

Growing Olives in Florida

Search for a Low Chill Cultivar

Workshop on Olive and Climate Change
International University of Andalusia,
Spain



Introduction

- The Florida Olive Council, LAA (FOC) is a non-profit IRS 501 (c)(3) organization
- Established in 2011 to promote research and development of a Florida olive industry
- Partnered with the University of Florida and private growers
- Actively manages 11 research plots & track 31 other groves throughout the State

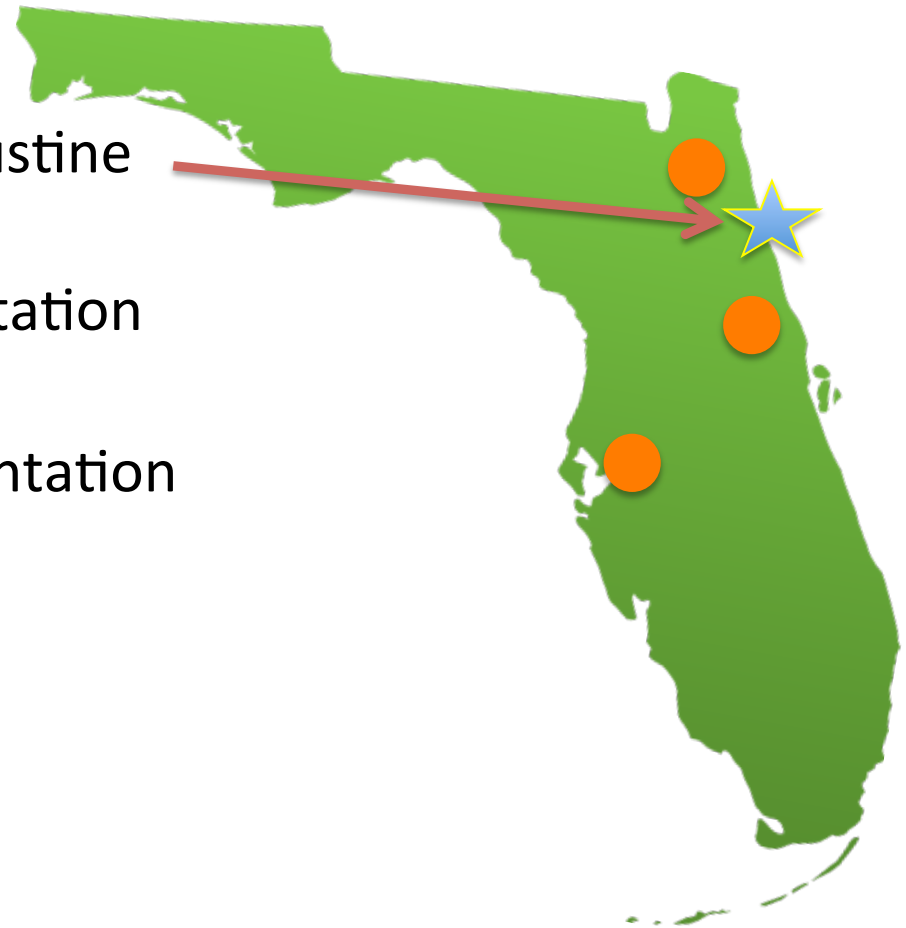
Historic FL Olive Production

1565 – Spanish Landing at St. Augustine

1865 – Fernandina – Stickney Plantation

1750 – Ormond Bch – Turnbull Plantation

1935 – Tampa – Gibson Plantation



42 Florida Olive Sites

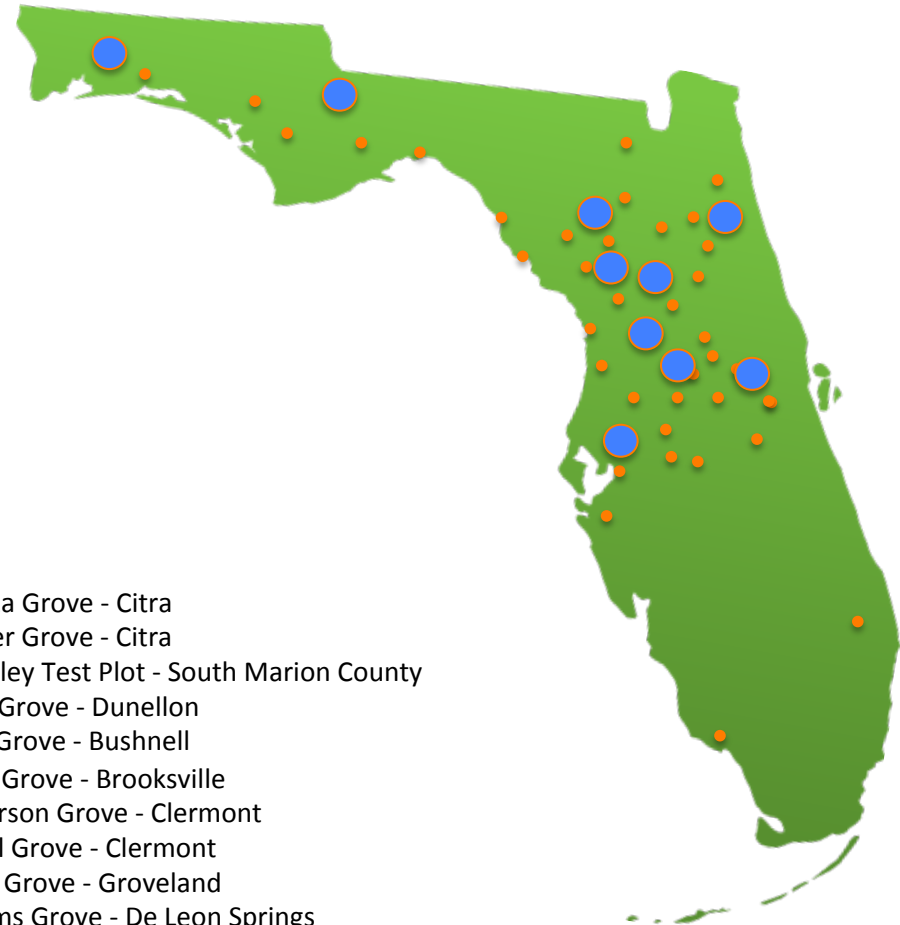
● FOC-Active Monitor Sites (11)

UF-IFAS Research Grove – Jay
Mueller Grove – Marianna
Oleson Grove - Hastings
Carter Grove – Live Oak
FOC Propagation Research Facility – La Crosse
UF-IFAS Research Grove – Gainesville
UF-IFAS Research Grove – Citra
UF-IFAS Research Grove – Ocala
Williams Grove – De Leon Springs
Lykes Brothers Grove – Lake Wales
Mosaic Corp. Grove – Bowling Green

● Other Groves (31)

