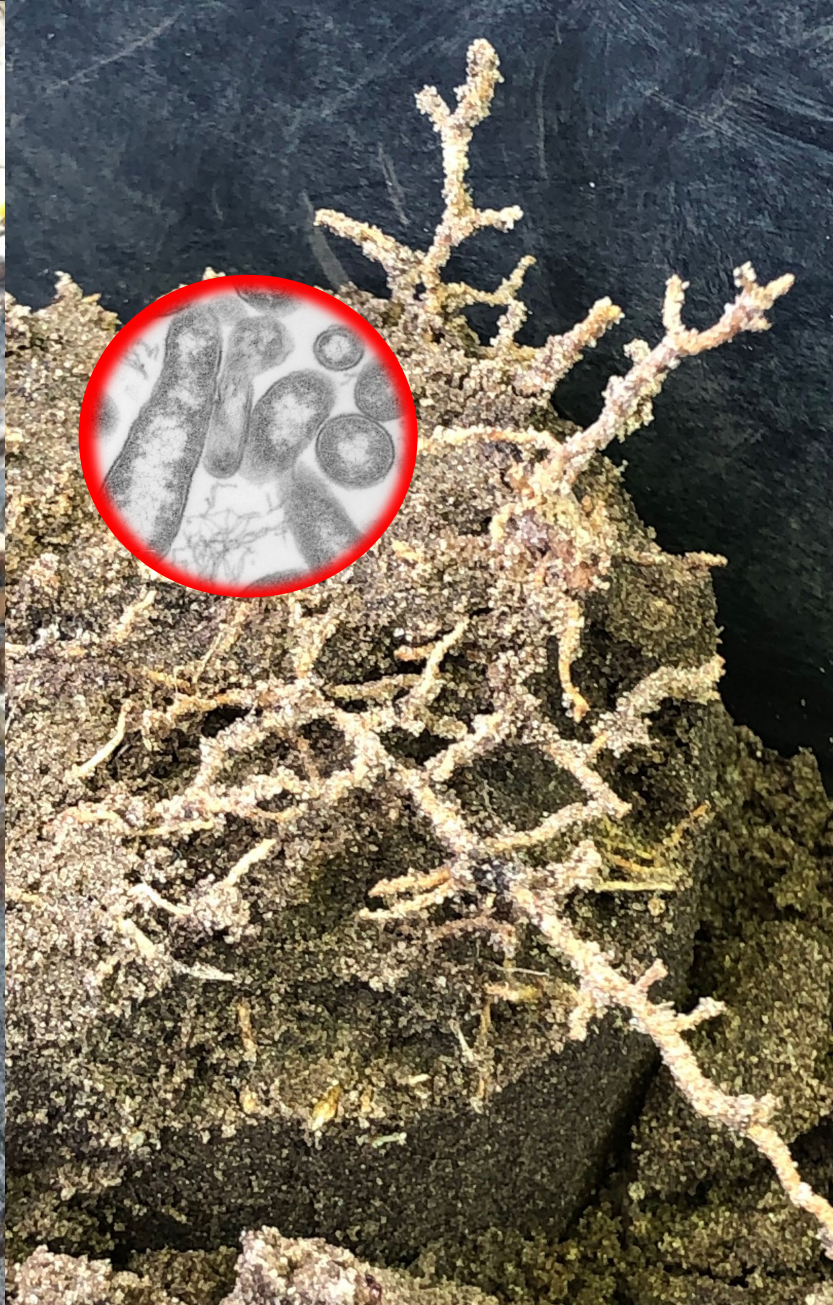
University of Florida/IFAS

Southwest Florida Research and Education Center

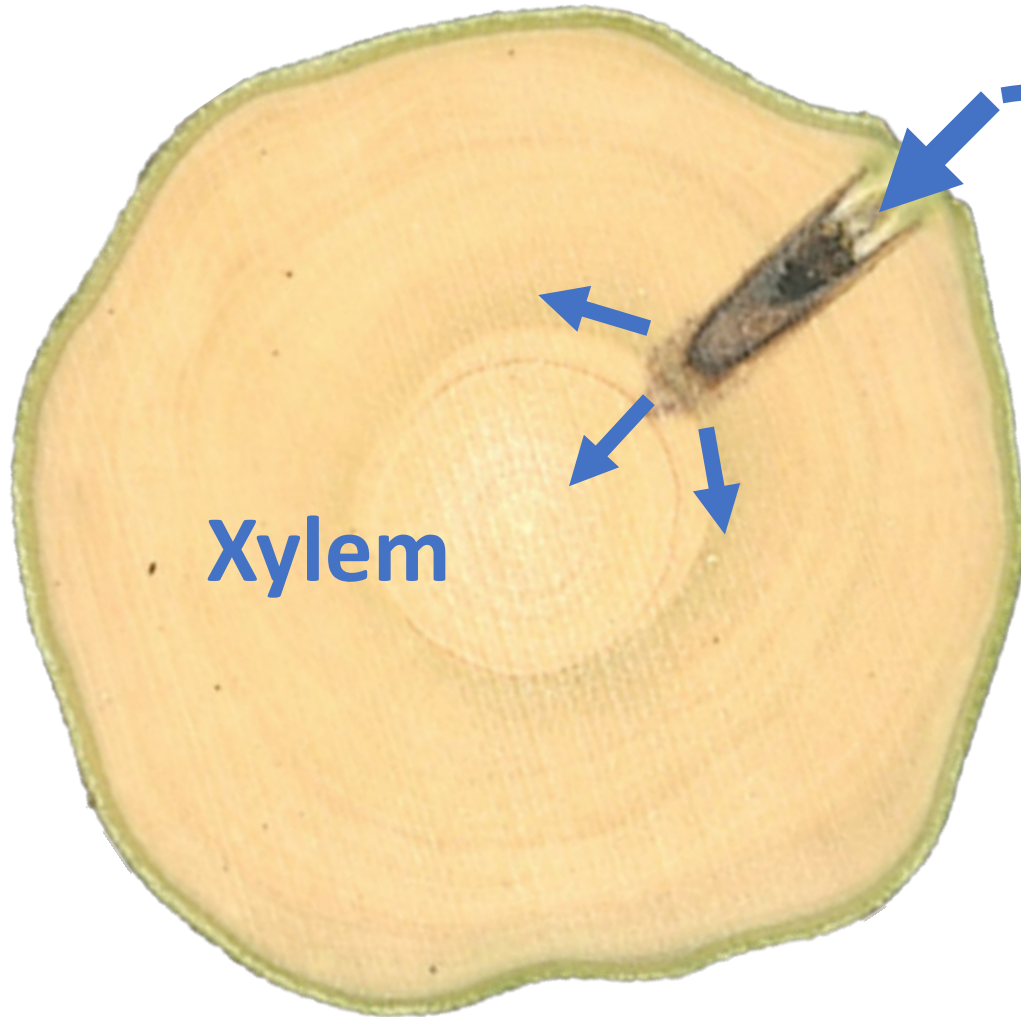
