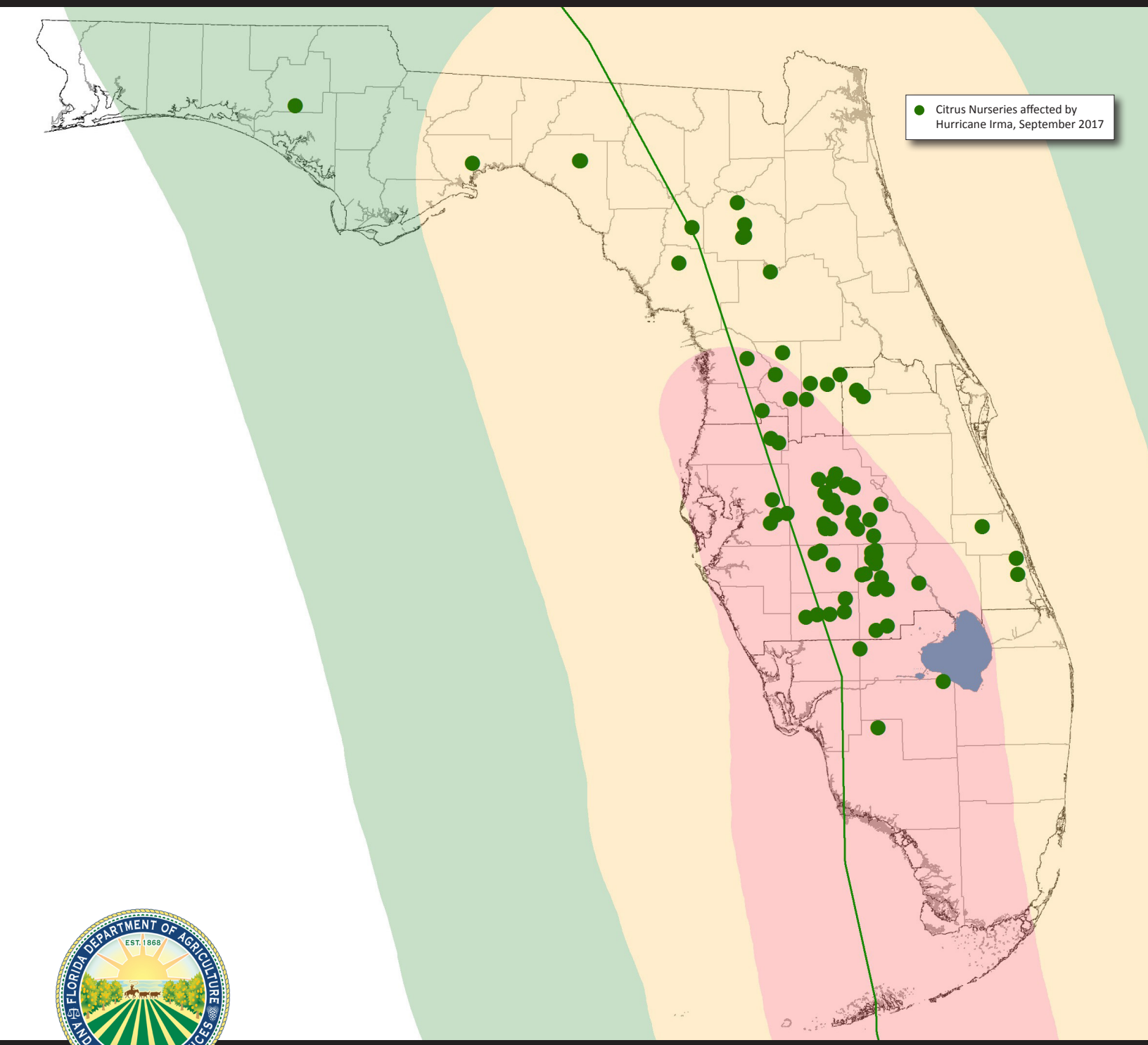
CITRUS BUDWOOD

Annual Report

2017-2018



Florida Department of Agriculture and Consumer Services

Our Vision

The Bureau of Citrus Budwood Registration will be diligent in providing high yielding, pathogen tested, quality budlines that will positively impact the productivity and prosperity of our citrus industry.

Our Mission

The Bureau of Citrus Budwood Registration administers a program to assist growers and nurserymen in producing citrus nursery trees that are believed to be horticulturally true to varietal type, productive, and free from certain recognizable bud-transmissible diseases detrimental to fruit production and tree longevity.

Annual Report 2018

July 1, 2017 – June 30, 2018

Bureau of Citrus Budwood Registration

Ben Rosson, Chief

This is the 64th year of the Citrus Budwood Registration Program which began in Florida in 1953. Citrus budwood registration and certification programs are vital to having a healthy commercial citrus industry. Clean stock emerging from certification programs is the best way to avoid costly disease catastrophes in young plantings and their spread to older groves. Certification programs also restrict or prevent pathogens from quickly spreading within growing areas. Regulatory endeavors have better prospects of containing or eradicating new disease outbreaks if certification programs are in place to control germplasm movement.

Budwood registration has the added benefit in allowing true-to-type budlines to be propagated. The selection of high quality cultivars for clonal propagation gives growers uniform plantings of high quality trees. The original mother stock selected for inclusion in the Florida budwood program is horticulturally evaluated for superior performance, either by researchers, growers or bureau staff. Horticultural evaluation is just as vital as pathogen testing of budwood sources to the success of the program. The average time from entering a tree in the bureau's cleanup and testing program to release back to growers has been reduced from 30 months to 15 months in the past six years.

Prior to a Citrus Budwood Registration Program in Florida, many commercial groves had problems with low production. The selection of high quality parent trees and the development of nucellar sections improved the quality of the fruit along with the production per acre. Selecting superior trees and plants has been a fundamental concept in horticulture ever since man started cultivating crops. The Florida budwood program was responsible for bringing outstanding citrus selections together in one location, which made valuable germplasm accessible to the public. The Florida program has made thousands of parent tree selections over the years and maintains the Florida Citrus Arboretum which currently showcases 256 trees including unique and historical varieties. Budwood for distribution to growers is kept at Chiefland in protected greenhouses outside the geographic bounds of commercially grown citrus.

The bureau's Citrus Germplasm Introduction Program (CGIP) has been operating out of its new facility at LaCrosse for a little over four years now. Phase two consists of additional laboratory and greenhouse space for the bureau to back up part of the Chiefland Foundation collection, grow off clean shoot-tip grafted material, perform rootstock micro propagation and multiply new introductions for industry release.

Chiefland Foundation by the Numbers

- 12th year of operation
- 290,188 bud eyes cut and distributed in 2017-2018
- Over 3.5 million bud eyes dispensed since 2008
- 3+ acres of greenhouses contain 1,897 citrus trees
- 55 customers received budwood this year
- Budwood was cut on 124 different days to fill 213 individual orders
- 41 Florida commercial citrus nurseries which represent 83 percent of the Florida citrus nurseries received budwood this year.

The Citrus Budwood Technical Advisory Committee (CBTAC) met this year to discuss a couple of different issues. The top issues were the amendment to Rule 5B-62 due to Hurricane Irma and changes allowing nurseries to ship exposed material until September 30th, 2018. After receiving input from interested parties, the Bureau started activities to incorporate a seed source block planting in Chiefland. The Director, Dr. Trevor Smith implemented the increase block extension rule allowing increase trees to be utilized for up to 60 months with additional testing.

Bureau of Citrus Budwood Registration Staff Members

28 Full time employees (FTE), 6 OPS positions

Chiefland	4 FTE, 3 OPS
Winter Haven	15 FTE, 2 OPS
LaCrosse	9 FTE, 1 OPS

Name		Position Title	Area of Responsibility	Contact Ext.
CHIEFLAND STAFF - CITRUS BUDWOOD FOUNDATION				
Rosson, Ben		Bureau Chief	Program Administration	352-493-6801
Vacant		Administrative Secretary	Receptionist & Budwood Orders	352-493-6801
Sheppard, Shelby		OPS Senior Clerk	Budgeting	352-493-6801
McCaskill, Marc		Operations & Mgmnt Consultant Manager – SES	Chiefland Budwood Foundation Distribution	352-493-6801
Brady, Robert		Environmental Specialist I	Greenhouse Caretaking & Budwood Cutting	352-493-6801
Miller, George		Ag & Consumer Protection Specialist	Greenhouse Caretaking & Budwood Cutting	352-493-6801
Horlacker, Dakota		OPS Agricultural Technician II	Part-time Budwood Cutting	352-493-6801
Harrison, Josh		OPS Agricultural Technician II	Part-time Budwood Cutting	352-493-6801
WINTER HAVEN STAFF - CITRUS BUDWOOD OFFICE				
Ezell, Justin		Operations & Mgmnt Consultant Manager - SES	Program Administration Winter Haven	863-298-3042
Ouellette, Karen		Management Analyst II – SES	Source Tree Records	863-298-3045
Jusino, Mercedes		Laboratory Technician II	Greenhouse Caretaking	863-298-3051
Roth, Meta		Agricultural Technician III	Greenhouse Caretaking	863-298-3051
Litten, Louisa		Biological Scientist III	Shoot-tip Grafting	863-298-3044
Walker, Kaleigh		Laboratory Technician IV	Assisting Parent Tree Cleanup	863-298-3052
Gmitter, Kacie		OPS Laboratory Technician I	Assisting Lab and Greenhouse Duties	863-298-3052
Hanus, Joseph		Grounds keeping Supervisor II – SES	Arboretum Caretaking	863-298-3042
Mathis, Robert		OPS Agricultural Technician II	Part-time Arboretum Caretaking	863-298-3000
Vacant		Plant Protection Specialist	Arboretum Caretaking	
CITRUS NURSERY INSPECTION STAFF				
Dean, Randall		Environmental Supervisor I - SES	Citrus Nursery Inspection Supervisor	863-298-3039
Yates, Johnny		Environmental Specialist II	Citrus Nursery Inspection	863-298-3037
Taylor, Donald		Environmental Specialist II	Citrus Nursery Inspection	863-298-3037
Lebron-Rivera, Ana		Environmental Specialist II	Citrus Nursery Inspection	863-298-3043
Paolillo, Ajia		Environmental Specialist II	Citrus Nursery Inspection	863-298-3036
Nolen, Ashley		Environmental Specialist II	Citrus Nursery Inspection	863-314-5904
Landress, Craig		Environmental Specialist II	Citrus Nursery Inspection	863-314-5904
Carbon, Peter		Environmental Specialist II	Citrus Nursery Inspection	352-395-4705
LA CROSSE STAFF - CITRUS GERMPLASM INTRODUCTION PROGRAM				
Helseth, Kristen		Biological Administrator III - SES	Program Manager	352-395-4992
Coleman, James		Biological Scientist IV - SES	Laboratory Testing	352-395-4997
Regina Fairbanks		Biological Scientist III	CGIP Lab	
McElroy, Bryan		Laboratory Technician IV	Greenhouse Caretaking	352-395-4991
Vestor Coggins		Maintenance Mechanic	Phase I & II	
Mathew, Meril		Biological Scientist IV – SES	Phase II Lab Manager	352-395-4989
Lai, Kin-Kwan		Biological Scientist III	Laboratory Testing	352-395-4989
Hart, Sam		Environmental Specialist I – SES	Phase II Greenhouse Caretaking	352-395-4990
Charles Dudley		Ag & Consumer Protection Specialist	Phase II Greenhouse Caretaking	352-395-4990
Ashby, Sherri		OPS Laboratory Technician I	Greenhouse Caretaking	352-395-4996

