

RIVER RAMBLINGS

The newsletter of the
Indian River Citrus League

MAY 2013

Legislature Approves CITRUS RESEARCH FUNDING

By Andrew Meadows

Director of Communications - Florida Citrus Mutual

The state Legislature agreed to fund \$9.5 million in research related activities to combat a terrifying disease known as HLB, or citrus greening that threatens to wipe out Florida's \$9 billion citrus industry and its 76,000 jobs.

The funding is part of the Florida Department of Agriculture and Consumer Services' (FDACS) 2013-2014 budget. The breakout: \$8 million for HLB reserved research and incremental funding of \$500,000 for each of the related FDACS programs; citrus Nursery certification, citrus germplasm facility and citrus pest management.

"Of course Commissioner Adam Putnam has done yeoman's work to help our industry battle HLB. He knows we are in the fight of our life and this state investment is critical to get some short-term research answers," said Michael W. Sparks, executive VP/CEO of Florida Citrus Mutual, the state's largest citrus grower trade organization. "We also commend state Legislators for showing this level of commitment to one of the state's most important signature industries."

"Representative Ben Albritton and Senator Alan Hays were instrumental in securing the funding and did an unbelievably strong job for the industry. In addition Representatives Steve Crisafulli and Seth McKeel as well as Senators Denise Grimsley and Joe Negron worked particularly hard on this issue."

Governor Rick Scott still must approve the budget. HLB is a vascular disease vectored by the Asian citrus psyllid. It is found in all of Florida's 32 citrus producing counties and can kill a tree in two years.



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Florida Citrus, HLB Greening Disease and Finding a Solution

by Rick Kress, President
Southern Gardens Citrus

Every day, the Florida citrus industry is feeling the impact of the HLB greening disease. As growers, it is our nature to normally be full of optimism. Watching fruit fall off of the trees and having trees ultimately die can create a high level of pessimism and negativity. We are driven by the fact that Florida citrus is of a quality that is second to none in the world. Florida oranges and grapefruits will always be an important part of the consumer's diet. Multiple entities within the Florida citrus industry are very active to ensure that Florida citrus remains in the forefront.

From a disease research and solution perspective, this disease has presented a challenge that the Florida grower has never had to deal with before. The solution to this disease is not obvious due to the fact that it has been in the world's citrus growing regions for years. Whether we like it or not, finding a solution is going to take time and a financial commitment. The development of a solution involves four (4) specific areas: research, regulatory approval, agricultural confirmation and consumer approval. All must be done concurrently in order to commercialize a solution in a timely manner once identified. The Florida citrus industry has made the commitment to multiple research efforts with the necessary financial support from the growers and other sources, all as coordinated by the Citrus Research and Development Foundation.

Southern Gardens Citrus has a processing operation that requires a significant quantity of fruit to be viable. When the HLB greening disease was first confirmed in one of our groves, one of the decisions made was to take the steps necessary to ensure that the processing operation remained a viable entity. As a result, the company made the decision to invest in research to develop disease and insect resistant citrus trees with the intent to commercialize the technology when available.

With the various research projects, Southern Gardens is in varying stages of disease resistance confirmation and field testing. Positive results are being noted on several fronts. The biggest challenge is to figure out a way to speed up Mother Nature. All four (4) of the key commercialization areas as noted above for a given solution to the disease are being addressed as appropriate. For all of the research work now in place within Florida and the world on this disease, a solution will be found.





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Industry Websites

Citrus Administrative Committee

<http://www.citrusadministrativecommittee.org/>

Citrus Research & Development Foundation

www.citrusrdf.org

Florida Department of Agriculture

<http://www.freshfromflorida.com/>

Citrus Health Response Plan Updates

<http://www.ars.usda.gov/Research/docs.htm?docid=18240>

Florida Department of Citrus Grower Website

www.FDOCGrower.com

Greening Research Updates

www.floridajuce.com/industry.php

Legislative Delegation (Federal)

Indian River Citrus District Senator Bill Nelson

<http://billnelson.senate.gov/>

Senator Marco Rubio

<http://www.rubio.senate.gov/public/>

Congressman Alcee Hastings

<http://www.alceehastings.house.gov/>

Congressman Bill Posey

<http://posey.house.gov/>

Congressman Tom Rooney

<http://rooney.house.gov/>

Legislative Delegation (State)