Citrus Expo – August 16, 2023



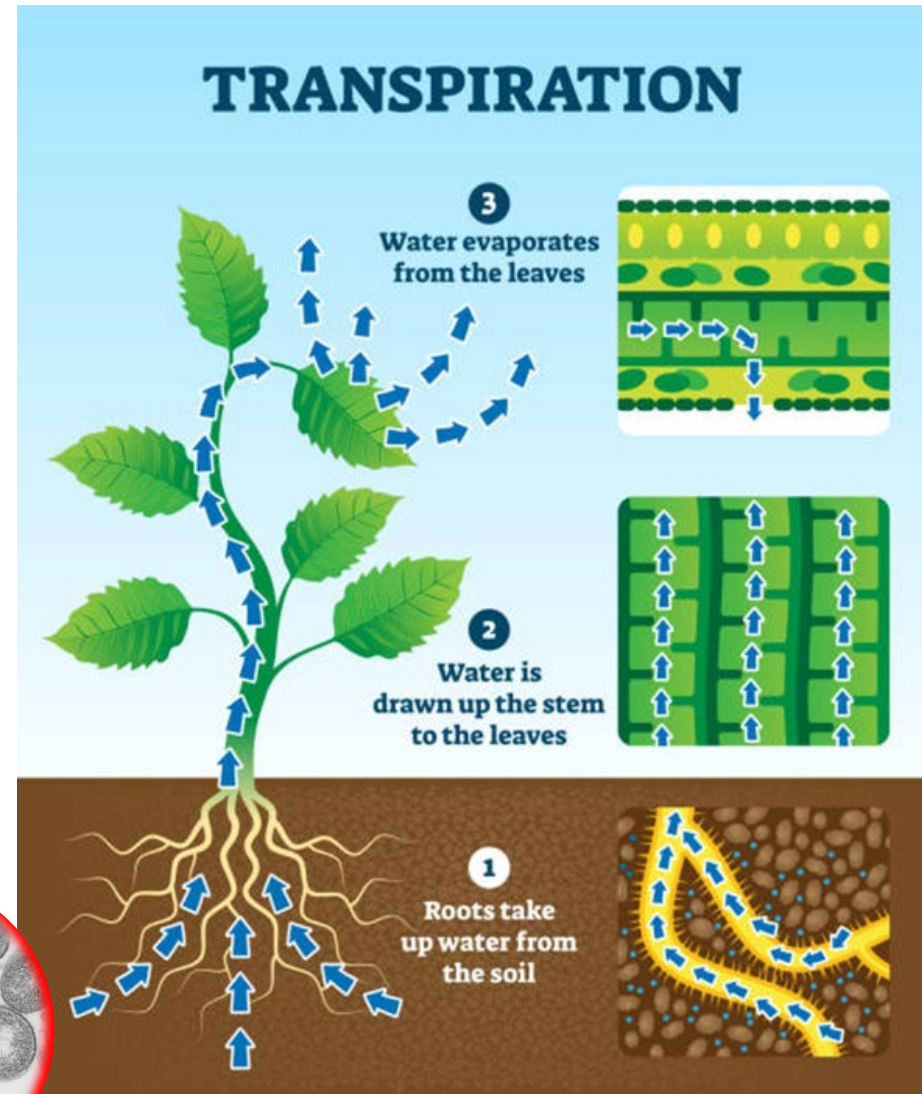
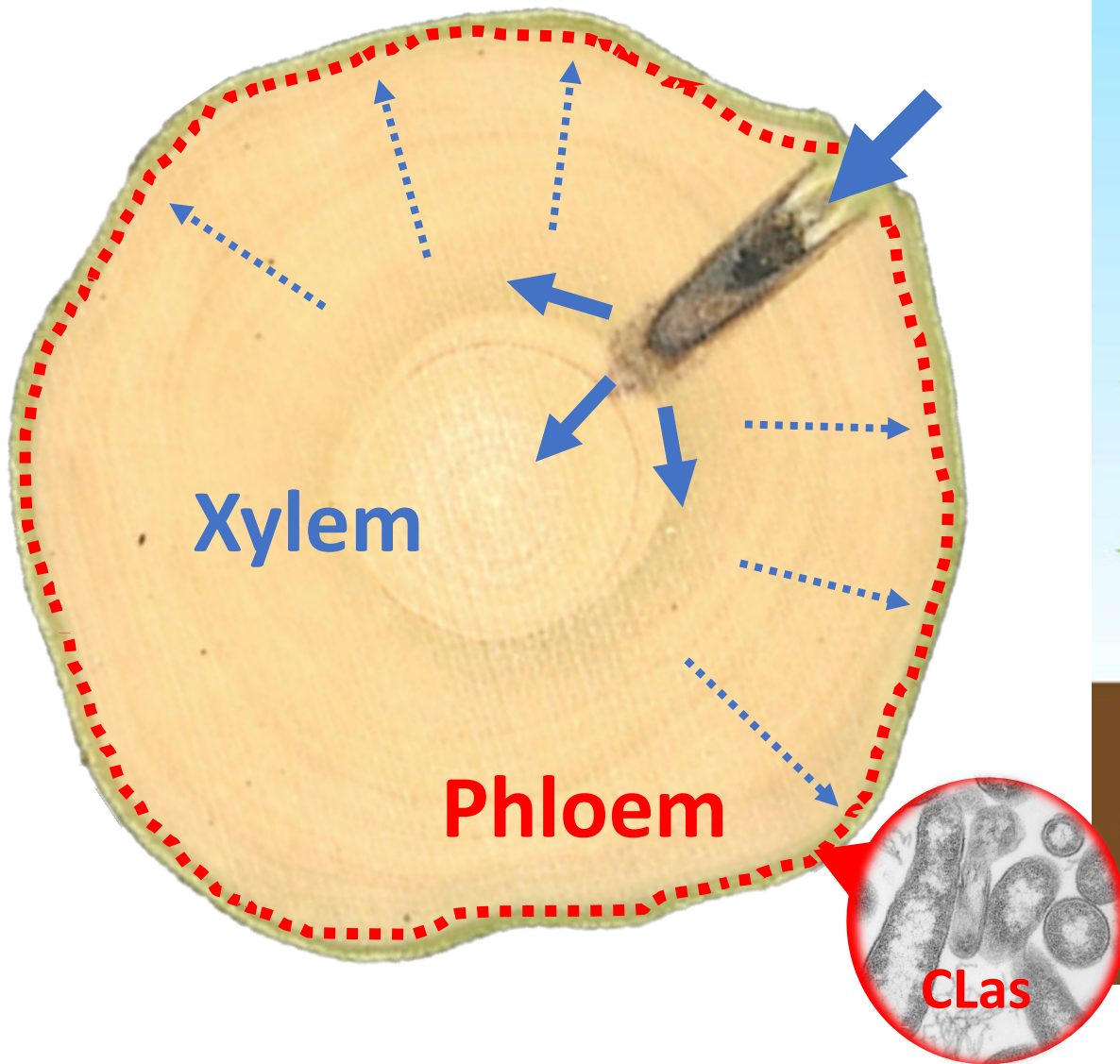
HLB IS A VASCULAR (SYSTEMIC) DISEASE



