

# The New Age of Fresh Citrus Variety Evaluation

## FAST TRACK



# The Current Challenge

- Productive IFAS citrus breeding program.
- Promising selections have been identified:
  - **The fruit has promise, little else is known.**
- Growers and packers don't want to wait on extensive, traditional field trials.
- Growers want incentives for trialing and future commercialization rights if experimental selections perform well in trials.



# FAST TRACK


- IFAS, FFSP, NVDMC
  - A means of moving experimental fresh selections to Florida growers for non-commercial evaluation.
  - Florida growers participate in experimental trials and offer input on commercial decisions.
  - Program involves nursery participation.
  - Royalty rates are fixed\*
    - **Encourage grower involvement in trials.**
    - **Generate revenue to the breeding program if selections commercialized.**
  - Reward growers for participating:
    - **Reduce future royalty rates and provide a head start**
  - Allow late adopters to participate,
  - Support Citrus Plant Improvement Program,
  - Three-Tier system,
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# Tier 1..... The Trial Stage

## The Program

- Statewide announcement of the opportunity (clock starts 8/2/13).
- All Florida growers invited to participate.
- Growers sign up for experimental trials.
- Enrollment period is 180 days, then closes 1/29/14.
- Sign Evaluation Agreement.
- Fruit not for sale.
- IFAS staff/faculty involved in evaluation process.
- Formation of Tier-1 Grower Groups.

## The Rate

- \$50 participation fee per variety.
  - Minimum of 5 trees.
  - Maximum of 30 trees.
  - Cost of trees reimbursed by grower.
  - Growers chooses selections of greatest interest.
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# Tier 2 ... The Early Adopter Commercialization Stage

## The Program

- If any one Tier-1 Grower desires to commercialize a selection.....
- Those in the Tier 1 grower group who elect to become Tier-2 growers are eligible to plant commercially.
- Favorable royalty rate.
- Five year commercialization Head Start.
- Entry of more nurseries

## The Royalty Rate

- \$1.70 per tree



# Tier 3 .... The widespread commercialization stage

## The Program

- After Tier-2 grower head start, all other interested growers may enter.
- No growers are excluded.
- Royalty rates approximate commercial averages.

## The Royalty Rate

- \$2.75 per tree



# Early Option

- May elect to trigger Tier 2 Commercial Step:
  - **Any time during 180 day registration.**
  - **Any time during tier 1.**
- Would still pay Tier 1 fee and complete grower requirements (evaluation).
- Patent costs covered by Tier 2 plantings.
- If early option is elected, all Tier 1 growers are notified and provided the option to move to Tier-2.



# Support for FAST TRACK

- Endorsements
  - Indian River Citrus League
  - Florida Citrus Production Managers Assoc.
  - Florida Citrus Mutual
  - Florida Citrus Packers
  - New Varieties Development & Mgt. Corp.
  - Gulf Citrus Growers Association
  - FNGLA's Citrus Nursery Division
- Recommendation to Proceed
  - Florida Fruit & Vegetable Association
  - Florida Farm Bureau







**The First Suite of**

**F**AST **T**RACK **S**elections

# 411

- Large midseason mandarin.
- Some seeds.
- Easy peel.
- **Exceptional** flavor.
- High sugars with good ratio balance
- Appears to be productive.



# 900

- **Early** season mandarin – Sept/Oct.
- Late September ratio as high as 15.
- Some seeds.
- Great natural early color.
- Great flavor.
- Easy peel.



# 950

- Easy peel.
- Seedless.
- Clementine size.
- Better average color than Clementine.
- Better flavor than Clementine.
- Dec maturity. Ratios 13-16.
- May require manipulation to increase fruit set.





# N40W-6-3 “Seedless Snack”

- Seedless.
- Good flavor.
- Firm flesh.
- Oct-Nov maturity.
- Uniform size/shape.
- Appears productive.
- Peels easy, but not zipper skin.



# C4-15-19 (U.S. patent pending)

- Early maturing (Oct – Nov) seedless tangerine.
- Clementine size.
- Good ext & int color.
- Easy peel, improves with storage.
- 15-19 Brix.





# 914 (U.S. patent pending)

- Great color.
- Blush on peel.
- Grapefruit Size (+).
- Very low in furanocoumarins.
- Seedless.
- Higher Brix, lower acid than GF.
- Slightly thicker peel.
- Typical crop load.





# C2-5-12

- Red-fleshed.
- Sweet, non-bitter.
- Matures in Nov.
- Favorite at fruit shows.
- Produces primarily fruit somewhat larger than grapefruit.



C5-2-12 Fig. 6



# 5-1-99-2 (Pummelette)

- Avg size similar to GF.
- Non uniform segments.
- Non-bitter, sweet.
- High ratio – around 16-19 by Christmas.
- Fewer seeds than most pummelo.
- Appears more tolerant of canker.