Citrus Budwood Technical Advisory Committee Members

Representative

Grower	Nursery	Regulatory	Research
Bryan Belcher	Jim Brewer	Dr. Susan Halbert	Dr. Kim Bowman
Peter Chaires	John Gose	Kristen Helseth	Dr. Fred Gmitter
Tom Hammond	Nate Jameson	Ben Rosson	Dr. Mark Hilf
Peter McClure	*Phillip Rucks	Justin Ezell	Dr. Bill Dawson
Michael Stewart	Tommy Thayer		

*Committee Chairman
Committee met 6/20/2018

PARTICIPANTS

Florida Citrus Nurseries

Forty-one Florida citrus nurseries reported* making propagations in the 2017-2018 fiscal year.

*The data table closed August 1st, 2018. Any budwood cutting reports submitted after that date were not recorded. It is imperative to submit budwood cutting reports as soon as propagations have been made for the information to be as accurate as possible.

PART#	PARTICIPANT NAME	Nursery Type	PART#	PARTICIPANT NAME	Nursery Type
0963	AgriStarts	TC	0683	M&M	C
0968	Agromillora	TC	0882	McGill Citrus Nursery, Inc.	C
0957	Bailey Branch	OU	0952	Murphy Citrus Nursery, Inc.	C
0821	Robert J. Barben, Inc.	C	0965	North Florida Citrus	C
0955	Blue Heron Nurseries, LLC	C	0972	Old South Nursery	C
0876	Brite Leaf Citrus Nursery, LLC	C	0384	Philmon Citrus Nursery	C
0969	Citrific	C	0535	Pokey's Lake Jem Citrus Nursery	C
0960	CitriSun Nurseries, LLC	C	0974	Propagations Unlimited, Inc.	C
0913	Cutrale Farms, Inc.	C	0625	Rasnake Citrus Nursery	C
0961	Dilley Citrus Nursery, Inc.	C	0778	Reclamation Trees	C
0246	Farkas Citrus Nursery II, LLC	C	0832	Record Buck Farms, Inc.	DY, WHSL
0799	K & C Farmer Citrus Nursery, Inc.	C	0721	Phillip Rucks Citrus Nursery, Inc.	C
0801	Fiddler's Ridge Farms, Inc.	C	0753	South Ridge Citrus Nursery, Inc.	C
0702	Floyd & Associates, Inc.	C	0033	Southern Citrus Nurseries, LLC	C
0929	Gose Growers, Inc.	C	0700	Southern Gardens Citrus Nursery, LLC	C
0522	W. E. Green & Sons Citrus Nursery	C	0948	Sun Ag LLC	C
0519	Ben Hill Griffin, Inc.	C	0750	Tiger Creek Citrus Nursery	C
0773	Harris Citrus Nursery	C, DY	0740	Timmermann's Citrus Nursery	C, DY
0433	Himrod Citrus Nursery, Inc.	C	0920	W.W. Citrus Nursery	C
0355	Holmberg Farms, Inc.	C, DY	0001	Wards Nursery, Inc.	C
0199	Lykes Citrus Division	C			

Nursery Type

C = Commercial

OU = Own use

DY = Dooryard

WHSL = Wholesale

RE = Research

ST = Source trees only

TC = Tissue culture or micro-propagation

Research Agencies Propagating		
1004	UF - CREC	RE
1008	USDA - FT. Pierce	RE
Out of State Propagations Reported		
0000	Texas A & M	RE

4,582 propagations were reported by research agencies including out of state.

1,507 budeyes were distributed out of state.

The FDACS fiscal year reporting period is from July 1st to June 30th.

Citrus Nursery Activity

The 2017-2018 annual report was based on information from 41 registered citrus nurseries. Nursery propagations were obtained from the amount budded on the budwood cutting reports, not including research facilities and out of state.

3,896,085 * nursery propagations in 2017-2018 from 41 active citrus nurseries

*based on information reported

Nursery Size	Number of Nurseries					
# of Propagations	2018	2017	2016	2015	2014	2013
<1,000	5	3	4	3	3	3
1,000-10,000	8	10	18	11	9	7
10,000-25,000	6	9	6	9	9	8
25,000-50,000	5	7	6	10	8	7
50,000-75,000	3	3	3	5	5	5
75,000-100,000	2	0	4	4	5	5
100,000-200,000	4	6	8	6	6	6
200,000-400,000	6	4	3	4	5	4
400,000-600,000	2	2	1	1	2	3
>600,000	0	0	1	1	0	0
	41	44	54	54	52	48

	2018	2017	2016	2015	2014	2013
Number Propagations Reported	3,896,085	3,572,797	4,344,446	4,438,128	4,712,439	4,700,728
Propagations Change by	323,288	(771,649)	(93,682)	(274,311)	11,711	759,679
Percent Change (increase or decrease)	9.04%	(17.76) %	(2.11) %	(5.8) %	.3%	19.3%
Nurseries Increasing Production	20	15	25	15	25	18
Nurseries Decreasing Production	12	28	24	33	21	24
New or Resumed Production	9	1	3	6	5	6

	by County	#Propagations
1	Polk	1,771,963
2	Sumter	587,574
3	Hillsborough	332,591
4	Gilchrist	269,542
5	Highlands	266,070
6	Desoto	228,544
7	Charlotte	113,089
8	Lake	111,712
9	Orange	87,851
10	Hardee	83,038
11	Taylor	28,980
12	Pasco	13,174
13	Indian River	1,109
14	St. Lucie	500
15	Washington	240
16	Levy	108
	Total	3,896,085

Top Variety Clone	Top Rootstock
Valencia SPB-1-14-19 1,317,259 budded	Swingle 683,378 propagations
27 citrus nurseries had annual scion inspections.	12 citrus nurseries had quarterly inspections/testing due to Hurricane Irma damage.

Citrus Nursery Inspection

During the 2017-2018 fiscal year, Citrus Nursery Inspection (CNI) conducted the following:

Citrus Nursery Inspections – 1441

Citrus Nematode Certification – 47

Scion Inspections – 127

Seed Source Inspections – 22

Export Inspections – 14

Citrus nursery inspection currently has 8 full time inspectors including the supervisor. Inspectors were also involved with the Redlands Oriental fruit fly during the last fiscal year.

Budwood Source Trees

Scion Trees

New Scion trees must originate from Chiefland foundation budwood

	#Trees					
Category	2018	2017		#Scion Blocks ** Not including Research participants	2018	2017
Seed Source	10,912	10,203		Participants with Scion Blocks	27	30
Budwood Scion	2,782	3,054		Number of Scion Blocks (Budwood)	35	42
Scion Type				Participants with Seed Source Blocks	21	21
Sweet Orange	2,047	2,239		Number of Seed Source Blocks	36	37
Grapefruit	125	169		#Bud eyes cut	2018	2017
Mandarin	404	413		Foundation *	290,188	319,697
Lemon/Lime	123	131		Scion	1,390,981	1,054,939
Pummelo	14	19		Increase	2,358,060	2,445,744
Kumquat	25	34		Total	4,039,229	3,820,380
Other	44	49		Total number of trees at Chiefland currently 1,897		

Increase Trees

Increase trees can only originate from scion trees or Chiefland Foundation budwood.

Label the Increase Trees with the Originating BCR#

2017-2018		
Total Bud eyes cut from Increase Blocks (IB)	2,358,060	Approved increase blocks shall be used as a source of propagation material for a period of up to 36 months from budding without further testing to a maximum of 60 months with composite testing initiated at month 35.
% of all B/W originating from IB	59.68%	
# Nurseries reported cutting IB	25	
Most popular, # budeyes cut	880,617	Valencia SPB-1-14-19 was the most popular variety-clone cut from increase blocks.
Most budded combination	421,963	Valencia 14-19 on Swingle rootstock was the combination most budded from IB.

Use the BCR-number of the original Source Tree Bud Cutting Report that established the block to identify the origin of the propagations every time the increase block is cut.

**** Increase Block Extension from 36 months to 60 months with a few simple steps*. ***

This year we were able to extend the life of an increase block from 36 months to 60 months given a few conditions are met.

(1). Prior to the block expiring, the department will need to test said block(s) for all graft transmissible diseases.

(2). A minimum of one test per variety regardless of the number of trees in the block will be required.

(3). At 60 months, trees will need to be removed from the greenhouse and are not eligible for scion status.

(4). Fees for testing will be at a rate of $50 per test plus mileage.