TRUNK INJECTION



TRUNK INJECTION

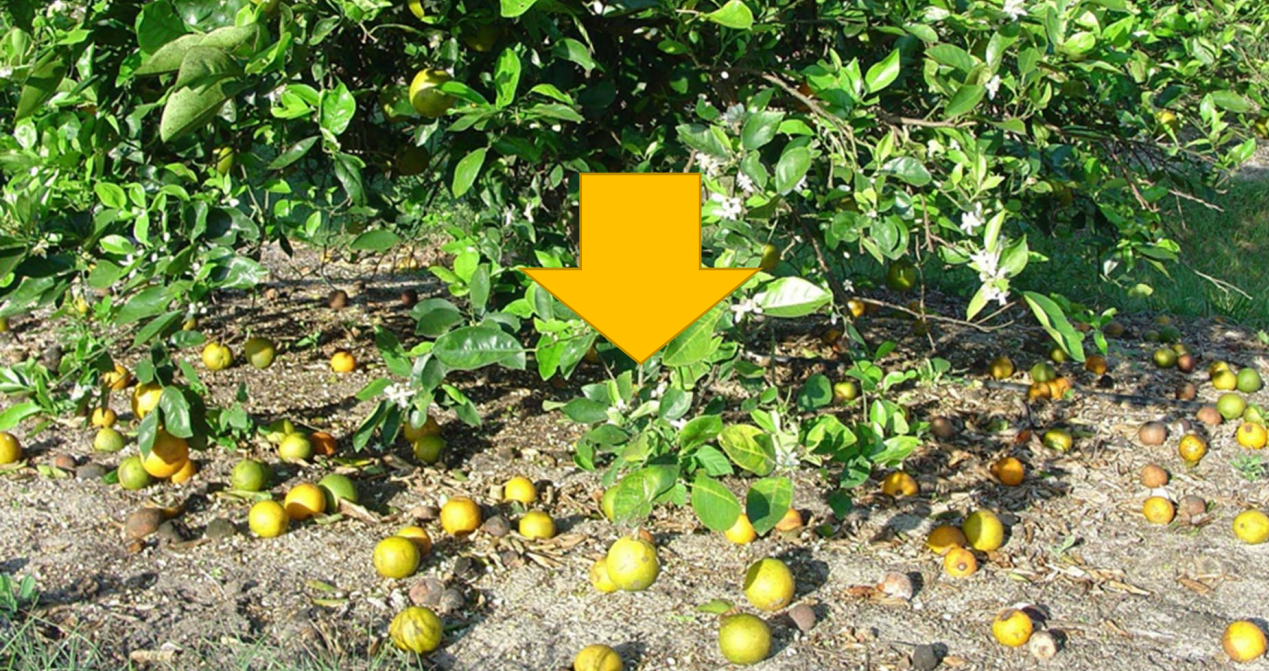


2020-2022 STUDIES



- Use of spring-loaded syringes (*Chemjets*)
- Injection on two opposite sides of the trunk (20 ml/side)
- Injection in the scion
- Active ingredient/tree: **0.79 g** (18,000 ppm) → *Arbor-OTC*

OTC EFFICACY



THE LABEL(S)

FIFRA Section 24(c)
Special Local Need Label

KW 10/28/2022

ReMedium TI®

For distribution and use only within Florida.

ReMedium TI® is a systemic injectable antimicrobial for the control or suppression of Huanglongbing (HLB, Citrus Greening) for Citrus Group 10-10.

OXYTETRACYCLINE GROUP 41 FUNGICIDE/BACTERICIDE

Active Ingredient

Oxytetracycline Hydrochloride*95.0%
Other Ingredients5.0%
Total 100.00%

*Equivalent to 87.9% Oxytetracycline

KEEP OUT OF REACH OF CHILDREN

CAUTION

See inside booklet for Additional Precautionary Statements,
Directions for Use and Restrictions.

Si usted no entiende la etiqueta, busque a alguien para que se la
explique a usted en detalle.

(If you do not understand the label, find someone to explain it to you in detail.)

Sec 24(c) Registrant:

EPA SLN FL220005

Exp. 12/4/2025

Net Contents: 165 Grams

Produced for:

TJ BioTech LLC

PO Box 21

Buffalo, SD 57720


EPA Est. No. 100305-IND-1

Lot No. XXXX

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FIFRA Section 24(c)
Special Local Need Label

RECTIFY™


1/30/2023

For distribution and use only within Florida

This labeling must be in the possession of the user at the time of the pesticide application

Rectify™ is a systemic injectable bactericide for the control of *Candidatus Liberibacter asiaticus* (CLas) or suppression of Huanglongbing (HLB, Citrus Greening) for Citrus Group 10-10.

OXYTETRACYCLINE GROUP 41 FUNGICIDE/BACTERICIDE

Active Ingredient:

Oxytetracycline Hydrochloride* 95.0%
• Other Ingredients 5.0%
Total 100.0%

*Equivalent to minimum 88.0% Oxytetracycline

KEEP OUT OF REACH OF CHILDREN

CAUTION

See inside booklet for Additional Precautionary Statements,
Directions for Use and Restrictions.

Si usted no entiende la etiqueta, busque a alguien para que se la
explique a usted en detalle.

(If you do not understand the label, find someone to explain it to you in detail.)

Sec 24(c) Registrant:

AgroSource, Inc.

