NEW VARIETY OPTIONS FOR THE FRESH MARKET

A Critical Component of Florida’s Future Success

PROGRAMS DEDICATED TO CITRUS IMPROVEMENT

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FDACS  Quarantine (Gainesville), Budwood Program (Winter Haven)

OVERALL GOALS AND OBJECTIVES

Technical and Oversight Committees: “Managing” New Varieties Program

Evaluation of Prospective New Cultivars Currently in Breeding or Germplasm Programs

Evaluation of New Varieties in Other Parts of World with Growing Conditions Similar to Florida

Review Regulatory and Budget Issues

Improve Coordination of Introduction, Evaluation and Release of New Fresh Fruit Varieties

Link Florida Citrus Improvement Programs with Industry Expertise and Needs

PROPOSED ORGANIZATION OF CHARACTERISTICS

FRUIT QUALITY CHARACTERISTICS
- Fruit Shape
- Fruit Skin
- Aromatics
- Fruit Adhesion
- Fruit Color
- Skin Color
- Marketable Fruit
- Segment Adhesion
- Brix/Acid Ratio

FRUIT PERFORMANCE CHARACTERISTICS
- Packability
- Packing Operation
- Travel Well
- Holding Power on the Shelf

SCION PERFORMANCE CHARACTERISTICS
- Disease Susceptibility
- Yield Potential - Consistent Productivity
- Yield Stability - Alternate or Irregular Bearing
- Other Horticultural Limitations (e.g., disbud, etc.)
Key Questions

How Can These Characteristics Be Objectively Evaluated?

Which Characteristics are Most Important?

FRUIT QUALITY CHARACTERISTICS

- Fruit Shape
- Fruit Size
- Seediness
- Peel Color (on-tree)
- Peel Color ( Marketable Fruit)
- Flesh Color
- Peel Adhesion
- Segment Adhesion
- Brix/Acid Ratio

FRESH FRUIT CHARACTERISTICS AND METHODS TO CHARACTERIZE AND RANK THEM

<table>
<thead>
<tr>
<th>FRUIT QUALITY CHARACTERISTICS</th>
<th>Comments</th>
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<tbody>
<tr>
<td>Fruit Shape</td>
<td>Undesirable shape?</td>
</tr>
<tr>
<td>Fruit Size</td>
<td>&gt; 1 size target? size class and rating value</td>
</tr>
<tr>
<td>Seediness</td>
<td>seedless? How many seed are tolerable?</td>
</tr>
<tr>
<td>Peel Color (on-tree)</td>
<td>Degreening required? Timing, consistency of color break</td>
</tr>
<tr>
<td>Peel Color (Marketable Fruit)</td>
<td>Deep rich color. Quantitative color score possible?</td>
</tr>
<tr>
<td>Flesh Color</td>
<td>Not pale* Threshold value?</td>
</tr>
<tr>
<td>Peel Adhesion</td>
<td>Easy peel - Is there threshold? Comparison to known</td>
</tr>
<tr>
<td>Segment Adhesion</td>
<td>Comparison to known</td>
</tr>
<tr>
<td>Brix/Acid Ratio</td>
<td>Scale could be established to rate B/A ratio values</td>
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</tbody>
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FRUIT PERFORMANCE CHARACTERISTICS

- Packability - Packing House Performance
- Packability – Stores and Travels Well
- Packability - Holding Power on Shelf
- Seasonality

<table>
<thead>
<tr>
<th>FRUIT PERFORMANCE CHARACTERISTICS</th>
<th>Measures</th>
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<tbody>
<tr>
<td>Packability - Packing House Performance</td>
<td>% loss in packing, breakdown Qua. Test?</td>
</tr>
<tr>
<td>Packability - Travels Well</td>
<td>% loss in transit; response to conditions</td>
</tr>
<tr>
<td>Packability - Holding Power on Shelf</td>
<td>Shelf life in constant conditions, comparison to known</td>
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<tr>
<td>Seasonality</td>
<td>Periodicity of maturity on tree, how stable</td>
</tr>
</tbody>
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SCION PERFORMANCE CHARACTERISTICS

- Disease Susceptibility
- Yield Potential - Consistent Productivity
- Yield Stability – Alternate or Irregular Bearing
- Other Horticultural Limitations (e.g., dieback, etc.)
SCION PERFORMANCE CHARACTERISTICS

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<tbody>
<tr>
<td>Disease Susceptibility</td>
<td>Vulnerability to fruit diseases,</td>
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<tr>
<td>Yield Potential - Consistent Productivity</td>
<td>boxes per tree, cumulative yields over years</td>
</tr>
<tr>
<td>Yield Stability – Alternate or Irregular Bearing</td>
<td>comparison of high/low</td>
</tr>
<tr>
<td>Other Horticultural Limitations (e.g., dieback, etc.)</td>
<td>twig dieback, scion/root incompatibility</td>
</tr>
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</table>

We Need Assistance From You on These Questions!

Industry Standard Comparisons

- Dancy
- Murbcott
- Ambersweet
- Robinson
- Orlando
- Minneola
- Sunburst
- Temple

What Are Positive and Negative Characteristics of Each?

Candidate Scions

- Spanish Clementine
- Israeli a
- Israeli b
- LB8-9

A more complete list of candidate scions will be developed and evaluated using a common methodology

Concentrate on List of Most Likely Candidates

- From Florida Citrus Improvement Programs
- From Other Parts of World

Apply Evaluation Criteria for Important Characteristics to Identify BEST CANDIDATES
OUTLINE OF PLAN

Identify Characteristics of New Scion Candidates

Establish Methods for Measuring or Scoring Values for Characteristics.

Develop Weighting Factors for Comparing Characteristics

Verify Characteristics, Scoring Values and Weighting Factors with Packers and Buyers

Obtain List of Candidate scions for Development/Introduction

Develop Matrix for Evaluation of Scion Candidates

Complete Evaluation of Characteristics as far as possible for Candidates

Summarize Results and Evaluation for Highest Priorities for Scion Development or Introduction, Selection and Ultimately Release for Commercial Use in Florida

Deliver results to Group planning Exploration, Introduction and Development of New Scions

THANK YOU!