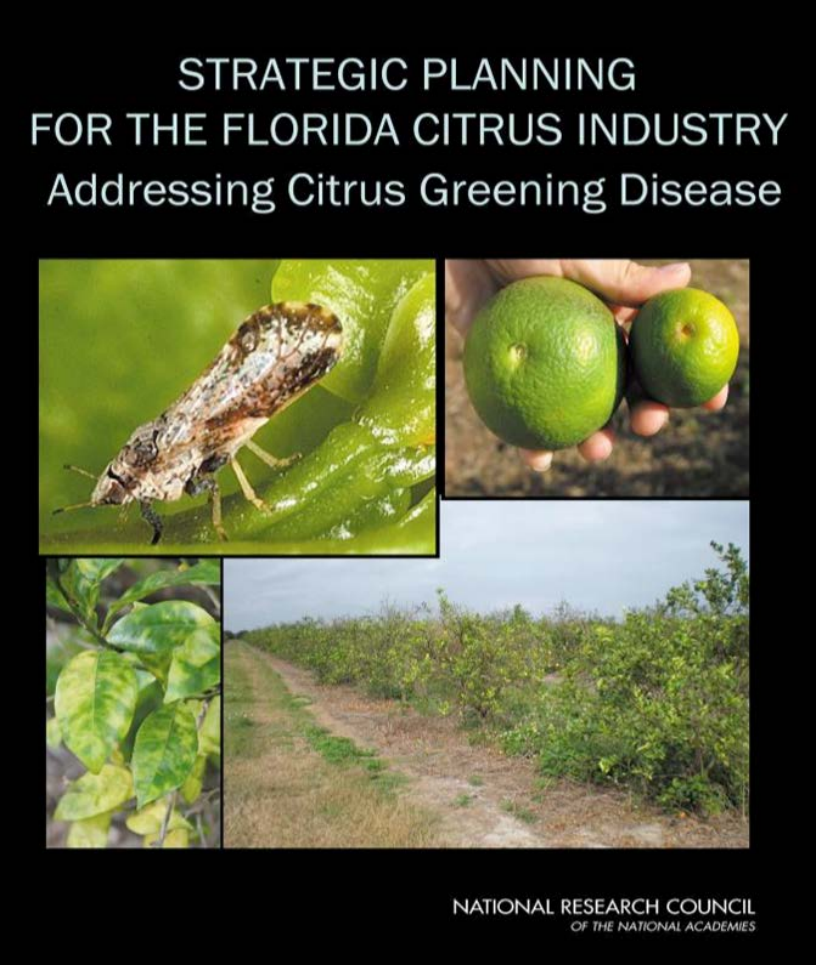

HLB Update to CRDF

August 2015

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Topics for Today

- Coca-Cola's Response to Citrus Greening
- What we have done
- What we have learned
- What we are thinking about

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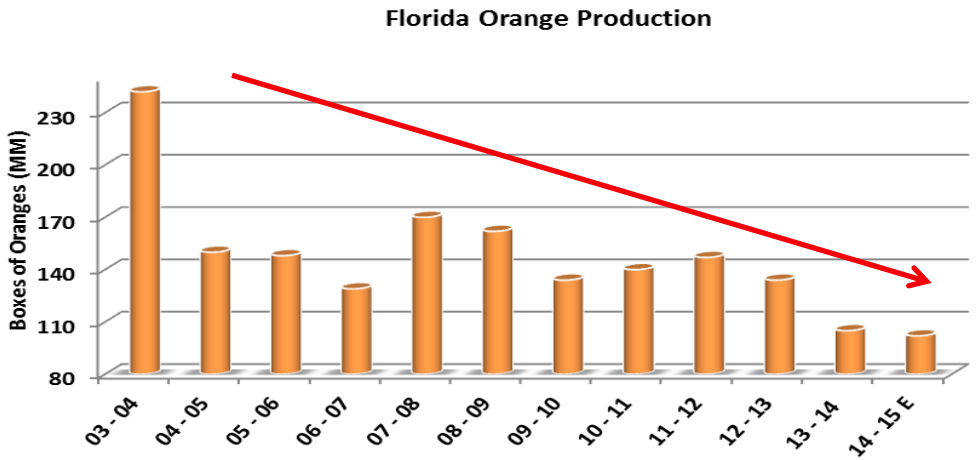
THE COCA-COLA COMPANY IS THE LARGEST USER OF CITRUS IN THE WORLD

Together with our Partner Cutrale we have invested more than $14 Million Dollars in HLB Research