PO Box 3091

Tequesta, FL 33469

EPA SLNFL230001

Expires 12/04/2025

Net Contents:

2.75 lbs. (1248 grams)

EPA Est. No. 65387-AR-2

Lot No. XXXX

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THE LABEL(S)

Label rates

Volume	BEARING TREES			NON-BEARING TREES	
	Trunk diam.	5,500 ppm	11,100 ppm	Trunk diam.	1,100 ppm
25 ml	2.15" – 3"	0.138 g	0.275 g	1.25" - 1.75"	0.0275 g ¹
50 ml	3" - 4.25"	0.275 g	0.55 g	1.75" - 2.125"	0.055 g ¹
100 ml	4.25" – 6"	0.55 g	1.1 g	Careful - may cause more harm than benefit	
150 ml	> 6"	0.825 g	1.65 g		

¹ can be injected twice a year

Ongoing Research



EAST COAST STUDY



Valencia/Sour orange

Planted in 2013

Av. Trunk diam. - 4.5"

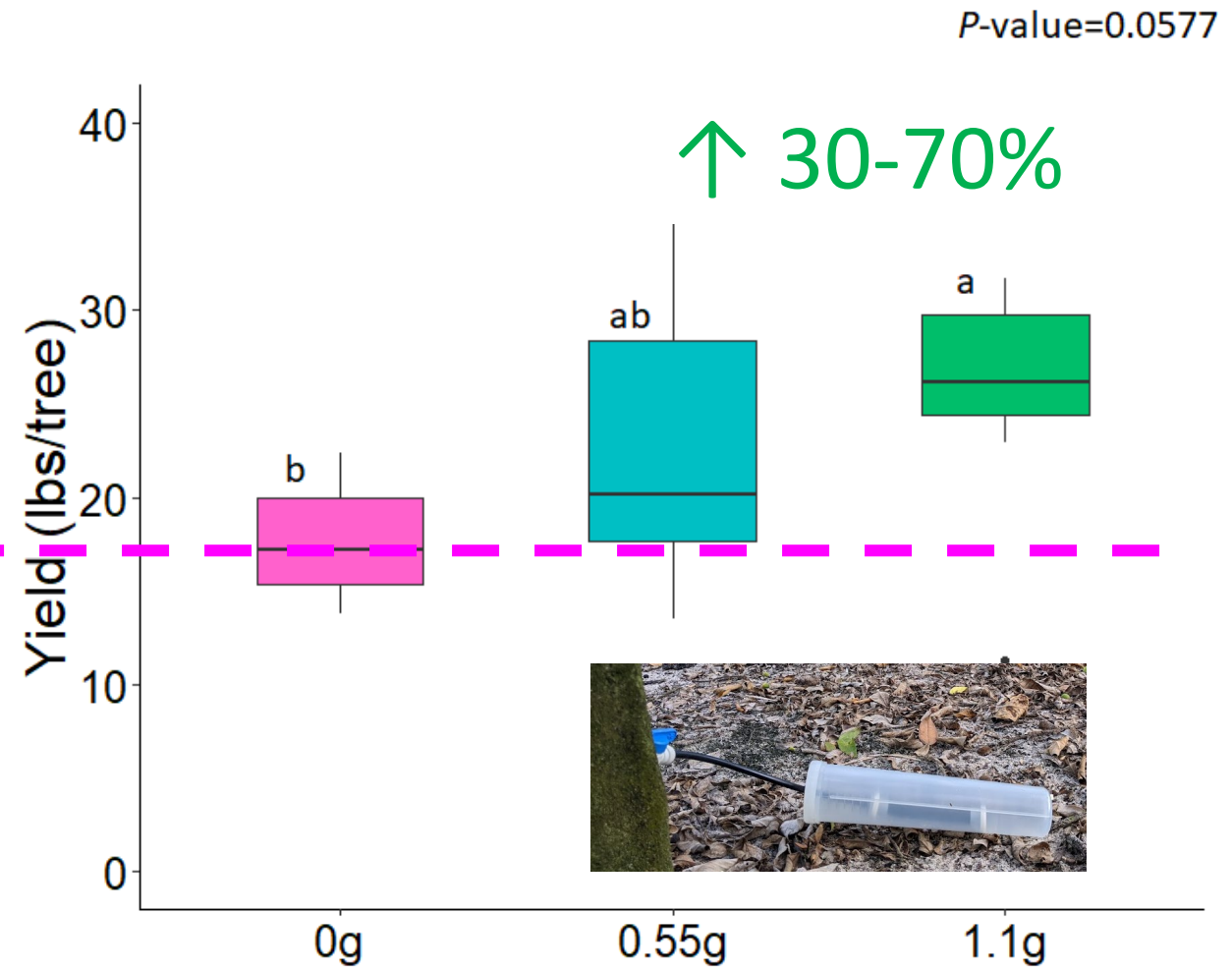
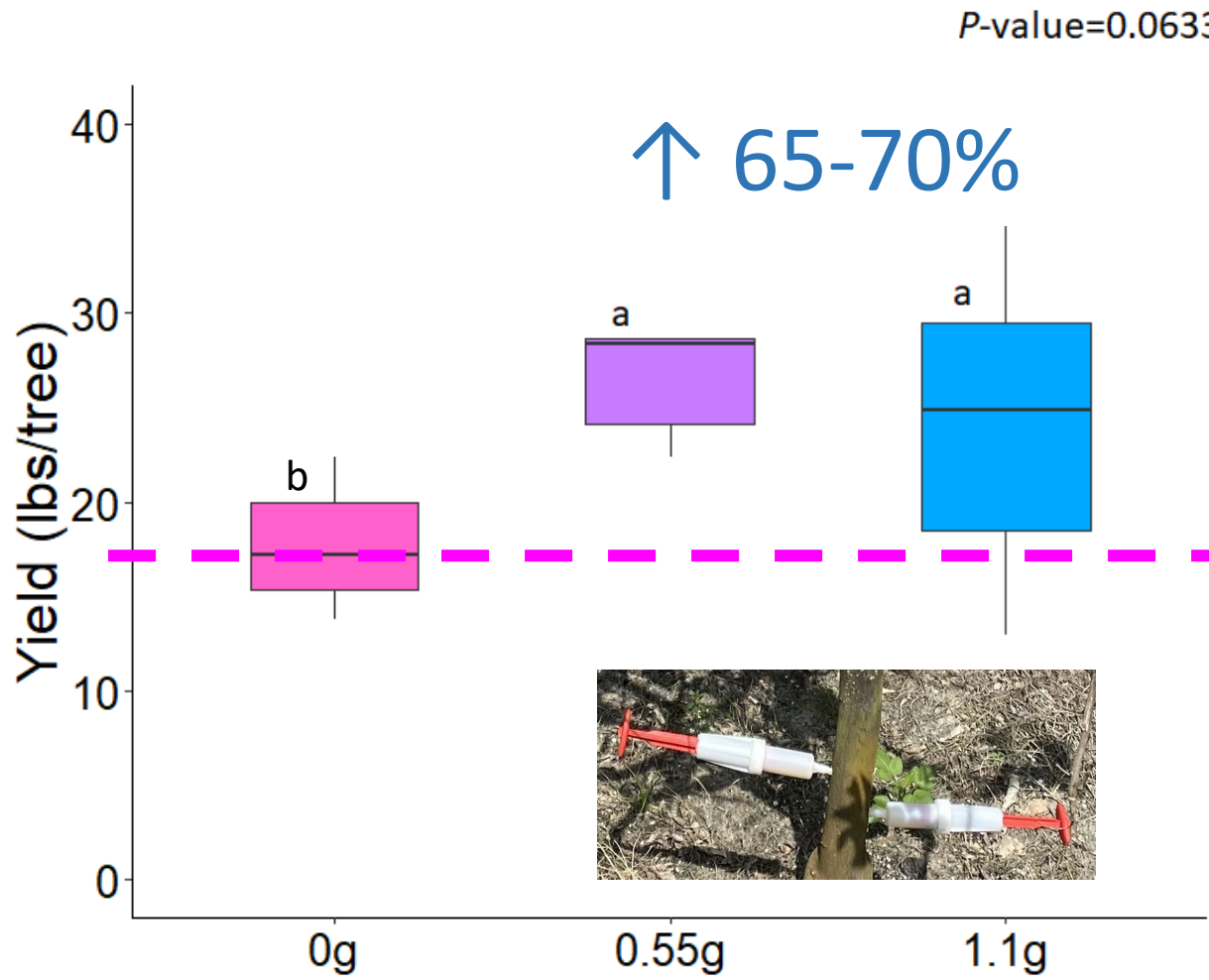