Indian River Citrus District Governor Rick Scott

<http://www.flgov.com/>

J. D. Alexander

<http://www.flsenate.gov/senators/s17>

Senator Thad Altman

<http://www.floridasenate24.com/>

Senator Mike Haridopolos

<http://www.flsenate.gov/senators/s26>

Senator Joe Negron

<http://www.flsenate.gov/senators/s28>

Representative Steve Crisafulli

<http://www.myfloridahouse.gov/sections/Representatives/details.aspx?MemberId=4448&SessionId=61>

Representative Tom Goodson

<http://www.myfloridahouse.gov/sections/representatives/details.aspx?MemberId=4500&SessionId=66>

Representative Gayle Harrell

<http://www.myfloridahouse.gov/Sections/Representatives/details.aspx?MemberId=4211>

Representative Debbie Mayfield

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Representative William Snyder

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Representative John Tobia

<http://www.myfloridahouse.gov/Sections/Representatives/details.aspx?MemberId=4447>

Representative Ritch Workman

<http://www.myfloridahouse.gov/sections/Representatives/details.aspx?MemberId=4446&SessionId=64>

Citrus Industry Magazine

www.citrusindustry.net

Florida Grower Magazine

www.growingproduce.com/subscribe

Southeast AgNet

www.southeastagnet.com

University of Florida/IFAS

<http://www.ifas.ufl.edu/>

Black Spot Information

http://www.crec.ifas.ufl.edu/extension/black_spot/citrus_black_spot.shtml

Citrus Budgets

<http://www.crec.ifas.ufl.edu/extension/economics/>

Citrus Research & Education Center Lake Alfred

<http://www.crec.ifas.ufl.edu/>

Citrus Health Management Areas

www.crec.ifas.ufl.edu/extension/chmas/index.shtml

Florida Citrus Extension Agents Website

http://citrusagents.ifas.ufl.edu/Citrus_Agents_Home_Page/Citrus_Agents_Home.html

Greening/HLB

<http://www.crec.ifas.ufl.edu/extension/greening/index.shtml>

HLB Nutrient Management

<http://www.crec.ifas.ufl.edu/extension/greening/index.shtm>

Indian River Research and Education Center – Ft. Pierce

<http://irrec.ifas.ufl.edu/>

Low Volume Spray Application Techniques

<http://lake.ifas.ufl.edu/agriculture/citrus/documents/HoffmannCitrusSprayers.pdf>

Soil and Leaf Tissue Testing

<http://edis.ifas.ufl.edu/ss531>

Pest Management Guide

<http://www.crec.ifas.ufl.edu/extension/pest/>

USDA (FASS) Florida Agricultural Statistics Services

http://www.nass.usda.gov/Statistics_by_State/Florida/index.asp

Greening

<http://www.ars.usda.gov/Research/docs.htm?docid=18240>

United States Horticultural Research Laboratory-Ft. Pierce

http://www.ars.usda.gov/main/site_main.htm?modecode=66-18-00-00

South Florida Water Management District

www.sfwmd.gov

SFWMD ePermitting

www.sfwmd.gov/ePermitting

St. Johns River Water Management District

<http://floridaswater.com/>

SJRWMD ePermitting

<https://permitting.sjrwmd.com/epermitting/jsp/Search.jsp?option=permitNumberOption>

FAWN

<http://fawn.ifas.ufl.edu/>

Florida Farm Bureau

<http://www.floridafarmbureau.org/>

Weather Underground

<http://www.wunderground.com/>

Update on USDA Advanced Citrus Scion Selections

**Ed Stover, Greg McCollum, Randy Driggers,
and James Salvatore: USDA/ARS, Ft. Pierce, Florida**



Unless you have been hiding under a REALLY big rock and this newsletter has somehow blown within reach, then you know that the Florida citrus industry has been markedly changed by Huanglongbing (HLB) disease. In an effort to help maintain our industry, the USDA US Horticultural Research Laboratory (USHRL) citrus breeding team is working to make advanced selections available for limited testing earlier and more broadly than in the past to quickly identify material with commercial potential. The Florida Department of Agriculture Division of Plant Industries (DPI) and New Varieties Development and Management Corporation (NVDMC) are playing critical roles in this process, with DPI processing material to provide clean budwood and NVDMC providing a framework to expedite testing. A number of these selections may find a place in the Indian River citrus industry. Efforts are underway at USHRL to systematically test HLB resistance/tolerance of all our new selections, but for now comments on resistance are based mainly on field observations. The amount of testing that has been done for these new selections varies greatly. In an effort to expedite evaluation of these new selections we will soon be engaging more broadly with growers.

