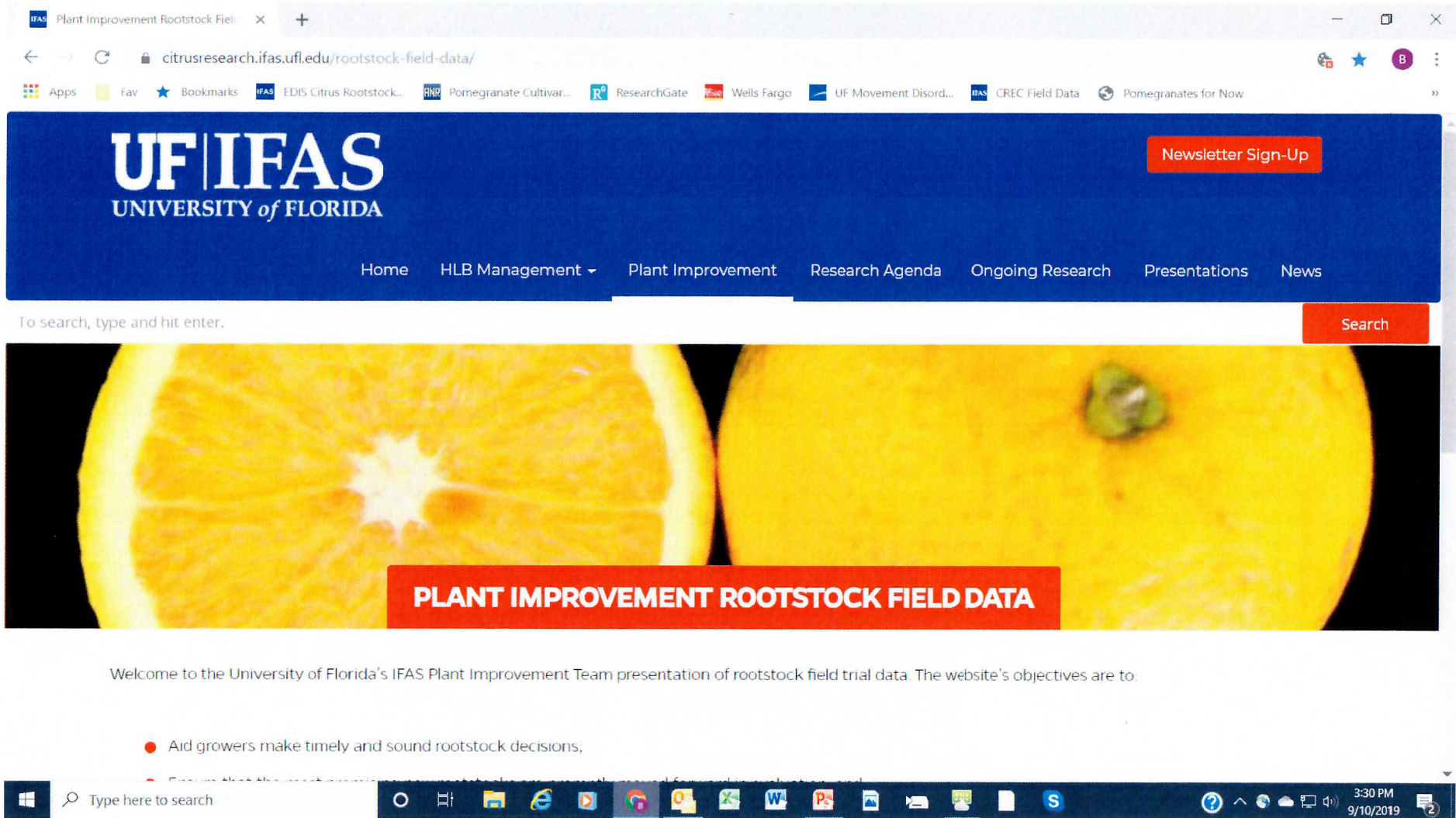# UF/CREC Plant Improvement Team: Taking Data From the Field to the Website*