INJECTORS: Chemjets or FlexInject

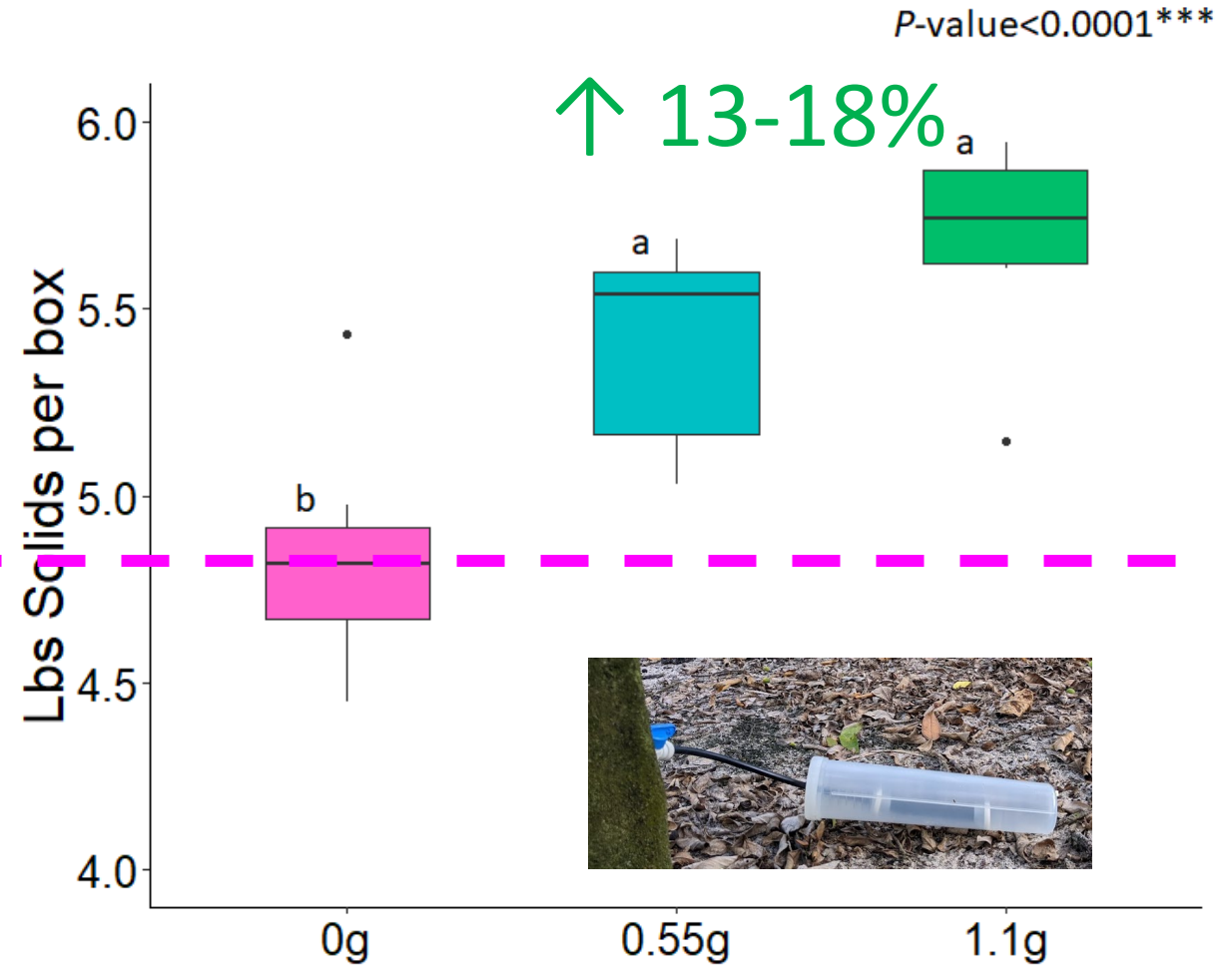
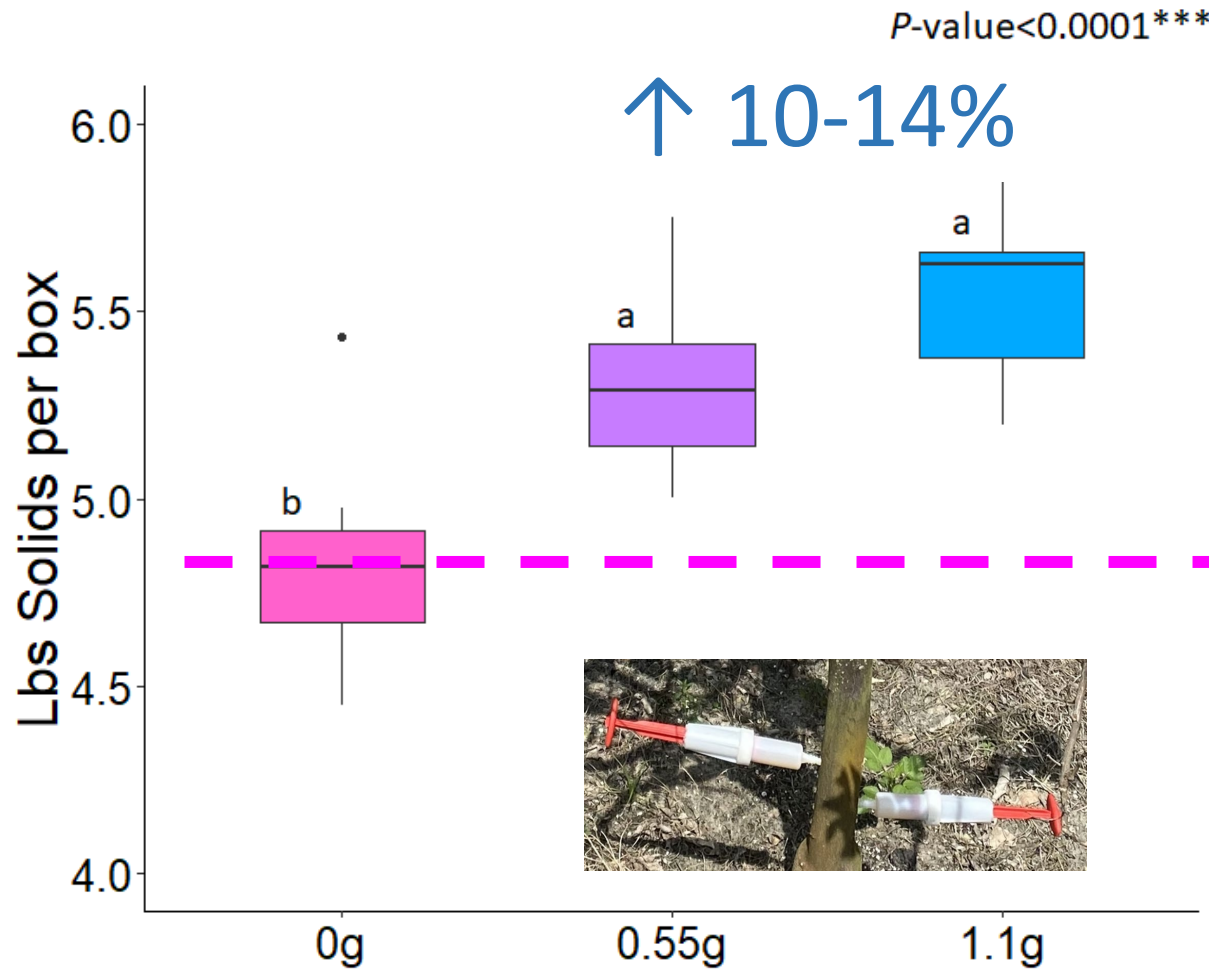
INJECTION TIME: June