Top Clones Propagated 2017-2018

	Variety Clone	# Budded	Description
1	Valencia SPB-1-14-19	1,317,259	A Hughes nucellar line, entered budwood program in 1955. These SPB-1 trees are the first selections from open pollinated Valencia seedlings in a grove planted by Dr. and Mrs. Ausker Hughes near Plymouth in Orange County in 1941. The nucellar characteristics made them more cold hardy than the old-line selections. Fruit production is better than the old-line selections. They have become the most popular Valencia selections in Florida. Similar to SPB-1-14-31, and SPB-1-12-7.
2	Vernia UF 35-15	483,037	This is Dr. Bill Castle's nucellar selection planted at Orie Lee's, St. Cloud. Entered in to the budwood program 5/15/1996. The seed for the DPI-441 clone originated from the Coca Cola, Hodgson Grove, Indian Town, same as the Vernia-3 clone. Vernia is a Spanish variety; fruit medium-small, egg shaped, well colored, very prolific, fruit holds well, inclined to produce off bloom fruit, smaller than Valencia. The season is several weeks earlier than Valencia.
3	Hamlin 1-4-1	355,505	An old-line selection entered into the budwood program by Ward's Nursery in Avon Park. This was the first Hamlin selection entered into the budwood parent tree program in 1953 and still remains the most widely propagated early orange. It has typical Hamlin traits and excellent yields. Hamlin originated in Florida as a chance seedling near Glenwood in 1879. Named after citrus culturist Arthur George Hamlin who was DeLand's first attorney and a legal advisor to Henry Flagler.
4	Bearss Le SPB-341-95-33	255,531	Entered into budwood program, 11/1/1966 from the Coca Cola Hodgson grove at Indiantown. The Minute Maid trees were established from budwood from the original Bearss seedling trees at Lutz, FL. The two main clones propagated were 95-33 and 134-3; 95-33 is the selection propagated today. Bearss is the major lemon selection grown in Florida. Similar to Lisbon, vigorous, less thorny than normal, 1-6 seeds, scab susceptible, peel oil 14.12+ lbs./ton. Season: July-December, summer bearing.
5	Sweet Orange UF OLL8	161,707	Restricted University of Florida selection – proprietary – Description will be provided by IFAS upon release.
6	Valencia SPB-1-14-31	136,281	Similar to SPB-1-14-19 above.
7	WG Mandarin 911-C-37	127,334	Private (proprietary) selection.
8	Valencia F-55-4	122,199	The "55 series" are DPI nucellar lines. These selections are young nucellar lines from seedlings of fruit collected from the Hughes grove in Orange County. Fruit characteristics are typical of Valencia oranges. Trees are a little more vigorous than old line and Hughes nucellar selections. Fruit production has been slightly better than the Hughes selections and significantly better than the old lines. Similar to F-55-4, F-55-1, S-F-55-28, and F-55-23. Originally assigned SPB-5A, planted in I/4 Foundation Grove in 1961.
9	Sweet Orange UF OLL4	63,886	Entered by Dr. Jude Grosser CREC, High quality processing sweet orange, also attractive for fresh market. Trees are more cold hardy and drought tolerant than Valencia, also has higher juice %, solids, and color than standard Valencia. This clone is repeating for exceptional yield and large fruit size.
10	Florida EV1 UF B7-70	49,634	Somaclone of Valencia (derived from tissue culture), matures in January/February with typical Valencia quality and characteristics. Less thorny than Valquarius. Previously cleaned up by CGIP via thermotherapy (Lisa Williams).
11	Meyer Le US	49,280	Received budwood from the USDA 1/26/1996 for this selection. It is a typical Meyer lemon type popular with homeowners. The fruit is round, yellow and more cold hardy than typical lemons. Originally brought into the USA by Frank Meyer in 1908 who was a USDA plant explorer. Origin: China, also known as Peking lemon. Description: Ever flowering mainly in spring, large size, smooth skin, lower acidity, more cold tolerant than lemons, dooryard, fruit tender and juicy, moderately seedy (10), low spreading growth habit. Season: Fruit throughout the year, mainly winter, November-March.
12	Harvey Le F-41-39	48,915	Entered into program in 1964 from seed from Kendall Groves, Goulds, FL. The Harvey variety is of unknown parentage found by Harvey Smith of Clearwater on the property of George James in Clearwater. Fruit is reported to be similar to Eureka. Tree hardy, upright, thornless, peel oil 11.78 lbs./ton see DPI-29. Originally assigned SPB-268. Season: August-October.
13	Persian Lime SPB-7	45,811	The original tree was entered into the budwood program in 1954 by Coral Reef Nursery as Li-38-1-1-X. This tree was owned by E. J. Norman of Homestead said to be one of the oldest in Dade county, and propagated by a man named English from one of the first five lime trees known to exist in the area. The current clone is a shoot-tip graft of the original clone. The first commercial Persian Lime planting in central Florida was in 1897 about 2 miles southeast of Lake Placid, planted by a grower whose Marion county trees were killed by the big freeze of 1895. The Persian lime SPB-7 clone was selected to be free of the lime blotch disorder in Florida and has performed well under Florida conditions. The variety is also known as a Tahiti lime. Origin: Unknown, introduced to California from Tahiti. Description: Normally seedless with a high degree of monoembryony, most likely a hybrid, fruit medium small, smooth, thin rind, juicy. Season: Everbearing, mainly winter, June-September.
14	Early Pride US 1-62-122	45,479	A USDA selection released for evaluation in 2009. Originates from Fallglo budwood that Dr. Jack Hearn had irradiated in 1991. Identical to Fallglo except seedless (0-4 seeds) and slightly smaller sized fruit. Mid-October maturity thru mid-November. Origin: USDA FF-10B-8-29. Must have contract with NVDMC to propagate. First patented USDA citrus scion variety. Needs pollinator.
15	Ruby Red Gft F-58-39	36,725	Originated from Dr. Mort Cohen's closed pollination selections made from the grove near the Century Tower on the campus of UF. This was the first Ruby Red grapefruit free of exocortis. Excellent fruit yields with typical fruit shape and color of the Ruby variety. Origin: Limb sport of Thompson, McAllen, Texas 1929. Description: Deeper flesh coloration than Thompson, blush in peel, flesh fades to pink later in the season. Season: November-May.
16	Bingo UF 7-6-27	34,063	A completely seedless mandarin, very easy to peel fruit, small to medium size, red-orange external color, excellent flavor with high Brix and adequate acid to balance. November maturity. Tree is only moderately vigorous. The original tree shows substantially greater tolerance of HLB than most of the other seedlings in this family.

Top Clones Propagated 2017-2018

17	Florida EV2 UF SF14W-65	33,254	Somaclone of Valencia (derived from tissue culture), matures in January/February with typical Valencia quality and characteristics. Less thorny than Valquarius, but thornier than B7-70. Previously cleaned up by CGIP via thermotherapy (Lisa Williams).
18	Sugar Belle UF LB8-9	28,904	Released in 2009 by Dr. Fred Gmitter, IFAS. It is a seedy variety resembling Mineola tangelo although smaller in size and having a late November maturity. Fruit color, flavor, tolerance to alternaria and earlier maturity are its main attributes. Florida Foundation Seed Producers, Inc. granted the New Varieties Development & Management Corp. the exclusive USA licensee for this variety. Must have license agreement with the New Varieties Development & Management Corp to propagate.
19	Key Lime SPB-51-12	27,640	Most likely collected from Avon Park Bombing Range around 1957. This is the main Key Lime clone utilized in nursery industry. Origin: W. Indies. Description: Very small fruit, thin rind, smooth, moderately seedy 3-5, greenish yellow. Season: Ever bearing, mainly winter.
20	Flame Gft US 1-26-71	25,987	Originated from seedlings planted in Florida from the Henderson variety which came from Texas. Seed collected by Dr. Wutscher in Texas and planted by Dr. Hearn in 1973. Entered into program by Jack Hearn 7/17/1981 and released by the USDA in 1987. Early evaluation block planted at DPI WHTP. The fruit color is nearly as good as Star Ruby and has a decent blush. Holds flesh color well into season.
21	Owari Sat 874	23,818	This is the Glen St. Mary Nursery's Owari Satsuma selection that was entered into the budwood program in 2005 by Mr. Barwald of Flying Dragon Citrus Nursery.
22	W Murcott CGIP-122	19,786	W Murcott-DPI-122 Released in 1999. Low seeded mandarin from Morocco that will be seedy in the presence of pollinators. Developed by El Bachir Nadori from a Murcott seedling that was labeled letter "W". W Murcott is different from the Murcott variety in flavor and earlier maturity. Season: November in FL. Also known as Afourer.
23	Eureka Le DPI -	19,500	Source of this Eureka is unknown, although in all probability one of the Eureka clones entered into the budwood program. This tree was for years located in Winter Haven greenhouse 4 in a large container. Origin: California, seedlings from Italian fruit, Cook is a nucellar clonal selection. Description: virtually thornless, precocious, productive compared to other varieties, more sensitive to cold, less vigorous, shorter lived, incompatible with PT and hybrids, peel oil 13.13 lbs./ton see DPI-29. Season: Ever bearing, mainly August-December.
24	WG Man 911-17	18,800	Mandarin selection entered in 2007 by W. G. Roe. Restricted
25	Minneola F-60-5	18,199	This nucellar honeybell selection originated from open pollinated seedlings at the Glen St. Mary Nursery in Dundee (Polk County), 3/25/1957. Seedlings planted at WHTP and planted at the Haines city foundation in rows 56 and 58 in 1963. Typical traits generally associated with Minneola tangelos. Origin: Florida, Duncan x Dancy, USDA release 1931. Description: Pronounced neck at stem end, deep orange-red color, needs pollinator (Temple, Sunburst, Fallglo), 7-12 seeds, susceptible to alternaria, brown spot and scab. Mid-late.
26	Valencia UF B9-65	18,145	Restricted propagation – proprietary –A high yield, high solids selection with typical Valencia maturity, best of 30 selections in trial at Conserve II.
27	Ray Ruby Gft CGIP-103	17,485	Originated from a Ruby Red grapefruit mutation in Texas. Discovered in a Weslaco, Texas Ruby Red grove 1970 by Robert Ray, identical or similar to Henderson? Flesh color and exterior blush is more red than Ruby Red but not as intense as Star Ruby. Good internal red fruit color slightly less than Flame. Good fruit size and shape. Excellent quality, comparable to Ruby Red. Good yields. Released in 1986.
28	Calamondin DPI-555	16,625	From a seedling group of Calamondins planted along the Arboretum East fence, originally entered program 3/3/1953 from Indian Rocks Nurseries in Pinellas County. Clone 5-2-10 set at F/59-24 (SPB-37). Small acid fruit used to make marmalade and flavor drinks. Grown as an ornamental and as a house plant. Origin: China, natural hybrid of mandarin and Fortunella margarita, also known as Panama orange, Calamansi, Chinese orange. Introduced into Florida by Dr. Fairchild in 1899, Description: Tall evergreen, polyembryonic, resistant to foot rot, grown commercially in the Philippines to make acid beverages, cold hardy along the southern Gulf coast. Season: November-April.
29	Tango CGIP-168	16333	Developed by the University of California Riverside citrus breeding program (patented). This is a seedless version of the W Murcott achieved by irradiating budwood. Budwood from CCPP was tested by CGIP in 2007. The selection was planted at Chiefland in 2009. Propagation is restricted, must have license agreement with the New Varieties Development & Management Corp.
30	Brown Select Sat 61-0-1	15976	Brown Select 61-1 originated at the Louisiana Citrus Research Station from a group of open-pollinated Kimbrough seedlings. Reported to be more cold hardy than Owari and ripens 1 or 2 weeks earlier than Owari. Original seed from LSU, DPI-50-29, 12/2/1994.