Thomas Grove - Milton
Mazzarino Grove - Pensacola
King Grove - Destin
Harrell Grove - Chipley
Haselberger Grove - Yulee
Various Small Groves - St. Augustine
Roberts Timber Test Plot - Palatka
Hannah Grove - Live Oak
Jackson Grove - Live Oak
U/K Grove <30-10-59N 82-42-30W> - Lake City
Kent Grove - Worthington Springs
Allen Grove - Gainesville
Clugston Test Plot - Gainesville
Davenport Test Plot - Gainesville
Zarur Test Plot - Gainesville

Valenza Grove - Citra
Weaver Grove - Citra
McGinley Test Plot - South Marion County
Cloud Grove - Dunellon
Barth Grove - Bushnell
White Grove - Brooksville
Penderson Grove - Clermont
Daniell Grove - Clermont
Yuque Grove - Groveland
Williams Grove - De Leon Springs
Stilling Grove - New Smyrna Bch
Venrick Grove - Orlando
Mack Grove - Lakeland
Kamiya Test Plot - Bradenton
Sproul Grove - Martin County
Sowers - Singer - Lee County



Florida High Density Groves



Williams Grove – De Leon Springs



Lykes Grove – Lake Wales

Florida Low Density Groves



Mueller Grove – Marianna



Allen Grove - Gainesville

Mueller Grove - Marianna

400 trees on 5 acres – 15-20 year old trees
Frantoio, Leccino, Coratina, Mission, Manzanilla