Bill Castle, Jude Grosser, Fred Gmitter

* Presentation to CRDF Select Committee
on Plant Improvement, Sep 17, 2019

https://citrusresearch.ifas.ufl.edu/rootstock-field-data/

Welcome to the University of Florida's IFAS Plant Improvement Team presentation of rootstock field trial data. The website's objectives are to:

- Aid growers make timely and sound rootstock decisions,
- Ensure that the most promising new rootstocks are promptly moved forward in evaluation, and
- Enlist grower support in identifying promising rootstocks.

Presently, the Plant Improvement effort involves about 60 trials that are mostly conducted in cooperation with citrus growers, on their property and with their management, in locations throughout the State of Florida. The trials vary in age and design but overall are intended to focus on certain horticultural objectives [tree size, yield and juice and fruit quality] and tolerance to greening disease or Huanglongbing [HLB]. Data are collected and the website is updated annually. There are summaries of 10 trials currently posted with more to be added.

Improvements are highly desired. Please click on Site Feedback and provide your suggestions. To explore this website, click on:

List of Rootstock Trials

UF|IFAS
UNIVERSITY *of* FLORIDA
P.O. Box 110180 Gainesville, FL 32611-0180 | 352-392-1971

IFAS List of Rootstock Trials - UF/IFAS C ✕ +

← → C 🔒 citrusresearch.ifas.ufl.edu/rootstock-trials/

⊞ Apps Fav ★ Bookmarks IFAS EDIS Citrus Rootstock... ANR Pomegranate Cultivar... R⁶ ResearchGate Wells Fargo UF Movement Disord... IFAS CREC Field Data 🌐 Pomegranates for Now

Trial no.	Name	Location	Date planted	Scion
1	Basinger 'Vernia' Rootstock Trial	Highlands County	2006-2007	Vernia
2	Central Ridge Multi-Sweet Orange Scion Rootstock Trial	Polk County	2013	Hamlin, Valquarius, Valencia
3	Indian River 'Marsh' Grapefruit Rootstock Trial	Indian River County	2007	Marsh grapefruit
4	Indian River 'Vernia' Rootstock Trial	St. Lucie County	2011	Vernia
5	Indian River Lemon Rootstock Trial	Indian River County	2017	Lemon clones
6	Large-scale 'Hamlin' and 'Valencia" Rootstock Trials	Polk County	2015	Hamlin, Valencia
7	Multi-Sweet Orange Scion SW Flatwoods Rootstock Trial	Hendry County	2014	Valencia B9-65, OLL-8, OLL-20
8	Peace River 'Valencia' Rootstock Trial	Polk County	2017	Valencia
9	SW Flatwoods Sweet Orange Rootstock Trial	Hendry County	2014	Valencia B9-65, OLL-8, OLL-20
10	SW Florida Sweet Orange Rootstock Planting	Lee County	2014	Valencia B9-65, OLL-8, OLL-20

As of today, 15 trials posted.

IFAS Charlotte County Multi-Scion Root X +

C 🔒 citrusresearch.ifas.ufl.edu/charlotte-county-multi-scion-rootstock-trial/

⊞ Apps ▌ Fav ★ Bookmarks IFAS EDIS Citrus Rootstock... ANR Pomegranate Cultivar... R⁶ ResearchGate Wells Fargo ─ UF Movement Disord... IFAS CREC Field Data 🌐 Pomegranates for Now »

July 26, 2019

CREC Citrus Plant Improvement

Charlotte County Multi-Scion Rootstock Trial – Description

This trial was planted in the summer of 2014 SE of Arcadia along Highway 31 just inside Charlotte County. The primary objective is to evaluate Vernia, Valquarius, Valencia sweet orange and Ray Ruby grapefruit combined with the California C-Series [C-22:Bitters, C-54:Carpenter and C-57:Furr plus C-146; three hybrids FA5, FA13 and FA517 from the Forner program (Spain) and Willits citrange rootstocks. The scion-rootstock combinations are replicated 2-4x in plots of about 16 or more trees of each combination.