OTC DOSE: **0.55 g** or **1.1 g** a.i. per tree

YIELD (3 April 2023)



POUNDS SOLIDS



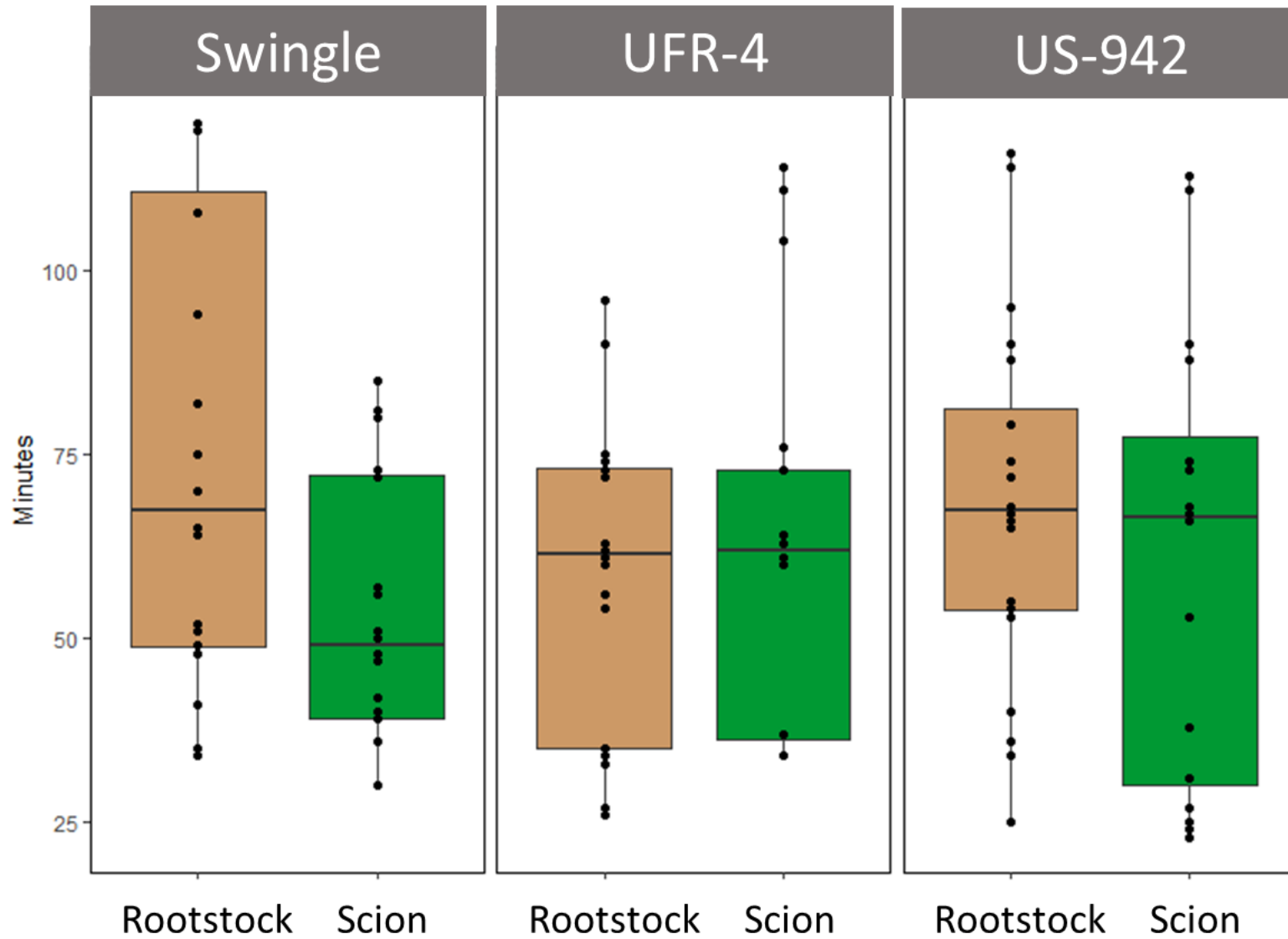
Rootstock injection



Scion injection



UPTAKE RATE



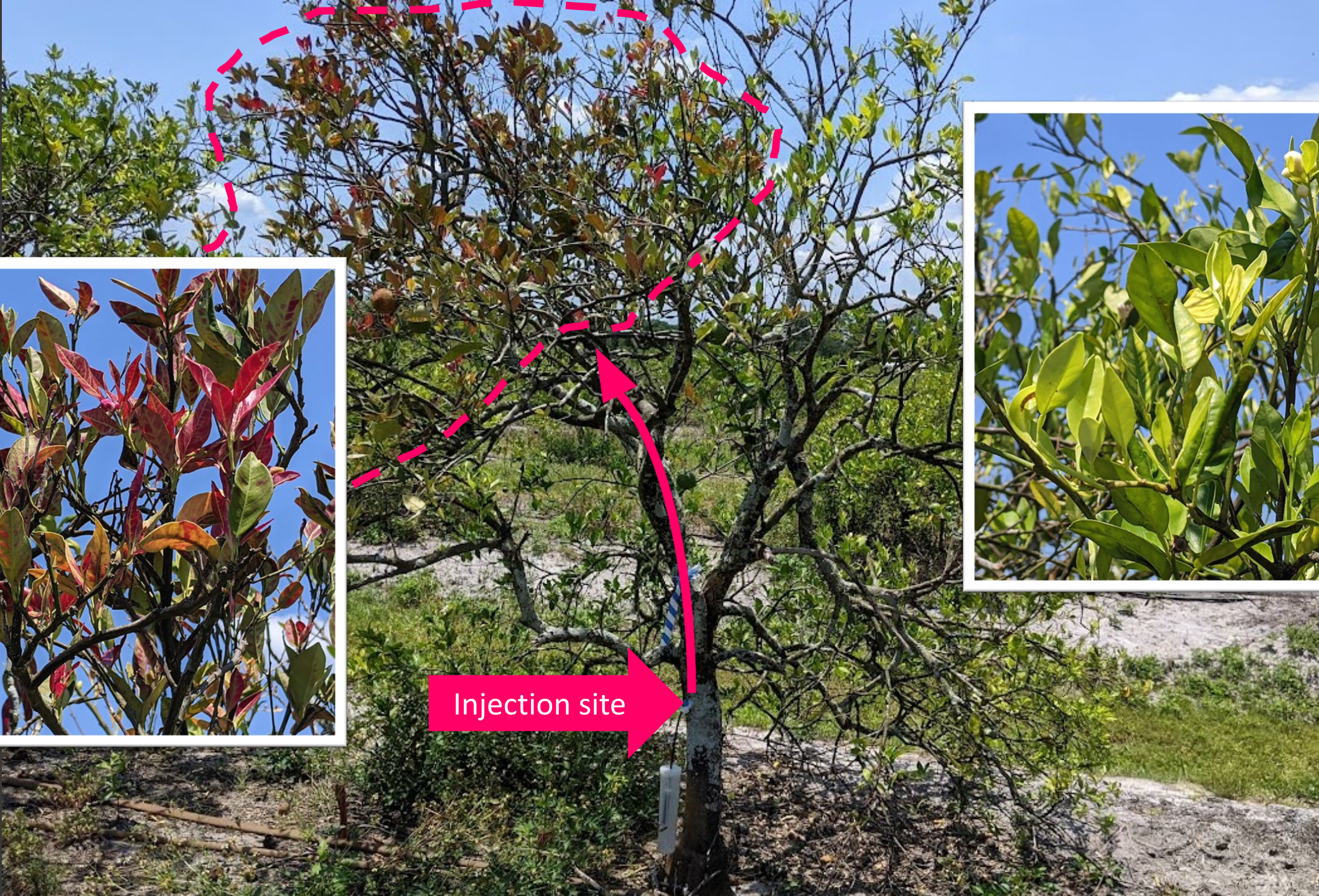
No significant