Mosaic Empeltre Growth



2014



2015

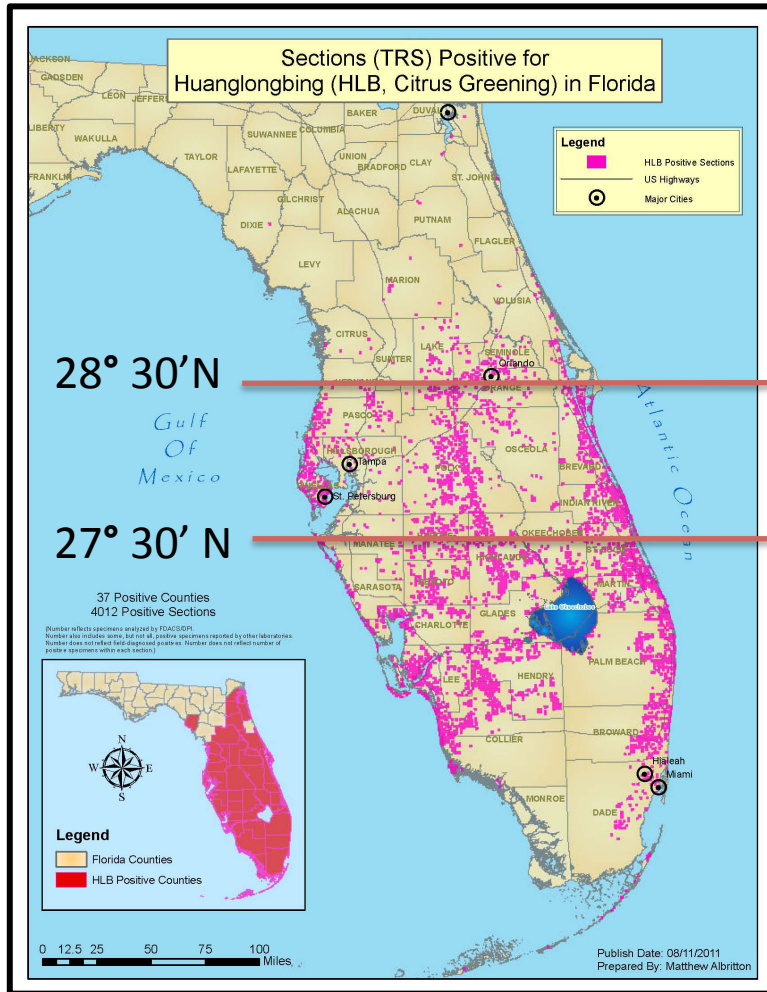


2016

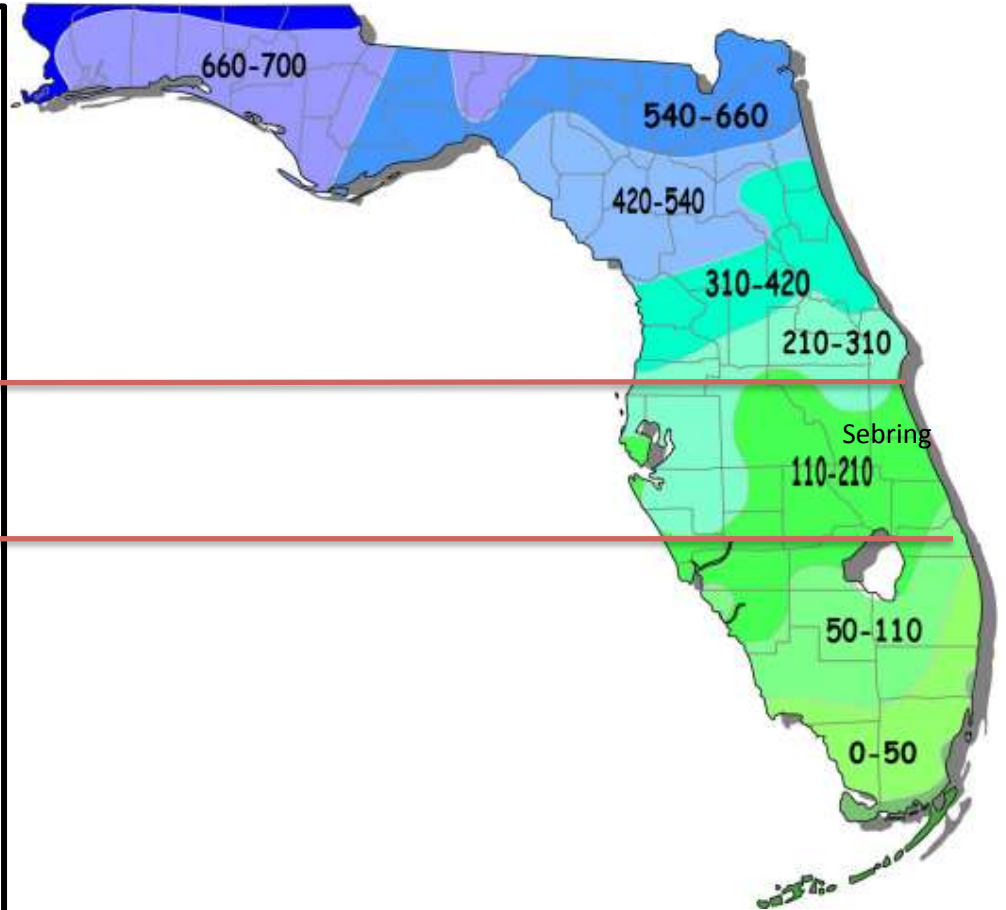
Flowering



HLB Infected Groves (2012)



Florida Historic Chill Map



Florida Olive Sites – Historic Chill

JAY (11-25/2-26)