148 different varieties propagated	Budwood cut on 124 different days
37 various rootstocks used	Budwood cut for 55 different customers

Top Rootstocks

2018		# Budded	2017	2016	2015	2014
1	Swingle	683,378	Swingle	Kuharske	Kuharske	Swingle
2	US-942	661,003	US-942	X-639	X-639	Kuharske
3	Kuharske	504,639	X-639	S/O	Swingle	Sour Orange
4	Sour Orange	418,407	Kuharske	US-897	Sour Orange	X-639
5	X-639	349,046	Sour Orange	SWG	Cleopatra	US-802
6	US-897	243,781	US-802	US-942	US-802	US-812
7	US-802	169,465	US-897	US-802	US-897	US-897
8	Own Root	163,966	UFR-04	US-812	US-942	Cleopatra
9	US-812	146,410	US-812	Cleopatra	US-812	Carrizo
10	Volkamer	119,276	C-35	UFR-04	C-35 Citrange	Volkamer
11	C-35	86,181	Cleopatra	Volkamer	Carrizo	US-942
12	UFR-04	71,231	Volkamer	Kinkoji	Volkamer	C-35 Citrange
13	P Trifoliate	53,935	UFR-03	UFR-03	Own Root	Research Stock
14	Rough Lemon	33,909	C-22	Carrizo	UFR-04	Unknown
15	UFR-03	32,853	Carizzo	Rough Lemon	Kinkoji	Rough Lemon
16	UFR-06	28,617	Rough Lemon	Research	Rough Lemon	Kinkoji
17	Cleopatra	21,760	UFR-17	UFR-02	Unknown	Flying Dragon
18	C-22	19,361	Kinkoji	UFR-17	UFR-03	Pon trifoliata
19	US-896	18,205	UFR-01	UFR-16	Benton	Sun Chu Sha
20	UFR-05	16,735	Flying Dragon	Sun Chu Sha	Pon trifoliata	UF-02
21	Carrizo	16,398	Research	Pon trifoliata	Sun Chu Sha	US-896
22	Flying Dragon Trifoliate	8,726	UFR-05	Smooth Flat Seville	Research Stock	UF-04
23	Research	5,807	Pon trifoliata	UFR-05	C-54 Carpenter	Dickinson
24	US-1516	5,208	Duncan	C-57	C-22 Bitters	C-54 Carpenter
25	C-54	2,827	Smooth Flat Seville	C-54	UFR-17	UF-03
26	UFR-16	2,637	UFR-16	C-22	UFR-02	UF-17
27	Kinkoji	2,340	UFR-15	UFR-15	C-57 Furr	Own Root
28	S/O+50-7	2,188	UFR-3	Flying Dragon	Dickinson	Benton
29	UFR-01	1,981	Sour Orange + 50-7	Tissue Culture	Flying Dragon	Smooth Flat Seville
30	UFR-17	1,656	Benton	Orange14	UFR-16	C-22 Bitters

SWEET ORANGES		PROPAGATIONS	% of Type	
Early	Hamlin 1-4-1	355,505	92.12	Early-Season 385,917 13.63% of Sweet Oranges
	Hamlin 8-1-4	13,693	3.55	
	Hamlin 8-1-5	9,553	2.48	
	Ambersweet US 10-5-65	3,877	1.00	
	Parson Brown F-56-2	1,431	<1	
	Other Early	1,858		
	Totals Early Season	385,917		
Navel	Cara Cara Navel CGIP-104	11,353	41.73	Navel 27,203 .96% of Sweet Oranges
	Glen Navel F-56-11	8,164	30.01	
	Summerfield Navel DPI-70-4-9	6,700	24.63	
	Wash Navel F-60-19	475	1.75	
	Wash Navel F-60-18	300	1.10	
	M-7 Early Navel CGIP-194	151	<1	
	Other Navels	60		
	Totals Navel	27,203		
Midseason	Vernia UF 35-15	483,037	82.8	Midseason 583,127 20.60% of Sweet Oranges
	Florida EV1 UF B7-70	49,634	8.51	
	Florida EV2 UF SF14W-65	33,254	5.70	
	Valquarius LT UF SF14W-62	12,067	2.07	
	Midsweet US 6-9	3,274	<1	
	Other Midseason	1,861		
	Totals Midseason	583,127		
Blood	Sanguinelli B/O US 10-5-17	3,386	82.9	Blood Orange 4,085 .14% of Sweet Oranges
	Moro B/O 3-3-11	502	12.29	
	Budd B/O DPI-82	197	4.82	
	Total B/O	4,085		
Late	Valencia SPB-1-14-19	1,317,259	71.96	Late-Season 1,830,642 64.66% of Sweet Oranges
	Sweet Orange UF OLL8	161,707	8.83	
	Valencia SPB-1-14-31	136,281	7.44	
	Valencia F-55-4	122,199	6.68	
	Sweet Orange UF OLL4	63,886	3.49	
	Valencia UF B9-65	18,145	<1	
	Other Late Season	11,165		
	Totals Late Season	1,830,642		
	Total Sweet Oranges	2,830,974		

Propagations by Type

Mandarin	# Budded	% Type
WG Man 911-C-37	127,334	29.72
Early Pride US 1-62-122	45,479	10.62
Bingo UF 7-6-27	34,063	7.95
Sugar Belle UF LB8-9	28,904	6.75
Owari Sat 874	23,818	5.56
W Murcott CGIP-122	19,786	4.62
WG Man 911-17	18,800	4.39
Minneola F-60-5	18,199	4.25
Calamondin DPI-555	16,625	3.88
Tango CGIP-168	16,333	3.81
Brown Select Sat 61-0-1	15,976	3.73
Owari Sat F-60-23	9,200	2.15
Mandarin UF 950	5,975	1.39
Xie Shan Sat CGIP-163	5,938	1.39
Dancy F-59-8	5,424	1.27
Ponkan DPI-50-6	4,141	<1
Orri CGIP-134	3,758	
Mandarin LS US 1-22-79	3,450	
Fallglo US 10-61-3	2,676	
Sunburst US 5	2,550	
Nules Clem CGIP-125	2,514	
Silver Hill Sat US	2,479	
Owari Sat F-60-25B	2,396	
Gold Nugget CGIP-139	1,913	
Orlando F-57-5	1,658	
Mandarin SL UF C4-15-21 (19)	1,650	
Ann Sat 911	1,000	
Temple 33-6-15	938	
Murcott 130-1-1S	684	
Dobashi Sat DPI-50-28	682	
Page US 2-58	650	
Shiranui CGIP-132	528	
Temple LS DPI-75	434	
Keraji DPI-50-38-3	396	
Clementine US	317	
Mandarin LS US 4-13-31	217	
Rasnake Tangelo 625	216	
Pixie Man CGIP-181	144	
Mandarin UFGlow 10-02	127	
Kishu SL CGIP-137	120	
Willowleaf Man SPB-89-1-1	120	
Kinnow US 9E-9-27	112	
Ugli DPI-74	105	
Lee US 2-56	100	
Mandarin LS US 4-13-39	80	
Nova US 7-41	77	
Mandarin UF 1420	74	
Kimbrough Sat CGIP-108	60	
Setoka CGIP-187	60	
Variegated Minneola F-2-4	35	
Ortanique LS US 6-15-89	33	
Osceola US 3-58	30	
Mandarin UF 1424	24	
Mandarin UF BB4-8-20	24	
King 18-1-1	6	
Ortanique F-24-26	5	
Total Mandarin	428,437	

Grapefruit	# Budded	% Type
Ruby Red Gft F-58-39	36,725	37.20
Flame Gft US 1-26-71	25,987	26.32
Ray Ruby Gft CGIP-103	17,485	17.71
Star Ruby Gft DPI-60	9,343	9.46
Marsh Gft F-57-4	3,518	3.56

Propagations by Type

Grapefruit	# Budded	% Type
Rio Red Gft CGIP-110	3047	3.09
Marsh Gft 74-1-1	1216	1.23
Duncan Gft F-57-19	300	<1
Thompson Gft 25-3-6	204	
Red Gft UF N40-16-11-7	102	
Jackson Gft DPI-16	84	
Summer Gold Gft UF N2-28	82	
Seedless Surprise Gft US 1-77-19	77	
Grapefruit Hyb US 1-83-179	72	
Grapefruit UF N40-16-11-11	72	
Red Gft UF N11-29	72	
Red Gft UF N40-16-11-15	72	
Pink Gft US 1-26-51	72	
Navel Gft US 4-1	60	
Duncan Gft F-56-33	30	
Red Gft UF N40-16-11-3	24	
Burgundy Gft 416-7-1	12	
Triumph Gft DPI-32-4	12	
Isle O Pine Gft US	12	
Hudson Gft US	12	
Royal Gft US 4-39	12	
Foster Gft 65-1-8-27	12	
Ruby Red Gft CGIP-204	10	
Ruby Red Gft CGIP-205	10	
Total Grapefruit	98,736	