difference
between scion
and rootstock

DYE INJECTIONS



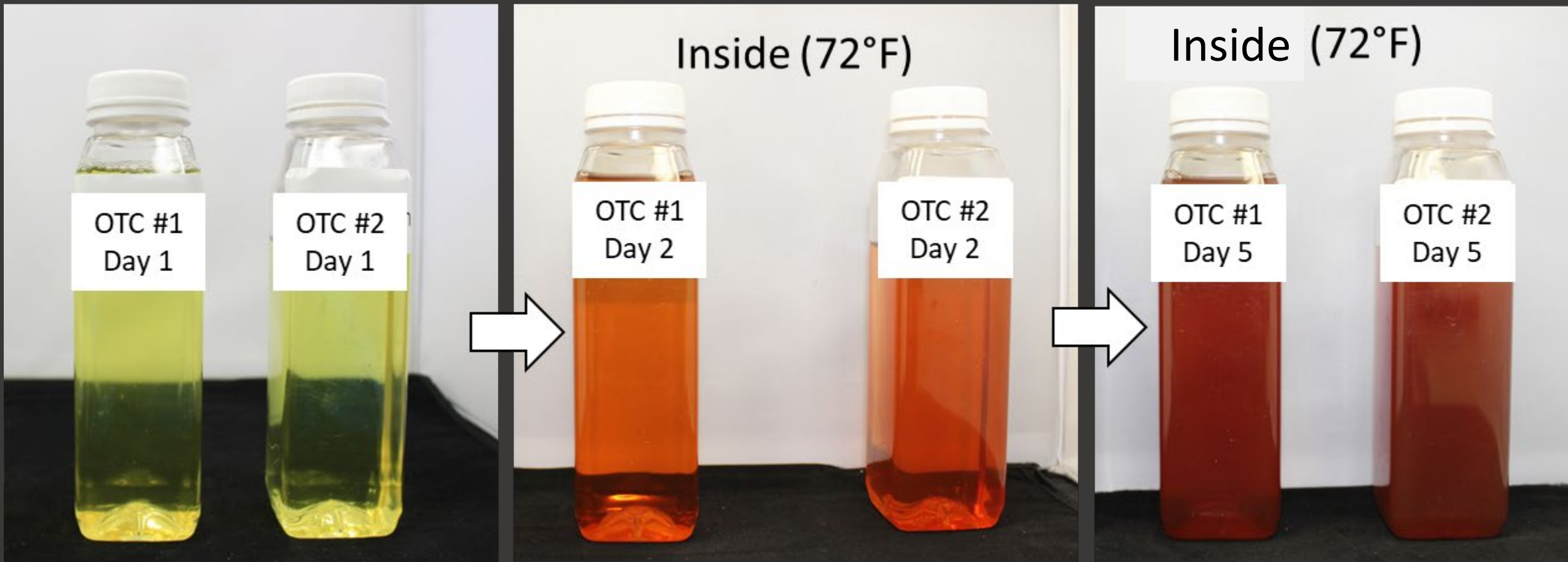


Injection site





Formulation storage – Inside



Formulation storage – Outside



Outside (80-90°F)

OTC #1
Day 2

OTC #2
Day 2



Outside (80-90°F)