On the short, very-best-tested list, 'US Early Pride' was released as a cultivar in 2011 and is available for commercial planting. This is a low-seeded 'Fallglo', with fruit and tree performance essentially identical to 'Fallglo'. In addition to being a very early-maturing tangerine, 'US Early Pride' and 'Fallglo' have shown considerable resistance to HLB in the field and in greenhouse studies, always being in the most-resistant category among cultivars tested. However, these studies have been ongoing only for a few years; long-term growth and productivity when exposed to HLB is uncertain.

A significant amount of information is available on a number of citrus scion types considered to be in the "advanced selection" stage. Unfortunately, like most citrus scions, a majority of these advanced

selections appear to be quite susceptible to HLB and probably won't merit interest of Indian River growers until other solutions are found for HLB control. However, there are a few tangerine types growing at our Ft. Pierce farm that seem to be quite HLB-tolerant. So far, they have normal growth, fruit set, and fruit quality despite blotchy-mottle symptoms and severe HLB pressure. Perhaps the best of these is US 5-51-2, a Clementine X Orlando hybrid. US 5-51-2 is a mid-season mandarin with outstanding flavor, easy peeling and good productivity. One limitation of US 5-51-2 is that it is self incompatible and therefore likely requires a pollinizer to produce commercially acceptable yields. Clean US 5-51-2 budwood is available for propagation from the DPI and a substantial trial is in place at one grove, with another scheduled for next year. Several new selections of mandarin-types have great quality in initial tests but need evaluation in the presence of HLB.

We expect that Indian River growers are hoping we can say that there are grapefruit, or at least grapefruit-like selections, from our program that are of good quality and show some resistance/tolerance to HLB. Our most advanced grapefruit-types have displayed HLB-susceptibility similar to true grapefruit. We do have a few newly selected grapefruit-like pummelo hybrids that seem to have better tolerance to HLB so far, but information is very limited. Several of these have been irradiated to produce low-seeded variants while we also test for HLB susceptibility. Our work has shown that 'Jackson', a seedless variant of 'Triumph' that is available from DPI, is markedly more tolerant to HLB than true grapefruit. 'Jackson' and 'Triumph' look and taste very similar to grapefruit and are classified as grapefruit, but are white fleshed. Time will tell whether the greater HLB-tolerance of 'Jackson' and is sufficient to make production profitable.

All sweet oranges are virtually genetically identical, being mutations of some original

hybrid that arose many hundreds of years ago. DNA sequence analysis indicates that sweet orange is a [(pummelo x mandarin) x (pummelo x mandarin or mandarin x pummelo)] x 'Ponkan' mandarin hybrid. As a result of this narrow genetic base, it is unlikely that an HLB-resistant sweet orange will be found. The USDA citrus breeding program has been making hybridizations for more than a hundred years to produce new hybrids that will be improved versions of sweet oranges. We now have five hybrids that look and taste like sweet oranges, appear to ripen about the same time as 'Hamlin', and some may offer improved tolerance to HLB compared to sweet orange. Four of these have juice color similar to 'Valencia' juice. In tests conducted by Liz Baldwin, Jinhe Bai, and Anne Plotto at USHRL, the aroma volatiles of these hybrids are so similar to sweet orange it is possible that they could be officially classified as "sweet oranges". These new selections include an easy peeling "sweet orange" that has been very well received in taste tests.

For those walking on the wild side and with opportunities for niche fresh fruit, we have a sweet orange-like selection (like a crunchy navel orange in alligator-hide) which is 1/16th trifoliolate orange and displays some field resistance to HLB. All are being evaluated for HLB response in greenhouses and have been put into field trials at our Ft. Pierce farm. These trials include 'Hamlin' and 'Early Gold' as comparison standards.

It seems likely that some new hybrids will provide improved performance over standard varieties when HLB-infected. Broad testing will be required to provide information for grower decisions. Beginning in spring 2014 and continuing into the future, there will be a modest number of trees available for grower trials. We look forward to your help in evaluating this material.





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