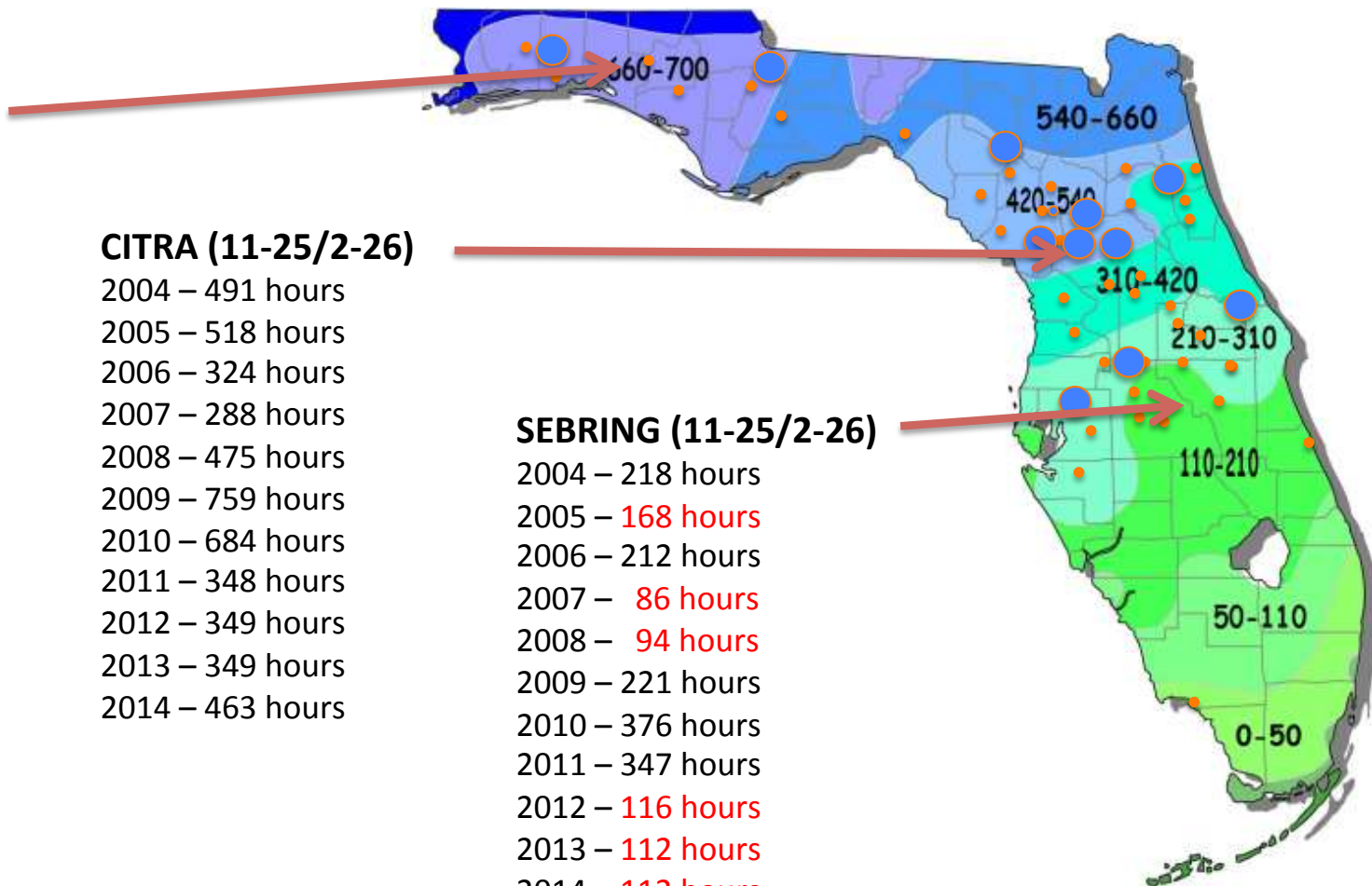
2004 – 210 hours
 2005 – 381 hours
 2006 – 329 hours
 2007 – 364 hours
 2008 – 403 hours
 2009 – 417 hours
 2010 – **113 hours**
 2011 – 236 hours
 2012 – 513 hours
 2013 – 501 hours
 2014 – 272 hours

