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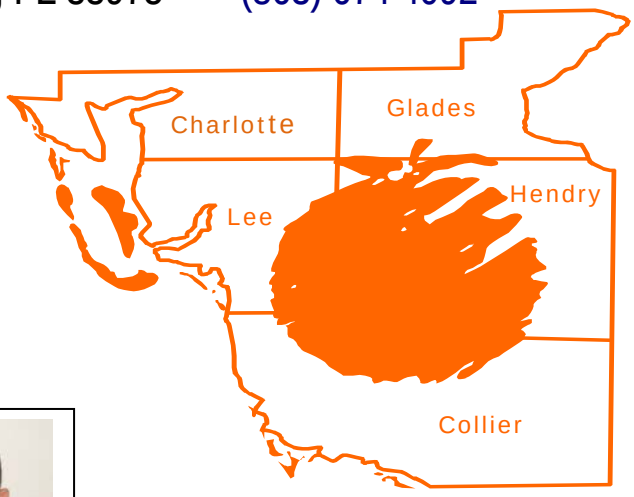
Institute of Food and Agricultural Sciences

Hendry County Extension, P.O. Box 68, LaBelle, FL 33975 (863) 674 4092

Flatwoods Citrus



Vol. 22, No. 10 **October 2019**

Dr. Mongi Zekri
Multi-County Citrus Agent, SW Florida

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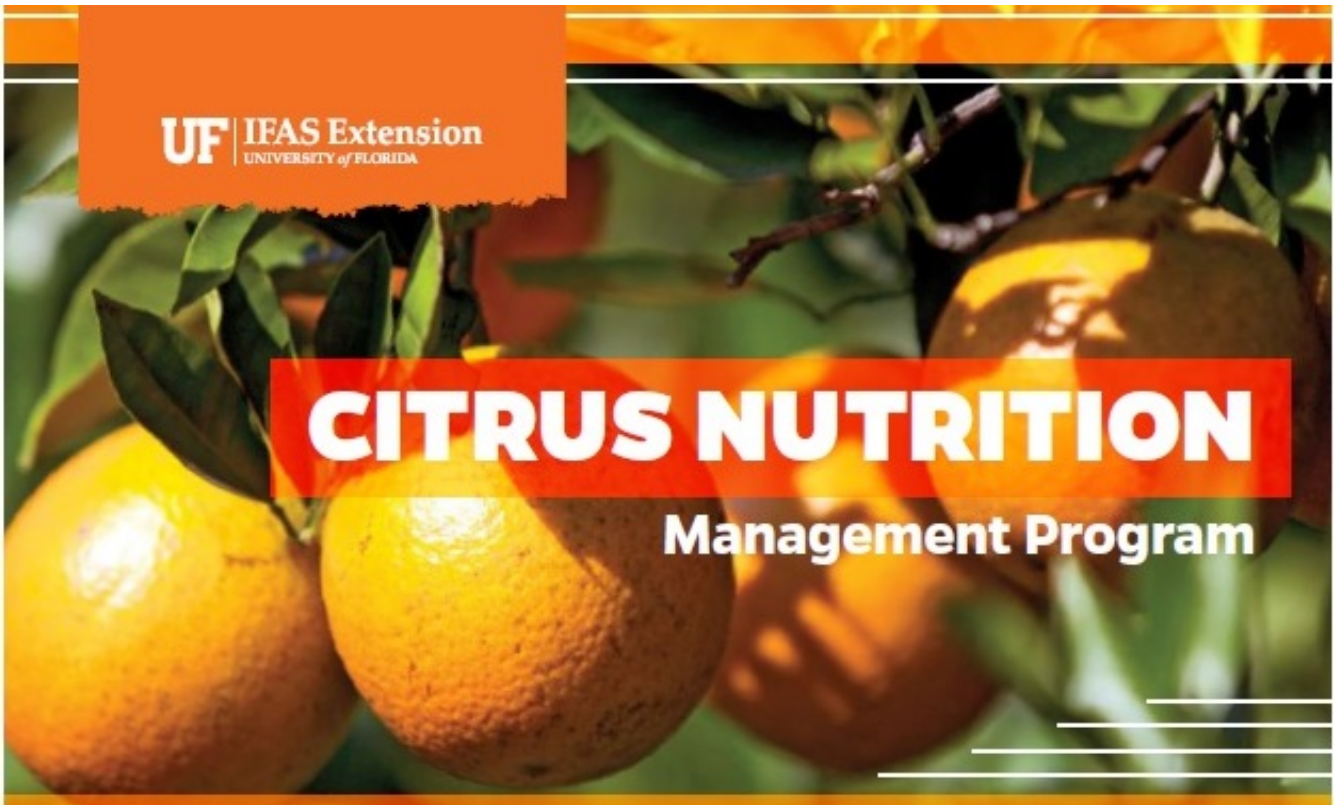