Charlotte County Multi-Scion Rootstock Trial – Summary

- Location: Charlotte County
- Scion – Rootstocks:
- Valquarius (5 rootstocks)
- Valencia (7 rootstocks)
- Vernia (4 rootstocks)
- Ray Ruby (4 rootstocks)
- Date Planted: May – July 2014
- Design:
  - Randomized Complete-Block Design with 2-4 replicates
  - Plot size: 16 or more trees
  - Spacing: 12.5 x 25 ft. (mostly)
- Data collected:
  - 2017-18: Tree Yield, Tree Size and Tree Health Ratings
  - 2018-19: Tree Health Rating
  - 2018-19: Yield (Val, Ver, Valq)

2018-19 Charlotte County Multi-Scion Rootstock Trial –Yield [Boxes/tree] – Mean + Std.Dev

Valencia and Vernia
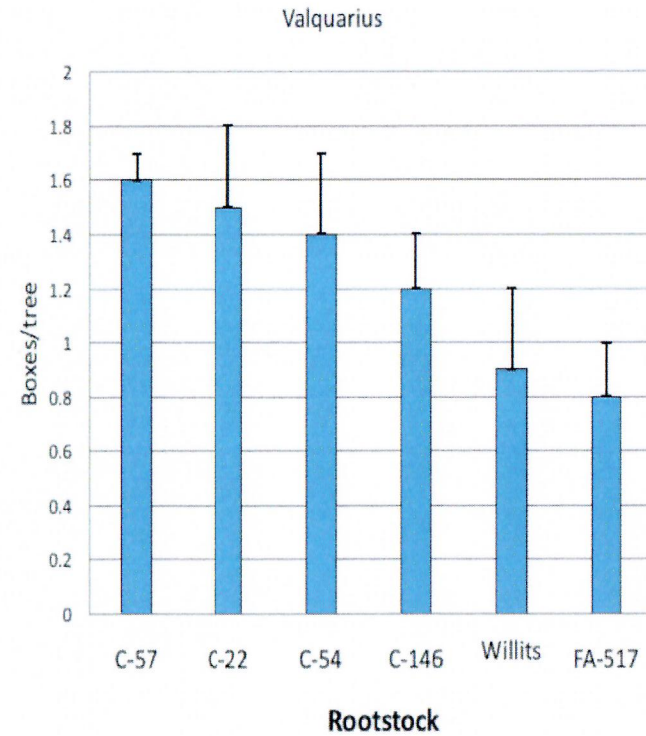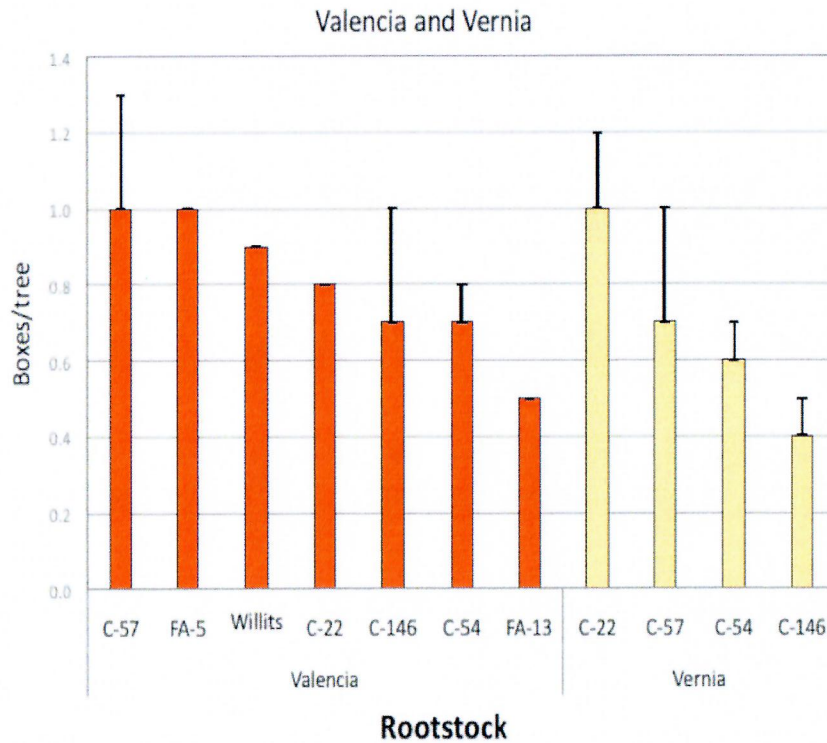
Valquarius