Lemon	# Budded	% Type
Bearss Le SPB-341-95-33	255,531	64.23
Meyer Le US	49,280	12.39
Harvey Le F-41-39	48,915	12.29
Eureka Le DPI -	19,500	4.90
Variegated Pink Le US	14,146	3.56
Lisbon Le UF 3-9	5,449	1.37
Ponderosa Le DPI-203-8	3,396	<1
Eureka Le UF 3-27	927	
Eureka Le SL #2 CGIP-226	530	
Everbearing Le US 9-1-64	124	
Nine Pound Le DPI-201-21	60	
Total Lemon	397,858	

Lime	# Budded	% Type
Persian Lime SPB-7	45,811	57.17
Key Lime SPB-51-12	27,640	34.50
Red Lime 899	3,108	3.88
Kaffir Lime UF	2,745	3.43
Key Lime Thornless F-59-39	822	1.03
Total Lime	80,126	

Pummelo & Hyb	# Budded	% Type
Hirado Pum US 1-65	9288	92.58
Pummelo Hyb US 6-17-48	216	2.15
Siamese Pink Pum UF 6-12A	110	1.10
Pummelo DPI-203-3	110	1.10
Pummelo Hyb UF 914	72	<1
Pummelette UF 5-1-99-2	72	
Oroblanco CGIP-111	47	
Melogold CGIP-112	47	
Siamese Swt Pum DPI-203-16	35	
Red Shaddock UF 5-4A	35	
Total Pummelo	10,032	

Kumquat	# Budded	% Type
Meiwa Kum F-27-29	7077	49.58
Long Fruit Kum DPI-603-20-50	3024	21.19

Propagations by Type		
Kumquat	# Budded	% Type
Centennial Kum US	2268	15.89
Nagami Kum SPB-323-1-1	1905	7.67
Total Kumquat	14,274	
Other Citrus	# Budded	% Type
Finger Lime Giant DPI-205-4	12605	92.07
Finger Lime DPI-50-36 Trial Only	426	3.11
Yuzu F-9-15	180	1.31
Sanbokan US 7-55	179	1.31
Buddhas Hand F-8-7	170	1.24
Finger Lime DPI-205-1(not yet fruited)	130	
Total Other Citrus	13,690	

Budwood Availability

Budwood Availability	Scion Trees		Foundation Trees	
Variety Clone	# Part*	Total	#Trees	Restricted ®
6058x2071-02-2	1	18		
A+Volk UF 19-11-31			1	
Abers S/O US 8-35	1	8	1	
Acid Fruit Hyb UF C4-15-8			1	®
Acid Fruit Hyb UF C4-3-35			1	®
Acid Fruit Hyb UF C4-5-20			1	®
Acid Fruit Hyb UF C4-8-40			1	®
Akcay Sekeri 3-3-10			1	
Amb + Benton	1	20		
Amb + Czo	1	19		
Ambersweet US 10-14-65	1	1		
Ambersweet US 10-5-65	2	2	3	
Ann Satsuma 911	1	1		
Atalantia US 11-8-76			1	
Attwood Navel CGIP-201			2	
Baboon Le US 2-25			1	
Bahianinha Navel US 9-6-47			9	
Barao UF 135			1	®
Bearss Le SPB-341-95-33	5	9	7	
Benton UF	1	9	1	
Bergamot US 9-12-15			1	
Bigaradier Apepu S/O US 13-39			1	
Bingo UF 7-6-27	7	97	5	®
Bittersweet F-21-14	2	19		
Bittersweet SPB-400-40-179N	1	11		
Bloomsweet Gft DPI-50-38-1			1	
Blue Lake Orange 956-2			1	®
Bouquet De Fleurs UF 18			1	
Brazilian Le US 3-18			1	
Brown Select Sat 61-0-1	1	4	3	
Budd B/O DPI-82	1	1	3	
Buddhas Hand F-8-7	1	2	1	
Burgundy Gft 416-7-1			1	

Budwood Availability	Scion Trees		Foundation Trees	
Variety Clone	# Part*	Total	#Trees	Restricted ®
C excelsa US 60-169-502			1	
C Iyo Tangor US 9-1-23			1	
C macrophylla DPI-226			1	
C micrantha UF			1	
C moi F-11-8W			1	
C neoaurantium DPI-50-46			1	
C tachibana US 1-67			1	
C-146 UF	2	70	2	
C-22 Bitters UF	3	54	2	
C5282 CGIP-153			2	®
C-54 Carpenter UF	2	97	2	
C-57 Furr UF	2	80	2	®
Cadenera US 5-15			1	
Calamandarin F-9-14			1	
Calamondin DPI-555	4	20	4	
Cambria Navel CGIP-179			2	
Cameron Le US			1	
Cara Cara Navel CGIP-104	4	11	14	
Carney Orange DPI-229-2			1	
Carney Orange DPI-229-3	1	4	1	
Carrizo F-52-16	3	51	3	
Carrizo SPB-330	3	186		
Carvalhal 3-3-37			1	
Centennial Kum US	1	2	2	
Changsha + Benton UF 18-9-6	1	30	1	®
Changsha US 9-12-9			1	
Chinese Pum UF 5-17			1	
Chinotto S/O US 8-41	1	2	1	
Chislett Late Navel CGIP-190			2	
Cipo US 10A-7-10			1	
Citrange C-32 US	1	34	1	
Citrange C-35 F-24-10	6	465	1	
Citrangequat Hyb US 10-3-4			1	

Budwood Availability	Scion Trees		Foundation Trees	
Variety Clone	# Part*	Total	#Trees	Restricted ®
Citron DPI-201			2	
Citrum F-80-6			1	
Citrum F-80-8			1	
Citrum F-W-4			1	
Clem X Yuzu DPI-50-38-2			1	
Clementine US			1	
Cleopatra F-1-7	8	136	2	
Cleopatra F-47-2	4	42		
Cocktail Gft DPI-50-38-5			1	
Crassifolia Kum CGIP-105			1	
Crisafulli Navel DPI-221-1			1	
Daisy CGIP-120	1	1	5	
Daisy LS CGIP-191			1	
Dancy F-59-8	5	7	3	
Dancy UF 12-32			1	®
Delta CGIP-118			2	
Dickinson 595	2	61	1	
Dickinson Gold Valencia 595-1			1	
Disticha DPI-50-24			1	
Dobashi Sat DPI-50-28			1	
Dream Navel DPI-58			5	
Duncan Gft F-56-33	1	2	3	
Duncan Gft F-57-19	4	7	2	
Dweet Tangor F-8-18			1	
Early Pride US 1-62-122	3	10	6	®
Earlygold UF 33-4	5	9	2	
Ellendale DPI-84-11-32			1	
Eloise CGIP-155			1	®
Enterprise 609-14-17			1	
Erem X Shek US 3-67			1	
Eremocitrus US			1	
Escondido Le UF			1	
Etrog Citron DPI-223-861	1	3	1	
Eureka Le DPI-	3	14	2	
Eureka Le SL #2 CGIP-226			1	
Eureka Le SL CGIP-223	1	5	1	
Eureka Le UF 3-27			1	
Eureka Le UF C4-9-30			1	
Eustis Lqt US 16-6-12			1	
Everbearing Le US 9-1-64			1	
Fairchild US 6-8			4	
Fallglo US 10-61-3	3	8	3	
Faustrimedin DPI-205-3			1	
Fertic Te DPI-216			3	
FG-1731 UF			1	
Fina Sodea Clem CGIP-123	1	1	5	
Finger Lime DPI-205-1(not yet	1	1	2	
Finger Lime DPI-50-36 Trial only	1	1	3	
Finger Lime Giant DPI-205-4	2	2	3	
Fisher Navel CGIP-135			2	
Flame Gft US 1-26-71	6	12	7	
Florida EV1 UF B7-70	12	81	2	®
Florida EV2 UF SF14W-65	11	60	2	®
Flying Dragon US	4	87	3	

Budwood Availability	Scion Trees		Foundation Trees	
Variety Clone	# Part*	Total	#Trees	Restricted ®
Folha Murcha UF 211			1	
Fortune US 9E-10-23			1	
Foster Gft 65-1-8-27			1	
Fremont US 6-49	1	1	1	
Fukumoto Navel CGIP-133			2	
Furr LS UF 18A-10-11			1	®
Furr LS UF B-A-32.5			1	®
Furr ST 61-1-25			5	
Gardner US 6-16			3	
Gillets UF			1	
Glen Navel F-56-11	9	40	50	
Glen Navel F-56-12	1	1		
Gold Nugget CGIP-139	1	2	4	®
Goutou US-3	2	27	1	
Grapefruit Hyb UF P1			1	®
Grapefruit Hyb US 1-83-179			2	®
Grapefruit Hyb US 1-83-227			2	®
Grapefruit UF 00-02			2	®
Grapefruit UF 12-04			1	®
Grapefruit UF 9-5-16			2	®
Grapefruit UF N40-16-11-11			1	®
Green 3	1	39		
Hadas CGIP-221	1	1		
Hamlin 1-4-1	20	470	47	
Hamlin 8-1-4	5	52	5	
Hamlin 8-1-5	3	11	15	
Hamlin UF N13-32			4	®
Hamlin US 1262			1	®
Hamlin US 1266			1	®
Hamlin US 1612			1	®
Harvey Le F-41-39	4	12	2	
Hesperethusa UF			1	
Hirado Pum US 1-65	3	8	5	
Homosassa 56-10-28			1	
Hong Kong Kum US 10-2			4	
Hudson Gft US			1	
Hyuganatsu US 12-43			1	
Iapar 73 UF 217			1	®
Ice Tea Lemon UF C4-6-49			1	®
Ichang Le US 2-33			1	
Imperial Gft CGIP-151			1	
Isle O Pine Gft US			1	
Itaborai UF 31-5	1	1		
Itaborai UF 31-6			2	
Jackson Gft DPI-16			5	
Jaffa F-53-38			1	
Jincheng UF 175			1	®
K X R UF			1	
Kaffir Lime UF	2	3	2	
Kao Phuang Pum UF 5-2			1	
Kara US 9E-9-21			1	
Karna US			1	
Kedem CGIP-147	1	1	5	®
Keraji DPI-50-38-3			1	