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CITRUS NUTRITION
Management Program

OCTOBER 29, 2019

UF/IFAS Southwest Florida Research and Education Center (UF/IFAS SWFREC)
2685 State Road 29 North, Immokalee, FL

DESCRIPTION

Providing the right nutrient management program for your grove is one of the best ways to fight the impacts of citrus greening.

UF/IFAS is offering **FREE soil and leaf testing kits** to help growers customize their fertilization programs.

Florida citrus growers are invited to come and get their nutrition box and learn how the citrus nutrition program will work. In addition, learn about the most recent citrus nutrition research from the UF/IFAS experts.

AGENDA

9:30 a.m.	Registration
10:00 a.m.	Effect of soil pH and Soil Application of Calcium, Magnesium and Micronutrients on Citrus Health *Dr. Kelly Morgan, UF/IFAS SWFREC*
10:30 a.m.	Use of Soil Applied Micronutrient and CRF for HLB-affected Sweet Orange *Dr. Tripti Vashisth, UF/IFAS CREC*
11:00 a.m.	Managing Macro and Micronutrients for Sustaining Citrus Productivity in the HLB-Era *Dr. Davie Kadyampakeni, UF/IFAS CREC*
11:30 a.m.	Citrus Nutrition Management Program Details *Dr. Tripti Vashisth, UF/IFAS CREC*
11:45 a.m.	Nutrition Box Checkout
12:15 p.m.	Lunch *Sponsored by ICL Specialty Fertilizers, Ward Gunter*

REGISTRATION REQUIRED: nutritionprogramswfrec.eventbrite.com
More information contact: Mongi Zekri • maz@ufl.edu • 863-674-4092

Institute of Food and Agricultural Sciences
UF-IFAS Hendry County Extension Service
P.O. Box 68, LaBelle, FL 33975

Information for the next Certified Pile Burners Course:

The Florida Forest Service and University of Florida Cooperative Extension Service will be conducting a Certified Pile Burners Course on **Wednesday, February 5, 2020**. This course will show you how to burn piles ***legally, safely and efficiently***. Most importantly, it could save a life. If you burn piles regularly, don't put off registering for this training. When the weather is dry, certified pile burners will receive priority for authorization to burn. Also, certified pile burners are allowed to burn up to two hours longer per day and get multiple day authorizations. Don't wait. The number of trainings offered and attendance at each training is LIMITED. This training will be held from 8:30 am till 4:30 pm at the **Southwest Florida Research and Education Center, Immokalee, Florida**. Included are a registration form and program agenda.

Registration is required to attend and class size is limited. To attend please send the following information (see form on next page):

1. Your full name (as wanted on your pile burning certificate).
2. Your mailing address (where you want the certificate mailed).
3. Your Florida Forest Service Customer Number (It is the number that you are required to give the FFS when you call in for your burn permits. If you do not know it, please call the local FFS office and ask them to create one for you).
4. Your email address (or your office e-mail address).
5. Your contact phone number.
6. A check made out to: Hendry County 4-H for $50.00.

The first fifty individuals to provide these six requirements will be registered; there will be a 7-day non refundable fee limit. If you do not make the training and did not contact our office at least one week before the class, you will not receive a refund. There will be a test at the end of the session. You must receive a grade of 70% or higher on the exam and demonstrate a proper pile burn with your local FFS office to become certified. Once you are certified it will be noted with your customer number, thus it is important for us to have the proper number. If you do not have a customer number the FFS office will set one up for you. Fill out the registration form on the next page and return it as directed.