HLB Impact

- HLB now affects every major citrus producing geography other than the Mediterranean (vector now in Spain, vector and pathogen in California & Argentina)
- HLB economic impact in Florida
  - Loss of thousands of permanent jobs
  - Loss of millions of citrus trees
  - Loss of billions of dollars
- HLB affects all citrus species
  - Fruit yield down, Fruit size down, Fruit drop up
  - Fruit & Juice quality trending down
  - Potentially by-products compromised



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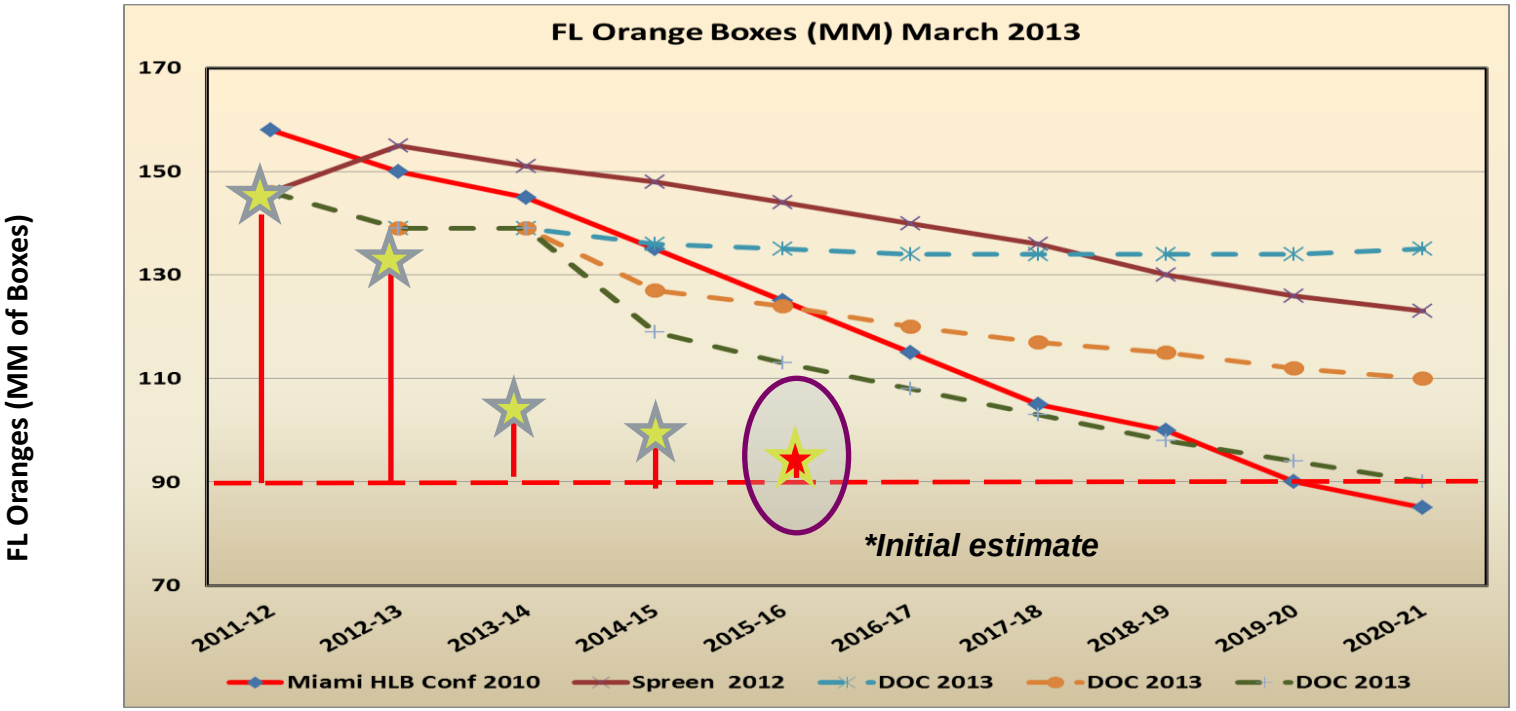
On the current trajectory, citrus production forecasts in Florida are bleak

! Actual production has been below worst case models for last four years !



= actual

= estimate

Critical threshold - potential reduction of industry infrastructure support

Brazil is also at risk

- **34 Million Trees lost in the last 10 years**
- **Another 40 Million Trees at risk**

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Industry & Coca-Cola Response Timeline

2008
- Industry contacted National Academy of Sciences
- Expert panels formed in April
- Research projects prioritized in December

2009
- Formation of CRDF (Citrus Research and Development Foundation)
- Current operating practices put in place for selecting & funding projects
- Initial projects funded at ~ $20MM/yr.