CITRA (11-25/2-26)

2004 – 491 hours
 2005 – 518 hours
 2006 – 324 hours
 2007 – 288 hours
 2008 – 475 hours
 2009 – 759 hours
 2010 – 684 hours
 2011 – 348 hours
 2012 – 349 hours
 2013 – 349 hours
 2014 – 463 hours

SEBRING (11-25/2-26)

2004 – 218 hours
 2005 – **168 hours**
 2006 – 212 hours
 2007 – **86 hours**
 2008 – **94 hours**
 2009 – 221 hours
 2010 – 376 hours
 2011 – 347 hours
 2012 – **116 hours**
 2013 – **112 hours**
 2014 – **112 hours**



Research Staff



Research Supervisor

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Research Leader

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President
Florida Olive Council, LAA



Research Manager

Tomas Mueller Pollmann
Florida Olive Council, LAA

Low Chill Research Section

Database Documentation

- Last summer FOC visited 30 groves around the state.
- Information documented:
 - Location (GPS)
 - Size of the grove, trees per acre.
 - Olive varieties
 - Date of plantation, blooming, flowering.
 - Weather condition
 - Nutritional plan, irrigation system, phytosanitary plan.
 - Leaf (Arbequina) and soils samples



Clear Creek Farm & Mill

Ocala, Fl.

10 ha

Arbequina, Mission, Lucca, Frantoio,
Manzanilla, Koroneiki.



Guy Burgetto Farm

Gainesville, Fl.

2 ha

Arbequina, Arbosana, Koroneiki.

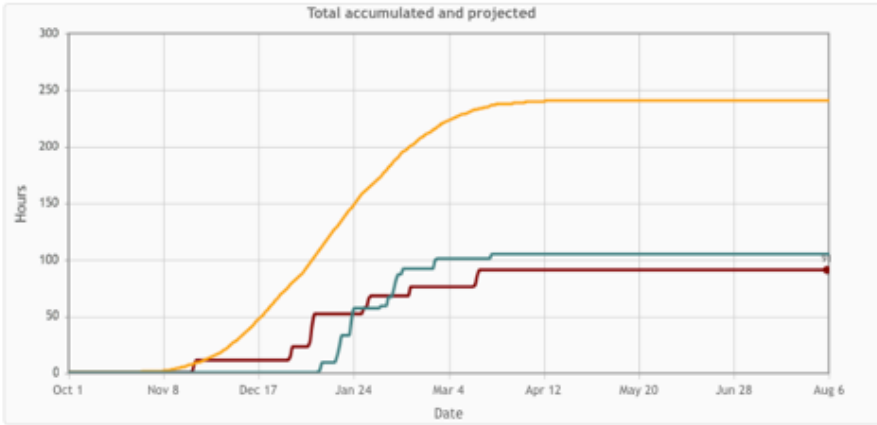
No Flowers 2016 & 2017



Temperature: < 45 °F - Hillsborough County (FL)

Period [Oct 1, 2016 - Aug 5, 2017]:	This season	91 Hours
	Last season	105 Hours
	Historic average	241 Hours