Sincerely,

Mongi Zekri

For Questions Contact: Dr. Mongi Zekri at maz@ufl.edu or 239-595-5494

Registration Form

Florida's Certified Pile Burner Program
Wednesday, February 5, 2020

Hendry County Extension Office
P.O. Box 68, LaBelle, FL 33975
(863) 674-4092

Please send this form and a check for $50.00 made payable to:
Hendry County 4-H

Mail to: **Dr. Mongi Zekri**
Hendry County Extension Office
P. O. Box 68
LaBelle, FL 33975

Name

Mailing address

Email address

Phone Number

Florida Forest Service Customer Number, https://www.freshfromflorida.com/Divisions-Offices/Florida-Forest-Service/Our-Forests/Field-Operations/County-Foresters/Find-a-County-Forester

Florida's Certified Pile Burner Training
Wednesday, February 5, 2020
Location: Southwest Florida Research and Education Center
2685 State Road 29 North, Immokalee, FL 34142
(239) 658-3400

All Times Are Local

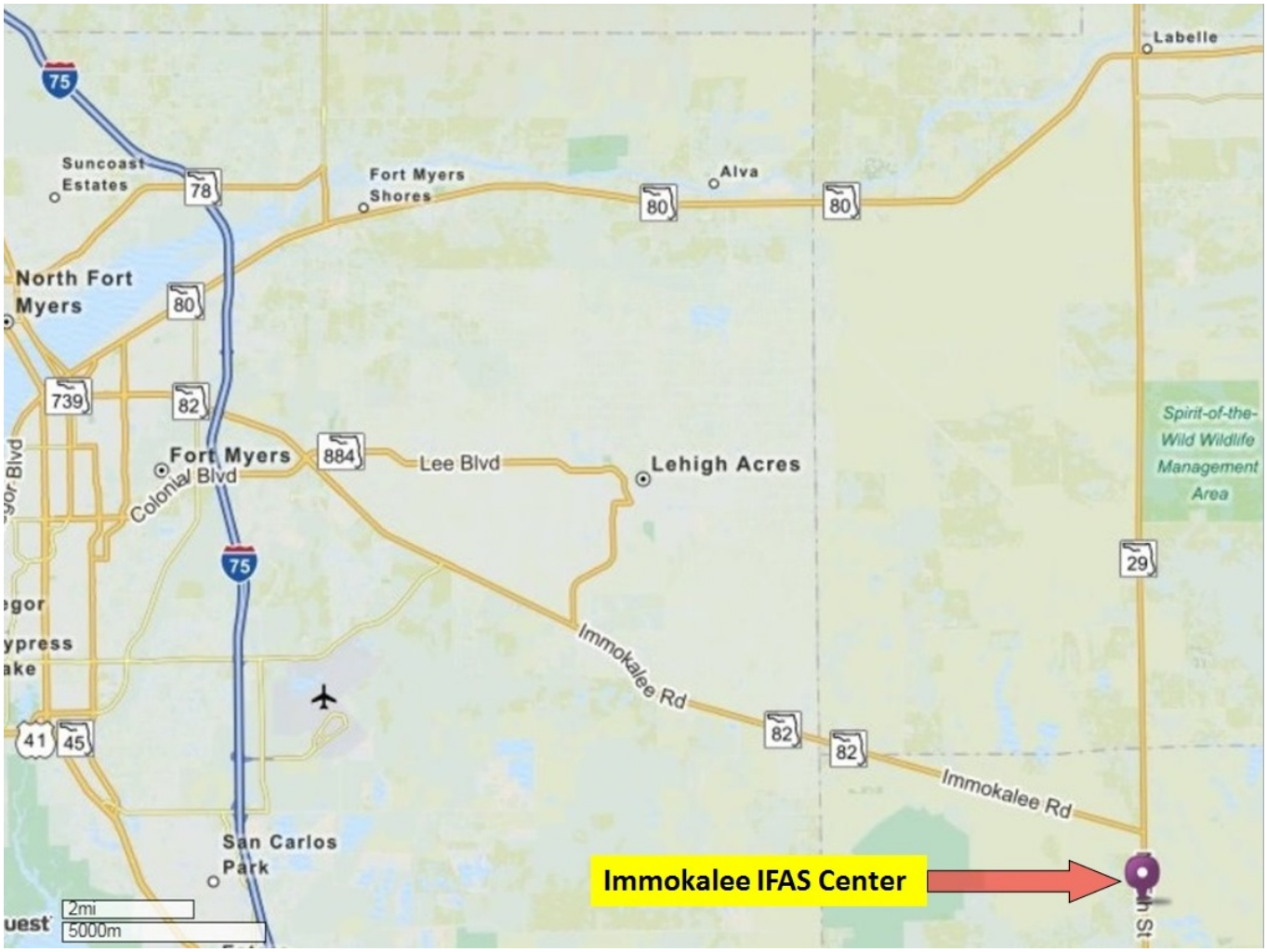
1. Opening Comments and Introduction	08:30 – 09:10
2. Fire Weather	09:10 – 09:50
3. BREAK	09:50 – 10:00
4. Smoke Management	10:00 – 11:20
5. Open Burning Regulations	11:20 – 12:15
6. LUNCH (provided)	12:15 – 01:15
7. Planning and Implementation	01:15 – 02:30
8. Safety	02:30 – 03:10
9. BREAK	03:10 – 03:20
10. Public Relations	03:20 – 04:00
11. Wrap Up & Test	04:00 – 04:30