# 5-1-99-5 (U.S. patent pending)

- Medium-large size.
- Thinner rind.
- Seeds.
- Late-Nov/Dec maturity.
- Dark red, uniform sections.
- Great flavor, slight bitterness.
- Juicy/uniform fruit.



# The Process - 1

- Grower meetings serve as the statewide announcement of the trial opportunity.
- The 180-day period starts Aug 02, 2013.
- Registration closes Jan 29, 2014.
- Documents available today and throughout registration:
  - **Registration (grower identifies selections of interest.**
  - **Tier-1 Grower Agreements.**

# The Process - 2

- Forms are signed and returned:
  - **Complete ALL applicable parts of the agreements.**
  - **Initial all pages.**
  - **Complete signature page.**
  - **Send original signed copy (duplication optional) to NVDMC.**
  - **Enclose check (\$50 per selection).**
- Return both the Registration document and the Tier-1 Grower Agreements.

# The Process-3

- Budwood supplies (count as of mid July 2013)
  - 411 (1260)
  - 900 (1370)
  - 950 (1380)
  - Seedless Snack (565)
  - C4-12-19/21 (105)
  - C2-5-12 (355)
  - 5-1-99-2 – Pummelette (495)
  - 5-1-99-5 (460)
  - 914 (315)




# The Process-4

- Budwood supply will be short for some selections.
- Registrations received by Sept 01 will receive priority to initial budwood stocks.
- Available budwood will be divided among Early Registrants. Propagations will begin immediately.
- Goal – planting July 2014.
- It may be necessary to limit tree counts.
- If Early Registrations exceed available budwood, requests filled in order received.
- Nurseries will continue increase of budwood.
- Registrations received between Sept 01 2013 and January 29, 2014 – FCFSB.



# Nursery Assignments

- 411 W. W. Citrus Nursery
  - 900 W. W. Citrus Nursery
  - 950 Phillip Rucks Citrus Nursery
  - SL Snack Brite Leaf Citrus Nursery
  - C4-15-19 Phillip Rucks Citrus Nursery
  - 914 Southern Citrus Nursery
  - C2-5-12 W. W. Citrus Nursery
  - 5-1-99-2 CitriSun Citrus Nursery
  - 5-1-99-5 CitriSun Citrus Nursery
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# Non-Propagating Nursery Option

Any nursery not assigned a specific selection for Tier-1 propagations, may sign an Agreement to be an experimental non-propagating Tier-1 Nursery.

This will allow for budwood increase and evaluation, but will not permit orders or propagations during Tier-1.

# Rootstocks for orders

- Rootstocks are like opinions.
- Each participating nursery has access to some, not all.
- Access to liners that are ready for grafting is very important to speed the process.
- Once grower groups are formed, a discussion will be held – with growers, NVDMC and the nursery to determine rootstock options and facilitate process.
- Goal is to have at least two rootstocks per site.
- Rootstock compatibilities is not known.

# **PROGRAM DETAILS**




# Tier 1 Grower Requirements

- Provide accompanied access to IFAS, FFSP and NVDMC, with due notice.
- Attend or have representative at grower group meetings and/or conference calls
- Complete an annual report form



# Are Tier 1 positions a saleable asset?


- The Tier 1 position should be transferrable, if the business is sold – to the new owner.
  - As for Cooperatives, the Coop may participate in Tier 1 – conducting the evaluation on behalf of its grower base. The Coop may then share their experience with their member base. However, if Cooperative member growers wish to commercially produce fruit in the Tier 2 – should the selection make it that far, they must also be Tier 1 growers.
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# When does the Tier 2 head start begin?

- When the trigger is pulled – for a Tier 1 selection to go to Tier 2 – A clock starts – that provides time for nurseries to register (sign agreement), increase budwood and make propagations.
- Nurseries and growers would be given a period of 24 months for increase and propagation – before clock starts.



# Variety Naming

- All Tier 2 varieties will have a base variety name. NVDMC Recommends that this name be co-developed by the managing partner, Grower Group and IFAS.
  - Focus group or some other consumer study can be an aspect of this process.
  - However, Tier 2 growers will be afforded the opportunity for individual branding or the use of a private trademark – if desired – at minimal cost.
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# What level of interest triggers Tier 2?

- Tier 1 is announced as an approximate 5 year process. Growers plant, and evaluate one or two crops.
- Ideally, the grower group would recommend a plan for commercialization.
- Growers can elect the early option



# Have to take the whole suite?

- Although we need as much grower feedback as possible – we don't want to force growers to plant selections that don't interest them.
- Growers may pick what they want to plant and trial.





New Varieties Development  
**NVDMC**  
& Management Corporation



Thank you