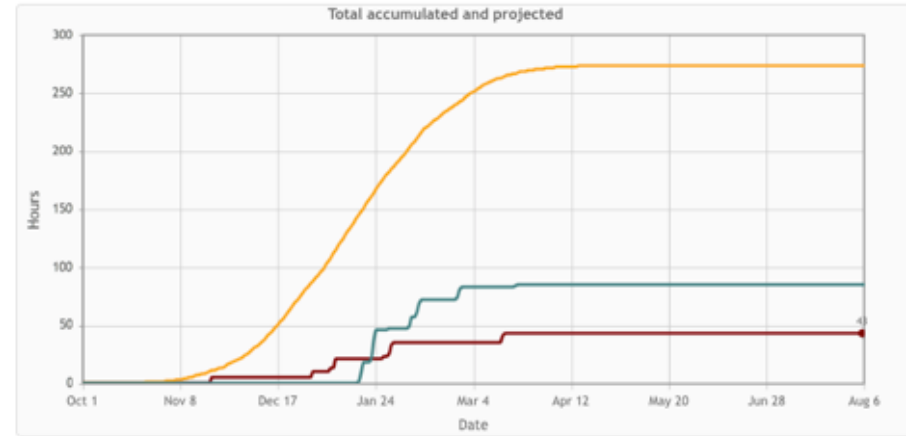
■ Current accumulation ■ Historic Average ■ Last season
■ Neutral years, long-term climatology



Temperature: < 45 °F - Polk County (FL)

Period [Oct 1, 2016 - Aug 5, 2017]:	This season	43 Hours
	Last season	85 Hours
	Historic average	274 Hours

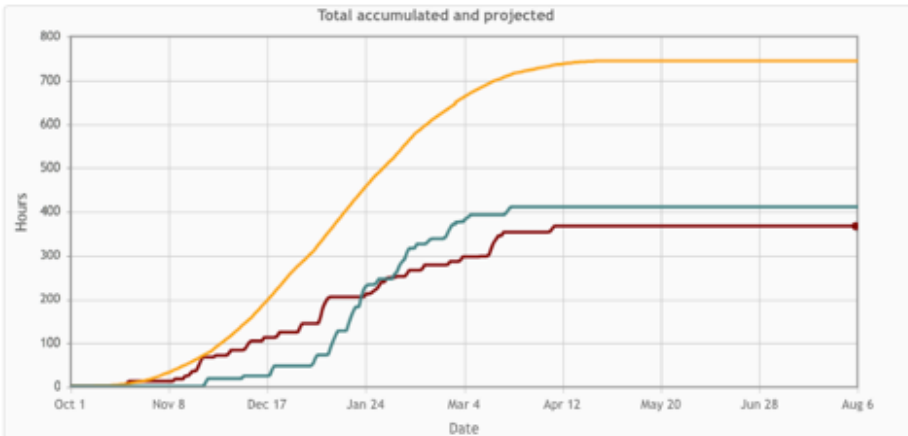
■ Current accumulation ■ Historic Average ■ Last season
■ Neutral years, long-term climatology



Temperature: < 45 °F - Alachua County (FL)

Period [Oct 1, 2016 - Aug 5, 2017]:	This season	367 Hours
	Last season	411 Hours
	Historic average	745 Hours

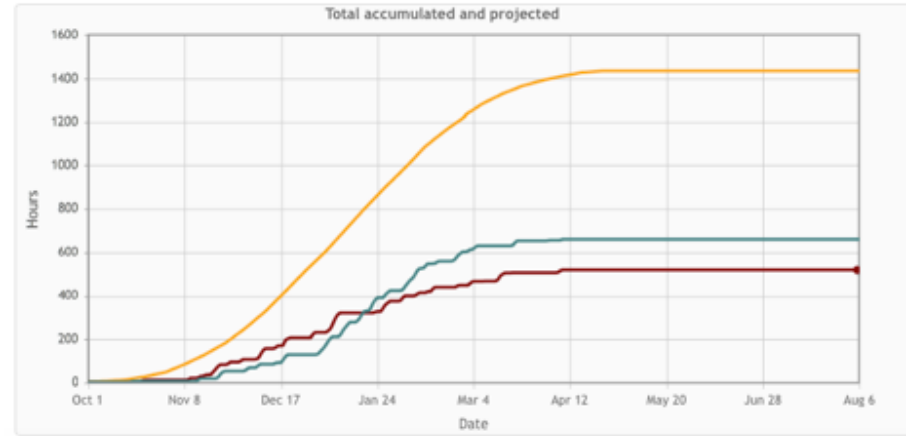
■ Current accumulation ■ Historic Average ■ Last season
■ Neutral years, long-term climatology