Valencia: C-57, FA-5, Willits, C-22, C-146, C-54, FA-13 Vernia: C-22, C-57, C-54, C-146 Valquarius: C-57, C-22,C-54, C-146, Willits, FA-517

How do we get from the field to the website?

It begins with these three people who form our field team:

- ## Misty Holt [Coordinator]
- ## Ian Debarry
- ## Darien Suggs
- *MISSION – Starting in the 2018-19 season, collect 4 consecutive years of high quality yield, juice quality, and tree health status and height data from all field trials.*
- *Mission status:*
  - *Debugging.*
  - *Refining established protocols for standardization in all field data collection and rating systems.*

Next, everything from the field goes into our computer INBOX for processing by our data manager, Dr. Filomena Valim.

Her job entails these primary activities:

1. *Process existing and new annual data and information.*

2. *Prepare and submit website postings.*

Basic Website Objectives

- Present relevant data and assessments.
- Present data in such a manner as to allow an easy understanding of the big picture for a given trial.
- Clarity and conciseness.

Basic Website Components [a mixture of measured and calculated variables]

- All presentations are primarily graphical.
- Yield: annual, cumulative.
- Juice quality: Brix, Acid, Ratio, Color.
- PS: annual [box, tree];cumulative/tree; acre.
- Tree size.
- Tree health: HLB.
- Other.

Concerns

- Do we have perfect data sets? No, but we recognize the desire and have instituted improvements.
- How do we maximize user-friendliness and impact?
- Some trials involve 70+ rootstocks, others involve only a few. How do we present both for clarity and interpretation?
- Should the posted trials include a concise PI interpretation of the results?
- What level of statistical analysis do we present?

Improvements

- **STANDARDIZE** contents, fonts, colors, etc. For example, all graphs related to yield have *GREEN* bars.

- Landing page list of trials sortable by location and scion.

- Master list of rootstocks and abbreviations by trial. [Allows users to find a rootstock in one trial and then easily see where else it is included. See example on next page of current searching ability]

- Comprehensive table of all posted trials with listing of data and dates. Allows comparison.

SEARCH RESULTS FOR: "C-35"

Home / Search

Indian River 'Vernia' Rootstock Trial

📅 May 23, 2019 💬 Comments off

Dr. Bill Castle – Dr. Jude Grosser – Dr. Fred Gmitter December 7, 2018 CREC Citrus Plant Improvement   Indian River 'Vernia' Rootstock Trial – Description This replicated trial planted in 2011 west of Ft. Pierce consists of 'Vernia' scion on 17 tetraploid rootstocks from UF/CREC and 3 diploid commercial rootstocks (x639, C-35 and [...]

Partial return from searching "C-35."

Status of Data Collection and Website?

- Currently 15 trials posted. End of this CY, goal is 20-25 posted.

- Update first 12 posted trials to meet new standards of content and uniformity.

- *Transfer site to T4 platform and gain website management by CREC webmaster.*

- Achieve standardization in field data collection.