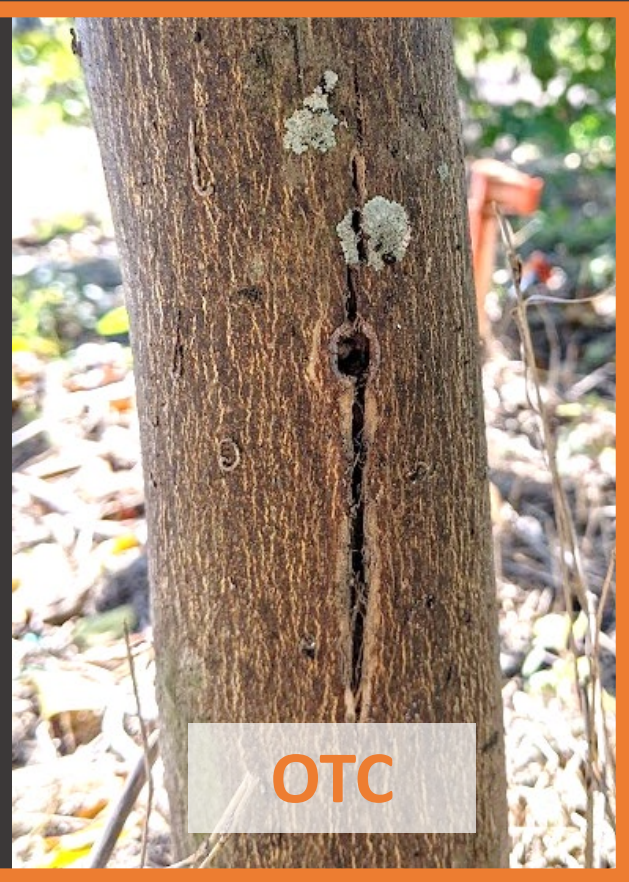
OTC #1
Day 5

OTC #2
Day 5

Tree Injury



OTC delays wound closure and increases the wound size



EXTERNAL INJURY

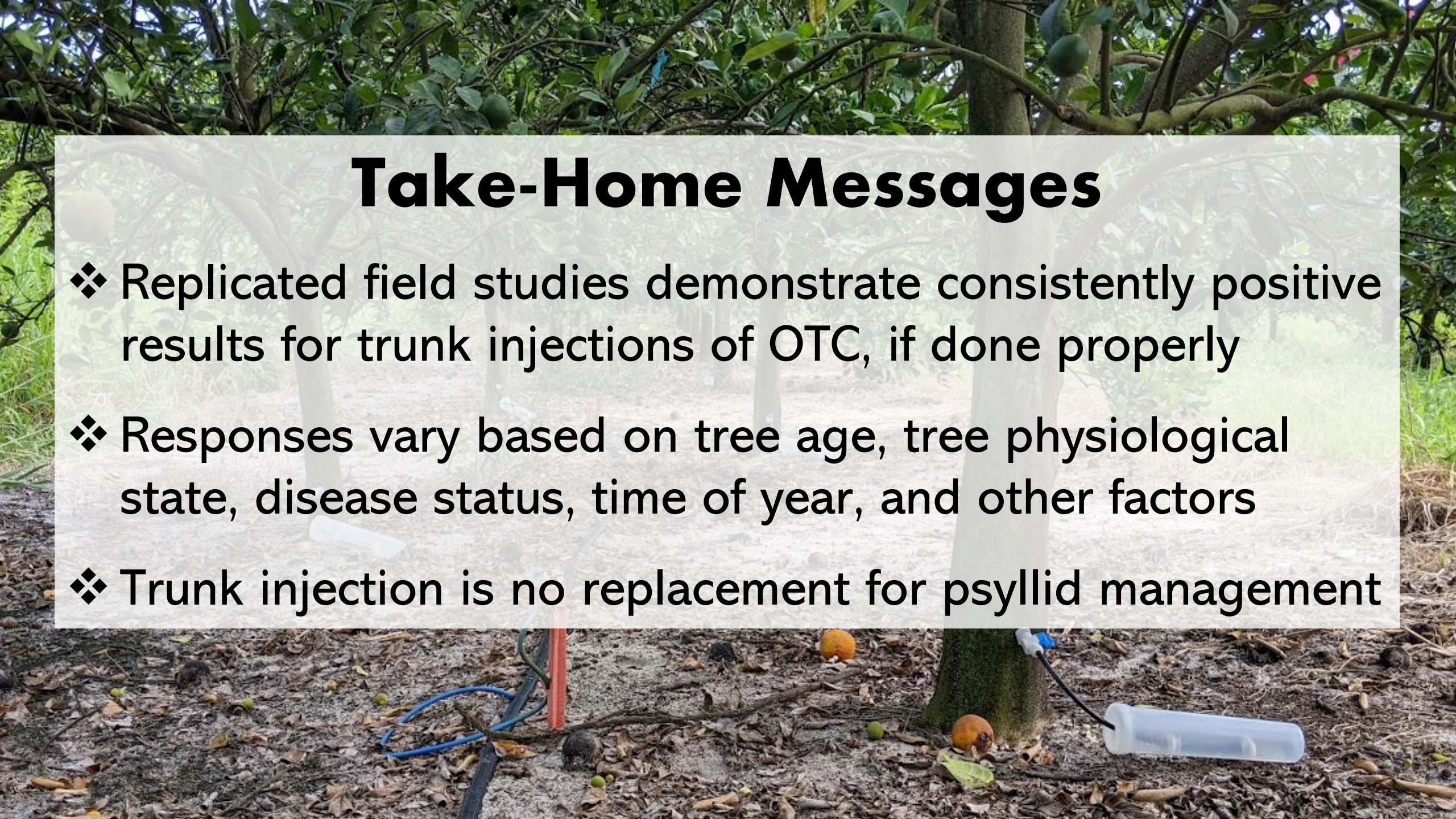


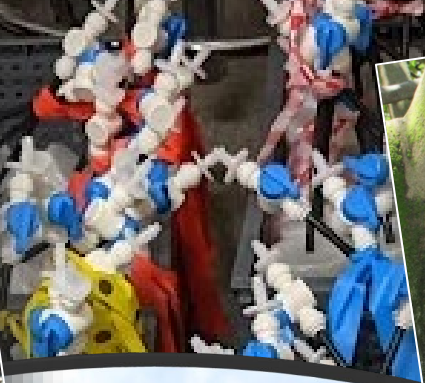
INTERNAL INJURY



Take-Home Messages

- ❖ Replicated field studies demonstrate consistently positive results for trunk injections of OTC, if done properly
- ❖ Responses vary based on tree age, tree physiological state, disease status, time of year, and other factors
- ❖ Trunk injection is no replacement for psyllid management





Thank You

USDA-NIFA 2019-70016-29096

USDA-NIFA 2021-70029-36056

CRDF 22-001, 23-002, 23-005

Grower Collaborators