Budwood Availability	Scion Trees		Foundation Trees	
Variety Clone	# Part*	Total	#Trees	Restricted ®
Key Lime Giant US	1	1	1	
Key Lime SPB-51-12	7	13	4	
Key Lime Thornless F-59-39	2	2	1	
Khalily US 2-29			1	
Kiella Calusa S/O DPI-666-4	1	4	1	
Kimbrough Sat CGIP-108			2	
King 18-1-1	1	2	3	
Kinkoji DPI-50-44	6	297	1	
Kinnow LS CGIP-193			1	
Kinnow US 9E-9-27			2	
Kinokuni US 11-65			1	
Kishu SL CGIP-137	2	5	3	
Kiyomi Tangor CGIP-136			1	
Kuharske 100-1-10	14	722	3	
Kuharske 100-1-18	3	89		
Kunembo US 3-10-3			2	
Lakeland Lqt F-55-26	1	5	3	
Lane Navel CGIP-121	2	4	6	
Large Pink Pum US 6-57			1	
Le Pum 748-29			2	
Le Pum 748-32			1	
Lee US 2-56			3	
Lemon Hyb UF C4-4-16			1	®
Lemon Hyb UF C4-8-3			1	®
Lemon Hyb UF C4-8-34			1	®
Lemon Hyb UF LB-6-17			1	®
Lemon UF 1-10-56			1	®
Lemon UF 1-14-10			1	®
Lemon UF 1-1-42			1	®
Lemon UF 1-1-55			1	®
Lemon UF 1-15-50			2	®
Lemon UF 1-19-55			2	®
Lemon UF 1-20-31			2	®
Lemon UF 1-2-8			1	®
Lemon UF 1-3-17			1	®
Lemon UF 1-6-18			1	®
Lemon UF 2-0-19			1	®
Lemon UF 2-21-5			1	®
Lemon UF 2-23-39			1	®
Lemon UF 2-2-48			1	®
Lemon UF 2-3-28			2	®
Lemonquat US 2-31	1	1	1	
Lemorlime UF C4-5-27			1	®
Leo X Te US 5-8-122			1	®
Liang Ping Pum UF 8811			3	
Lime Hyb UF C4-10-11			1	®
Lime Hyb UF C4-10-8			1	®
Lime Hyb UF C4-6-52			1	®
Lime Hyb UF C4-8-14			1	®
Lime Hyb UF C4-9-33			1	®
Lime SL Hyb UF C4-4-26			1	®
Lime SL Hyb UF C4-6-35			1	®
Limeberry DPI-50-43			1	
Limonia UF			1	

Budwood Availability	Scion Trees		Foundation Trees	
Variety Clone	# Part*	Total	#Trees	Restricted ®
Lisbon Le UF 3-9	2	2	3	
Long Ft Kum DPI-603-20-50	1	5	2	
Loretto Lime 874-1	1	1	2	
Lue Gim Gong F-53-18			1	
M-7 Early Navel CGIP-194	1	11	2	®
Madam Vinous UF 13			1	
Malayan Kum UF 10			1	
Man X Org LT UF RBB-7-34			3	
Man X Org UF RBB-6-25			2	®
Man X Org UF RBB-7-34			2	®
Mandalate CGIP-154			1	®
Mandarange UF 4-71			2	®
Mandarange UF SB-7-13			2	®
Mandarange UF SB-8-17			2	®
Mandarange UF SB-8-70			2	®
Mandared CGIP-166			3	®
Mandarin 4x Cybrid 304 UF			1	
Mandarin DPI-50-34			1	
Mandarin LS UF N40W-5-1			1	®
Mandarin LS US 1-22-79			1	
Mandarin LS US 4-13-31			1	
Mandarin LS US 4-13-39			1	
Mandarin LS US 4-13-7			1	
Mandarin Mid UF 711 Mixup			2	®
Mandarin SL UF C4-15-21 (19)			4	®
Mandarin SL US 1-35-21			1	
Mandarin UF 09-02			1	®
Mandarin UF 09-05			1	®
Mandarin UF 09-07			1	®
Mandarin UF 09-08			1	®
Mandarin UF 10-04			1	®
Mandarin UF 11-01			1	®
Mandarin UF 11-02			1	®
Mandarin UF 11-08			1	®
Mandarin UF 11-10			1	®
Mandarin UF 12-01			2	®
Mandarin UF 12-02			2	®
Mandarin UF 12-03			1	®
Mandarin UF 12-06			2	®
Mandarin UF 12-07			1	
Mandarin UF 12-08			2	®
Mandarin UF 13-12			1	
Mandarin UF 13-14			1	
Mandarin UF 14-04			1	
Mandarin UF 14-08			1	®
Mandarin UF 1420			1	®
Mandarin UF 1424			1	®
Mandarin UF 1425			1	®
Mandarin UF 15-07			1	
Mandarin UF 15-08			1	
Mandarin UF 15-09			1	
Mandarin UF 18A-2-14			1	®
Mandarin UF 18A-8-25			1	®
Mandarin UF 18A-8-42			1	

Budwood Availability	Scion Trees		Foundation Trees	
Variety Clone	# Part*	Total	#Trees	Restricted ®
Mandarin UF 18A-9-27			1	
Mandarin UF 18A-9-43			1	®
Mandarin UF 304			1	®
Mandarin UF 3-13-51			1	®
Mandarin UF 3-13-86			1	®
Mandarin UF 3-14-45			1	®
Mandarin UF 3-7-92			1	®
Mandarin UF 411			4	®
Mandarin UF 6-13-30			2	®
Mandarin UF 7-8-55			2	®
Mandarin UF 900			4	®
Mandarin UF 9-10-28			2	®
Mandarin UF 916			2	®
Mandarin UF 950			4	®
Mandarin UF 9-8-20			2	®
Mandarin UF B3-18-2			2	®
Mandarin UF B7-2-59			2	®
Mandarin UF BB4-8-20			2	®
Mandarin UF C4-14-15			1	®
Mandarin UF C4-14-3			1	®
Mandarin UF C4-15-43			1	®
Mandarin UF C7-10-50			1	
Mandarin UF C7-12-19			1	
Mandarin UF E20-42-13			2	®
Mandarin UF E20-45-14			2	®
Mandarin UF E20-45-19			2	®
Mandarin UF KW5-12			1	®
Mandarin UF LB3-11			1	®
Mandarin UF LB5-3			2	®
Mandarin UFLB7-11			2	®
Mandarin UFLB8-10			2	®
Mandarin UF N18A-8-17			1	®
Mandarin UF N18A-9-39			1	®
Mandarin UF NB-17-25			2	®
Mandarin UF RBS-13-8			2	®
Mandarin UF RES-10-39			1	®
Mandarin UF RES-19-22			2	®
Mandarin UF RES-19-56			2	
Mandarin UF SB-2-48			1	®
Mandarin UFDawn 09-13			2	®
Mandarin UFGlow 10-02			2	®
Mandarin UFSunrise 09-04			2	®
Mandarin US 1-20-68			2	®
Mandarin US 1-23-130			2	
Mandarin US 1-24-48			2	®
Mandarin US 1-30-52			2	®
Mandarin US 1-34-11			2	®
Mandarin US 1-57-105			2	®
Mandarin US 1-63-77			2	®
Mandarin US 1-63-85			2	®
Mandarin US 1-78-62			2	®
Mandarin US 1-84-2			1	®
Mandarin US 1-8-70			2	
Mandarin US 1-8-96			1	®

Budwood Availability	Scion Trees		Foundation Trees	
Variety Clone	# Part*	Total	#Trees	Restricted ®
Mandarin US 6-32-43			2	®
Mandarin US 6-32-67			2	®
Mandarin US 6-34-45			2	®
Mandarin US 6-35-90			2	
Mandarin US C54-4			2	®
Marisol Clem CGIP-124	1	1	3	
Marsh Gft 74-1-1			5	
Marsh Gft F-57-4	4	8	5	
Marsh Gft F-58-6	1	10		
Marumi Kum DPI-50-47	1	3	2	
Mayaca Navel 63-18-2			3	
McCarty Gft F-53-11			1	
Mediterranean Sweet F-58-38			1	
Meiwa Kum F-27-29	5	11	6	
Melogold CGIP-112	1	1	4	
Merav CGIP-146	1	1		
Meravit CGIP-220	1	1		
Meyer Le US	7	19	3	
Microrocitrus Inodor US 80-527A			1	
Microcitrus Papuana US			1	
Midknight CGIP-119	1	2	4	
Midsweet LS UF 12-2-33			2	®
Midsweet LS UF 2-23			1	®
Midsweet LS UF SF11-1-24			4	®
Midsweet LS UF SF11-2-31			2	®
Midsweet US 6-9	7	14	5	
Milam UF A			1	
Miller B/O UF			2	®
Mini-Mandarin UF N18A-10-18			1	®
Minneola F-60-5	7	23	5	
Monreal Clem CGIP-109			1	
Moria CGIP-164	1	1	3	®
Moro B/O 3-3-11			3	
Moro B/O DPI-50-19	1	4		
Moro X TAR B/O 3-2-66			1	
Morton US 1-3	1	33	1	
Mott Gft DPI-45			1	
Murcott 130-1-1S	11	21	7	
Murcott LS UF LB2-19			2	®
Murcott LS UF N40-18A-10-09				
Murcott UF 18A-10-47			2	
Murcott UF 18A-3-16			2	®
Nagami Kum SPB-323-1-1	3	4	4	
Nakon Pum US	1	1	3	
Nansho Daidai DPI-50-45			1	
Nasnaran DPI-50-49			1	
Natsumikan DPI-50-48			1	
Naugle Le DPI-206-1			1	
Navel Gft US 4-1	1	1	2	
Navel US 2-C			2	®
Navel US 3-S			2	®
Navel US1-N			2	®
Navelo 81-16-15			1	
Nectar CGIP-148	1	1	4	®