2010
- Coca-Cola HLB conference in Miami
- Coca-Cola & Cutrale announce funding program for CRDF – combined $1 MM per year for 3 years

2011
- Initial TCCC & Cutrale funding of three year commitment to CRDF ($500K per year each)
- Focus on Psyllid management, RNAi, antimicrobials, genetic resistance or tolerance in citrus trees

2013
- Coca-Cola announces long term purchase agreements to incent planting trees in Florida - $2 Billion
- TCCC – Fortune 100 – CRDF collaboration initiated to explore therapeutics for infected trees

2014
- Coca-Cola engages Agrochemical companies: Bayer, BASF, Monsanto, Syngenta and others
- Coca-Cola renews funding for CRDF at same level ($500K per year)

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Current Activity

- 2013-2014: Developed therapeutic platform with fortune 100 company
- 2015: Entered collaboration with agrochemical company to evaluate efficacy, bioavailability and design methodology of the therapeutic platform as proof of concept
- 2015: Recruiting and developing funding for world class expert to culture C. Las the causative bacterium for HLB
- 2015: Continued support of industry effort and recruiting additional resources
- In the last five years TCCC has invested more than $14,000,000 in HLB research

	in $Million			
Year	CRDF	USDA/MAC	USDA/NIFA	Total
2009	7			7
2010	16			16
2011	15			15
2012	18			18
2013	17			17
2014	18	7	25	50
2015	15	7	25	47
		Total 2009 - 2015 =>		170

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Road Map for Florida – "Pockets of Sustainability"

What will happen to citrus in Florida over the next 20 years?

Pockets of Devastation 2007 - 2012	Widespread Devastation 2013 - 2018	Pockets of Sustainability 2018 - 2025	Widespread Sustainability 2026 - 2035
•High population of psyllids •Rapid spread of bacteria •Trees showing signs of disease and decline •Significant drop in production •Research programs initiated	• Maximum concentration of pathogen • More than 90% of trees infected • Orange production falls below 100 MM boxes • 3-5 Citrus plants continue operation • Significant acreage and trees are lost • Flavor management and Brazilian imports are critical to sustain supply and quality	• Large scale new plantings provide improved yields • High density plantings • Therapeutic strategies initiated begin to reduce pathogen • New psyllid management technologies dramatically reduce populations • Old acreage continues to decline	• Citrus is grown in large plantings • All new groves are high density • Trees planted with HLB tolerance are increasing in number with improved fruit yield • Improved therapeutics maintain tree health • Psyllid populations are in decline

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Assessment & Next Steps

- Aggressive and costly grove management practices are known and work
- Cost of best practices is too high for long term stability and contributes to the decline in OJ consumption
- The pace of replanting in FL is too slow
- Long term HLB solutions are years away

Two Opportunities to Consider

- Coordinated industry effort to Replant FL under best management guidelines
- Industry consortium working with commercial companies with capabilities, infrastructure and an economic incentive to deliver new products and services

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Goals of Replant Florida

- Manage HLB in the Bridge to Citrus Generation II
- Restore Florida Citrus Productivity
- Improve Florida Fruit & Juice Quality
- Survive & Search for the Cure
  - Single solutions will not be sufficient
  - Integrated systems will be needed

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Enablers for Replant Florida

- Science & Education
  - Best Practices
  - Strategy & Roadmap for Success
- Infrastructure
- Political Support
  - Tax Incentives
  - Abandoned Acreage Solution
  - Inoculum Removal Solution

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HLB Consortium Concept

The Opportunity:

To engage key Agro Chemical Companies and other related businesses and challenge them to work on viable solution sets to help control Citrus Greening/HLB. Obtain access to untapped expertise, know-how, trade secrets and IP residing in commercial companies.

The Challenge:

Citrus is a small market for agrochemical companies. Return on investment may not meet required business threshold.

The Solution:

Build a consortium of companies with common interests in citrus to engage agrochemical companies and subsidize early R&D investments in Proof of Concept and Early Development phases

Agrochemical and Biotech R&D cost & time	Discovery	Proof of Concept	Early Development	Advanced Development	Prelaunch
Duration (months)	54	27	30	37	49
Cost (millions) [annual cost]	31	28 [12]	14 [5.6]	46	17

Why B to B?

- Leverage influence across entire business portfolio not limited to citrus not limited by geography
- Expedite access to business case development and justification
- Mutual shared interests drives urgency
- Commercial focus is foundation
- Members have global reach and access with broad capabilities and Market Power

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