Temperature: < 45 °F - Walton County (FL)

Period [Oct 1, 2016 - Aug 5, 2017]:	This season	518 Hours
	Last season	659 Hours
	Historic average	1436 Hours

■ Current accumulation ■ Historic Average ■ Last season
■ Neutral years, long-term climatology



Research Plan

Looking For a Low Chill Solution

Two Categories for Research

- (1) New Varieties
 - Grafting program
 - Rooting program

- (2) Water Stress Program
 - North Location
 - South Location

New Varieties program

- 24 new varieties from California germplasm Bank

880333	Balady	Dolce do Marroco
NO 65A	Adrouppa	Meski
NO 31 Sevillano	Aggezi Shami	Ascolana Dura
NO 12 Sevillano	Zoragi	Piocholine Marocaine
NO 1 Sevillano	Nam Tamri	Azapa
Toffahi of Syria	Bouquetier	NO 63
Jlot	Chetoui	Mixani
Massabi	Chemlali di Sfax	Toffahi of Egypt

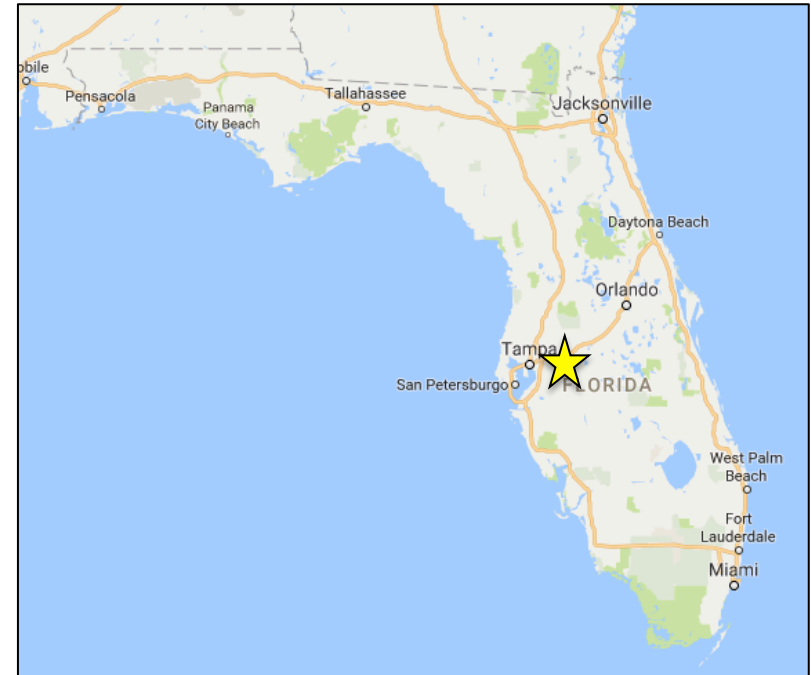


Rooting Program



* Rooting bed features * Destination of the plants

Grafting program

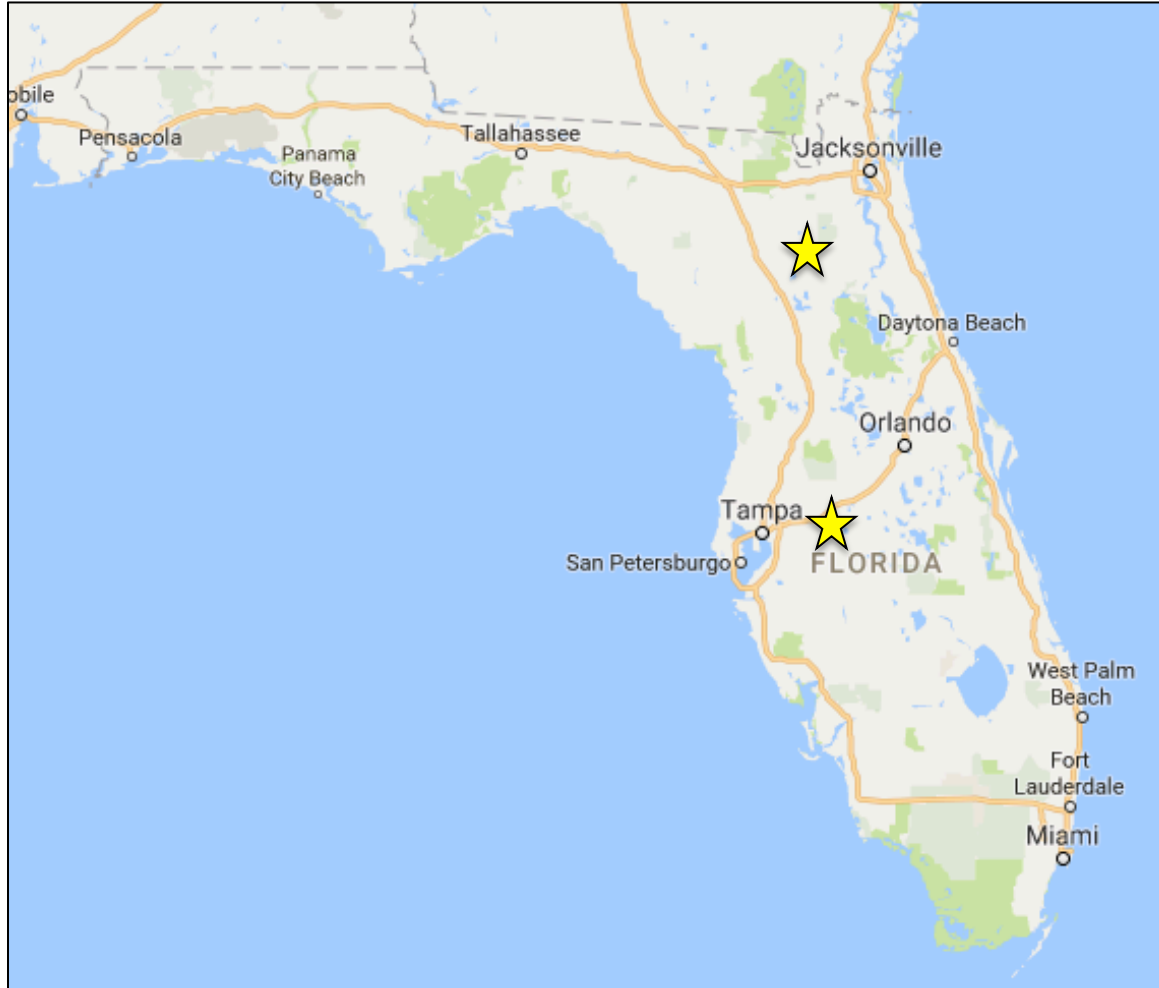


Wauchula, Hardee County Facility.





Water Stress Program



Water stress Experiment Hardee County