Budwood Availability	Scion Trees		Foundation Trees	
Variety Clone	# Part*	Total	#Trees	Restricted ®
Nine Pound Le DPI-201-21			3	
Nocatee F-25-26			1	
Nordmann Kum DPI-203-1			2	
Norton SPB-306			1	
Nour CGIP-149			4	
Nova US 7-41	2	2	3	
Nules Clem CGIP-125	3	6	3	
Odem CGIP-219	1	2		
Orange 13	1	39		
Orange Hyb LT US 1-76-52			2	®
Orange Hyb US 1-10-1			1	®
Orange Hyb US 1-46-15			2	®
Orange Hyb US 1-5-213			2	
Orange Hyb US 1-5-35			2	®
Orange Hyb US 1-65-55			2	®
Orange Hyb US 1-74-52			1	
Orange Hyb US 1-75-113			2	®
Orange Hyb US 1-75-55			1	®
Orange Hyb US 6-49-96			2	®
Orange Hyb US 6-9-96			2	®
Orange Hyb US 7650			2	
Orange Hyb US 7651			2	
Orange Hyb US 7652			2	
Orange Jasmine F-			1	
Orangequat Hyb DPI-203-5			1	
Orlando F-57-5	5	6	3	
Oroblanco CGIP-111	1	2	4	
Orri CGIP-134	2	16	9	®
Ortanique F-24-26	1	1	5	
Ortanique LS US 6-15-89			2	®
Osceola US 3-58			2	
Oval Pink Pum DPI-212			1	
Owari Sat 874	1	4	5	
Owari Sat F-60-23	2	6		
Owari Sat F-60-25B	1	2	1	
P Tri DPI-50-7			2	
P Tri Rubidoux F-16-20	2	13	1	
P Tri Wacissa F-18-1	4	83	1	
Page US 2-58	2	3	3	
Pandan Wangi Pum US			1	
Parana Gft CGIP-167			1	
Parson Brown F-56-2	1	1	3	
Parson Special US			1	
Pera 3-3-85			1	
Pera US 18-11			1	
Pera US 7-39			1	
Persian Lime SPB-7	5	27	4	
Pineapple 1-27-11	1	1		
Pineapple 53-10-10	1	4	5	
Pineapple F-60-3	2	4	3	
Pineapple SL US 10B-6-30	2	4	5	
Pineapple SPB-150-	1	2		
Pink Gft US 1-26-51			2	®
Pink Pum Hyb US 10-1-1			1	

Budwood Availability	Scion Trees		Foundation Trees	
Variety Clone	# Part*	Total	#Trees	Restricted ®
Pink Sensation Pum 884			1	
Pixie Mandarin CGIP-181			3	
Ponderosa Le DPI-203-8	4	7	3	
Ponkan DPI-50-6	3	4	5	
Pope F-53-28			1	
Procimequat UF			1	
Pum X Gft UF 4-1			2	®
Pummelette UF 5-1-99-2			2	®
Pummelette UF KWP-1-1			2	®
Pummelo 61-12-			1	
Pummelo DPI-203-2			1	
Pummelo DPI-203-3			2	
Pummelo DPI-203-4			2	
Pummelo Hyb UF 914			5	®
Pummelo Hyb UF C2-5-03			1	
Pummelo Hyb UF C4-10-36			1	®
Pummelo Hyb UF NB17-4-0219			1	®
Pummelo Hyb UF NB19-17-0218			1	®
Pummelo Hyb UF NB19-18-0218			1	®
Pummelo Hyb UF NB19-22-0218			1	®
Pummelo Hyb UF NB19-28-0218			1	®
Pummelo Hyb UF NRB15-43			1	®
Pummelo Hyb UF P2			1	®
Pummelo Hyb US 10A-1-21			3	®
Pummelo Hyb US 4-3-168			1	®
Pummelo Hyb US 5-93-42			2	®
Pummelo Hyb US 6-16-172			2	®
Pummelo Hyb US 6-16-29			1	®
Pummelo Hyb US 6-16-43			1	®
Pummelo Hyb US 6-17-16			2	®
Pummelo Hyb US 6-17-28			2	®
Pummelo Hyb US 6-17-48			2	®
Pummelo Hyb US LP-36-39			2	®
Pummelo UF N7-4			1	®
Pummelo US 10a-7-15			1	
Pummelo US 145 NE			3	
Pummelo US NW			3	
Queen 25-2-15	1	1	3	
Rangpur Li F-3-8			1	
Rasnake Tangelo 625	1	1		
Ray Ruby Gft CGIP-103	9	26	10	
Red Grapefruit UF 16-11-17			2	®
Red Grapefruit UF N11-29			2	®
Red Gft UF N40-16-11-15			1	
Red Gft UF N40-16-11-3			1	
Red Gft UF N40-16-11-7			2	®
Red Java Pum UF 6-4A			2	
Red Lime 899	2	4	1	
Red Pummelo UF 5-1-99-5			2	®
Red Pummelo UF C2-5-12			1	®
Red Pummelo UF C4-11-19			1	®
Red Pummelo UF UKP-1			1	®
Red Shaddock UF 5-4A	1	1	1	
Ridge Pi SPB-602-36			1	
Rio Red Gft CGIP-110	6	21	7	

Budwood Availability	Scion Trees		Foundation Trees	
Variety Clone	# Part*	Total	#Trees	Restricted ®
Robinson US 3-56	2	3	4	
Roble 502-4-12	1	1	6	
Rohde Red 472-11-43	5	16	9	
Rohde Red DPI-50-3-1			1	
Rohde Red DPI-50-3-2			1	
Rohde Red DPI-50-3-8			1	
Rohde Red DPI-50-3-9			1	
Rohde Red UF B3-42			1	®
Rosa UF 156			1	®
Rough Le 199	1	23		
Rough Lemon Red UF 8-7	2	35	2	
Round Lime DPI-205-2	1	1	1	
Royal Gft US 4-39			1	
RS UF 16-5-28 Orange16			1	®
RS UF 16-5-5 Orange14	1	39	2	®
RS UF 18-2-19 White-1	1	16	2	®
RS UF 18-2-8 Green-7	1	39	2	®
RS UF 2247x1571-00-3 White-3	1	13	1	
RS UF 2247x2075-01-2			1	
RS UF 46x20-04-32			2	®
RS UF 46x20-04-48			2	®
RS UF 46x20-04-S13			1	
RS UF 46x43-05-SDLG-51			1	
RS UF A+HBPxOrange 19-08-2			1	
RS UF B21-R1-T2-11-2			2	
RS UF Blue 1			1	
RS UF B21-R1-T25-11-6			2	
RS UF Cleo+Carrizo			1	
RS UF Gft + 50-7	1	38	1	
RS UF Milam+HBPxOrange 14-09-14			1	
RS UF Murcott+Rubidoux			1	
RS UF Purple 4			1	®
RS UF SG-50-6			1	®
RS UF SO + 50-7			1	
RS UF SO + FDT			1	
Ruby Red Gft F-58-39	8	29	10	
Ruby Sweet (35) UF 30-24	1	1		
Ruby Sweet (35) UF 32-10	1	1	2	
Ruby Valencia CGIP-195	1	3	2	®
Ryan Navel CGIP-186	1	2		
Salustiana 3-1-71			1	
Sampson UF 9-1A			1	
Sanbokan US 7-55	1	2	1	
Sanguinelli B/O US 10-5-17	2	5	4	
Sanguinello Riccio UF 200			1	®
Santa Cat Navel US 1			1	
Seedless Snack UF N40W-6-3	1	1	4	®
Seedless Surprise Gft US 1-77-19			6	®
Seleta Agrocitros UF 132			1	®
Seleta Branca UF 166			1	®
Seminole SPB-342-3-3			1	
Serra D Agua UF 210			1	®
Setoka CGIP-187	1	3	2	
Sexton F-47-24			1	

Budwood Availability	Scion Trees		Foundation Trees	
Variety Clone	# Part*	Total	#Trees	Restricted ®
Shambar Gft US 3-63			1	
Shasta Gold CGIP-159	1	1	4	®
Shatian Pum CGIP-126			3	
Shekwasha US 9-1-27			1	
Shiranui CGIP-132	1	1	4	
Siamese Pink Pum UF 6-12A			3	
Siamese Pum UF 6-9A			1	
Siamese Swt Pum DPI-203-16	2	2	3	
Silver Hill Sat US			3	
Sinton Citrquat US			1	
Smooth Flat Sev US 2-2-14	2	33	1	
Sorp+Sh-991	1	16		
Sour Orange DPI-50-9	2	6		
Sour Orange F-49-7	9	169	2	
Star Ruby Gft DPI-60	3	5	4	
Succari US 7-21			1	
Sugar Belle LS UF 1-3			2	®
Sugar Belle UF LB8-9	5	39	11	®
Sukega Gft CGIP-182			1	
Summer Gold Gft UF N2-28			2	®
Summerfield Navel DPI-70-4-9	1	6	2	
Sun Chu Sha US 9-12-12	5	64	1	
Sun Hing Pum DPI-203-7			3	
Sunburst US 5	6	15	8	
Sundiatgo US 5-17			1	
Sunki DPI-50-50			1	
Sunquat DPI-50-27			1	
Sunshine US 10-13			1	
Sunstar US 6-6			5	
Sweet Lime F-10-10	2	12	1	
Sweet Orange SL UF C4-16-12			2	®
Sweet Orange UF 12-05			2	®
Sweet Orange UF 99-01			4	®
Sweet Orange UF C1-41-B			2	
Sweet Orange UF N10-25			2	
Sweet Orange UF OLL10			2	®
Sweet Orange UF OLL23			2	
Sweet Orange UF OLL4	10	155	9	®
Sweet Orange UF OLL6	8	74	2	®
Sweet Orange UF OLL7			2	®
Sweet Orange UF OLL8	11	134	6	®
Swingle DPI-227	4	114		
Swingle US 22-55	13	935	3	
Sydney Hyb US			2	
Tahoe Gold CGIP-140	1	1	3	®
Tami CGIP-145	1	1	6	®
Tango CGIP-168	6	16	11	®
Tangor UF 11-07			1	
Tangor UF 13-07			1	
Tangor UF 13-15			1	
Tankan US 2E-4-25			1	®
Tarocco B/O UF 30-18	1	1		
Tarocco B/O UF 30-37			1	
Tavares Lqt US 9-4-48			3	

Budwood Availability	Scion Trees		Foundation Trees	
Variety Clone	# Part*	Total	#Trees	Restricted ®
Taylor Lee LS CGIP-185	1	3	2	
TDE-1 CGIP-158			3	®
Te X Or US 10-15-67			1	®
Temple 33-6-15	3	5	3	
Temple LS DPI-75	1	1	3	
Thomasville Citrqt US 1-20			1	
Thompson Gft 25-3-6	4	6	4	
Thomson Navel US 6-6			1	®
Thong Dee Pum UF 5-8A			1	
Tresca US 10C-2-4			5	®
Triumph Gft DPI-32-4			1	
Troyer F-17-20	1	5		
UFR-01 Orange3	3	81	1	®
UFR-02 Orange4	3	52	2	®
UFR-03 Orange15	7	124	2	®
UFR-04 Orange19	9	242	2	®
UFR-05 White4	5	91	2	®
UFR-06	4	164	2	®
UFR-07			3	®
UFR-09			3	®
UFR-10			3	®
UFR-11			2	®
UFR-12			2	®
UFR-14			1	®
UFR-15	5	59	2	®
UFR-16	4	56	2	®
UFR-17 Green2	5	89	2	®
Ugli DPI-74	1	1	1	®
US-1102			3	®
US-1103			1	
US-1104			2	®
US-1105			1	®
US-1130			3	®
US-1137			3	®
US-119			1	®
US-1271			2	®
US-1279	1	6	3	®
US-1280			1	®
US-1281	1	34	3	®
US-1282	1	42	3	®
US-1283	1	6	3	®
US-1284	1	1	3	®
US-1287			3	®
US-1293			3	®
US-1297			3	®
US-1305			2	®
US-1317			3	®
US-1319			3	®
US-1321			3	®
US-1460			3	®
US-1473			3	®
US-1481			3	®
US-1516	1	6	2	®
US-1627			1	

Budwood Availability	Scion Trees		Foundation Trees	
Variety Clone	# Part*	Total	#Trees	Restricted ®
US-1645			3	®
US-1649			3	®
US-1659			1	®
US-1671			3	®
US-1672			1	®
US-1673			2	®
US-1690			3	®
US-1691			1	®
US-1692			1	®
US-1695			2	®
US-1696			1	®
US-1705			1	
US-1721			1	
US-1730			1	
US-1740			2	®
US-1741			2	®
US-1742			1	®
US-1753			1	®
UW-1756			1	
US-1757			2	®
Us-1777			1	
US-1837			1	®
US-1845			1	
US-1851			1	
US-1859			1	®
Us-1865			1	
Us-1867			1	
US-2101			2	®
US-2102			2	®
US-2103			2	®
US-2104			2	®
US-2105			2	®
US-2106			2	®
US-2107			1	
US-2108			2	®
US-2109			1	
US-2110			2	®
US-2111			3	®
US-2132			1	®
US-2175			1	®
US-2195			1	
US-2259			1	®
US-2264			1	®
US-2290			1	
US-2303			1	
US-2315			1	
US-2331			1	
US-2345			1	
US-2491			1	
US-2492			1	
US-2493			1	
US-801			1	
US-802	16	1228	5	

Budwood Availability	Scion Trees		Foundation Trees	
Variety Clone	# Part*	Total	#Trees	Restricted ®
US-812	13	702	2	
US-852	1	1	2	
US-896	1	2	1	
US-897	15	1385	5	
US-942	16	867	5	
USDA 1-105-106			4	®
USDA 1-25-1			2	®
USDA 1-37-12			2	®
USDA 1-42-65			2	®
USDA 1-42-70			2	®
USDA 1-43-21			2	®
USDA 1-46-30			2	®
USDA 1-49-105			3	®
USDA 1936			2	®
USDA 5-51-2			3	®
USDA 6-13-44			2	®
USDA 6-15-150			2	®
USDA 6-2-53			2	®
Valencia 10-12-7			1	
Valencia 51-3-3			1	
Valencia Appleby UF 11-71			1	®
Valencia F-55-1			1	
Valencia F-55-23	1	4	1	
Valencia F-55-28			1	
Valencia F-55-4	8	129	37	
Valencia Jenner UF 19-39			2	®
Valencia Late UF N10-13			3	®
Valencia Late UF N7-2			2	®
Valencia Mid UF OLL20			2	®
Valencia SL UF 2-21			2	®
Valencia SPB-1-12-7			3	
Valencia SPB-1-14-19	22	551	111	
Valencia SPB-1-14-31	4	37	5	
Valencia UF 1-56			2	®
Valencia UF 1-62			2	®
Valencia UF B9-65	1	1	5	®
Valencia UF BHG2-68			2	®
Valencia UF C2A-1-23			1	®
Valencia UF N40-16-7-11			1	
Valencia UF N7-10			2	®
Valencia UF N9-12			2	®
Valenfresh UF N7-3			4	®
Valencia UF SF14W-65	1	2		
Valquarius LT UF SF14W-62	5	27	7	®
Valquarius UF SF14W-62	3	5	2	®
Vangasay Le US 9-1-23			1	
Variegated Minneola F-2-4	2	9	1	
Variegated Pink Lemon US	3	6	4	
Var Rough Lemon US 10-6-11			1	
Var S/O US 18-4			1	
Varn Navel SPB-194-10-2			2	
Verna Le DPI-203-13	1	5		
Verna Le DPI-203-20	1	7		
Vernia UF 35-15	11	148	18	

Budwood Availability	Scion Trees		Foundation Trees	
Variety Clone	# Part*	Total	#Trees	Restricted ®
Vernia UF 35-16	1	2		
Vernia UF C2A-1-10	1	1	4	®
Volkamer Le US 9-2-19	4	108	3	
W Murcott CGIP-122	4	10	5	
Wash Navel F-60-13	1	1		
Wash Navel F-60-18	2	7	2	
Wash Navel F-60-19	1	1	5	
Weeping Dragon			1	®
Wekiwa US 11-7			3	
Westin UF 47-13	1	1		
Westin UF 47-2			2	
WG Mandarin 911-02	1	6		
WG Mandarin 911-03	1	3		
WG Mandarin 911-17	1	1		
WG Mandarin 911-32	1	2		
WG Mandarin 911-B-23	1	1		
WG Mandarin 911-B-24	1	1		
WG Mandarin 911-B-26	1	1		
WG Mandarin 911-B-37	1	1		
WG Mandarin 911-C-34	1	1		
WG Mandarin 911-C-37	1	1		
WG Mandarin 911-E-22	1	1		
WG Mandarin 911-E-26	1	1		
WG Mandarin 911-E-28	1	1		
Wheeny Gft CGIP-183		2		
White Man UF 6-16-116			2	®
White Orange DPI-203-18	1	2	2	
White Tangelo 956-1	1	1	1	
Wild Turkey Navel 941-11-30-1	1	1	1	
Willits US 12-8-19	1	41	1	
Willowleaf Man SPB-89-1-1			1	
Willowleaf S/O F-12-9			1	
Winola CGIP-165	1	2	1	®
X-639 DPI-50-8	14	1461	3	
Xie Shan Sat CGIP-163	2	16	4	
Yellow Gft 345-1-15	1	1		
Yosemite Gold CGIP-141	1	1	2	®
Yuzu F-9-15		1	1	

New Florida Parent Candidates

Parents Selected or Bred in Florida

Year	Candidates Entered	Parents Released	Cultivars being Shoot-tip Grafted
2018	82	1	82
2017	86	43	109
2016	56	89	100
2015	80	99	102
2014	110	69	121
2013	42	103	81
2012	72	61	138

Entries by Agency	2018	2017	2016	2015	2014
IFAS CREC	19	31	22	24	48
IFAS Gainesville	26	20	11	9	9
USDA	37	25	17	43	51
Bureau / Participant	0	1	4	2	1
Private / Proprietary	0	9	2	2	1
Total	82	86	56	80	110

Pathogen Testing (Florida's Budwood Program)

Scion/Foundation/Parent Source Tree testing

Pathogen	Test Type	2018	2017	2016	2015	2014	2013
HLB	qPCR	**6,531	1,179	5,922	6,685	8,410	7,307
Tristeza	qPCR	5,207	1,305	6,541	7,365	7,657	7,727
Psorosis	Biological	108	122	57	95	104	122
Psorosis	qPCR	5,207	177	2,225	6,188	2,281	1,523
Tatter Leaf	qPCR	5,207	3,042	2,165	3,429	6,599	1,501
Leaf Blotch	qPCR	5,207	1,923	3,049	3,430	6,690	1,523
Viroid (Biological)	CEVd, CVd I, III, IV, V	114	77	72	103	159	87
Viroid (qPCR)	CVd I – V, CEVd	31,242	1,946	19,124	16,790	12,977	14,755
	Total	58,823	9,771	39,155	44,085	44,877	34,545

**includes quarterly testing due to Hurricane Irma

Testing Frequency	HLB & CTV – PCR Annual; Seed Source every 3 years Psorosis/Viroids/Leaf Blotch – every six years (PCR).

Citrus Germplasm Introduction Program (CGIP)
Introductions from Outside Florida

Varieties undergoing pathogen indexing at Gainesville/LaCrosse

Okitsu Wase Satsuma	STG in process	
Miho Wase Satsuma	STG in process	
Rosalina Navel	Awaiting therapy	