Irrigation (%ETc)	BLOCK B: Varieties (number of trees)	ROW	BLOCK A: Varieties (number of trees)	Irrigation (ETc %)
100%-100%	Grafts on arbequina (25); Arbequina (19)	11	Arbequina (31)	0 %
100% - 50 %	Arbequina (44)	10	Arbequina (31)	0 %
100% - 50 %	Arbequina (44)	9	Arbequina (1); Hojiblanca (10); Nevadillo (10); Verdeal (10)	0 %
100% - 50 %	Arbequina (44)	8	Arbequina (1); Pendolino (10); Ascolana (10)	0 %
100% - 50 %	Arbequina (44)	7	Arbequina (31)	0 %
0 % - 0%	Arbequina (1); Manzanilla (12); Koroneiki (15); Sikitita (16)	6	Frantoio (12); Barnea (20)	0 %
0 % - 0%	Pendolino (2); Arbequina (1); Arbosana (44)	5	Chemlali (20); Arbequina (4); Picholine (7)	0 %
100 - 0%	Santa Caterina (44)	4	Picual (22); Arbequina (1); Picholine (8)	0 %
100% - 50%	Coratina (44)	3	Coratina (31)	0 %
100% - 50%	Mission (44)	2	Mission (31)	0 %
100 % - 100%	Sedlings	1	Sedlings	0 %
*Block B: Two irrigation hoses per row.				

General information

Beginning stress date: Date of growth stop or December 1rst.

Duration: 3 months.

Control: Scholander, twice a week.

Questions?