Please bring a Pencil for the Exam!

Location & Contact Information

<u>Location</u>: Southwest Florida Research and Education Center (Immokalee IFAS Center)
2685 State Road 29 North, Immokalee, FL 34142 (239) 658-3400

<u>Contact</u>: Dr. Mongi Zekri, Multi-County Citrus Extension Agent
Hendry County Extension Office, P.O. Box 68, LaBelle, FL 33975
Office Phone: 863 674 4092
Cell: 239 595 5494
E-mail: maz@ufl.edu



Florida's Certified Pile Burner Training
Frequently Asked Questions

Q: Why should I be a certified pile burner?

A: Certified pile burners are trained to burn piles ***legally, safely and efficiently***. Most importantly, it could save a life. Also, when the weather is dry, certified pile burners will receive priority for authorization to burn by the Florida Forest Service (FFS). Also, certified pile burners are allowed to burn up to two hours longer per day and get multiple day authorizations.

Q: What is a Pile Burner Customer Number?

A: When you call the FFS for an authorization to burn, you will be assigned a personal customer number. This number references your information so it doesn't need to be gathered each time you call for an authorization. You must have your individual FFS customer number in order to be certified.

Q: Is there a test?

A: Yes, the test is 20 questions and open-book. You must receive a score of at least 70% to pass.

Q: What if I don't pass?

A: Very few people fail the test but if you do, you will be provided another opportunity to take the test at a later date. If you fail the second time, you must re-register and take the training again.

Q: Why do you ask for my email on the application form?

A: Email is the fastest and most convenient method to inform registrants of their registration status. If no email address is provided then all correspondence will be sent through the federal mail. This can take several days to relay messages and this may not be practical if changes are made to the course schedule or for last minute registrations.

Q: How much does it cost to register for the training?

A: Registration for the training is $50 per person and includes lunch, training materials and testing.

Q: How long does my certification last, and how long do I have to complete the certification from the time I finish the class?

A: As long as the person with the certification uses their number at least 5 times in a period of 5 years their certification will not expire under the current program. You MUST complete the certification burn within a year of taking the class.

Q: Will certified burners be notified if their certification expires?

A: Yes, notification will be sent out to them to let them know of their upcoming certification expiration date.

Q: Will I be certified at the end of the one day training?

A: No, you will need to follow the written instructions that you will receive from the FFS to become certified. You will need to complete a simple burn plan, have it reviewed and approved locally by the FFS and also have the burn itself reviewed and approved by the FFS.

Q: Is there a minimum age to be a certified pile burner?

A: Yes, you must be at least 18 years old to take the test and be a certified pile burner.

Special Thanks to sponsors of the "Flatwoods Citrus" newsletter for their generous contribution and support.
If you would like to be among them, please contact me at 863 674 4092 or maz@ufl.edu

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Adrian.jahna@basf.com

EL NIÑO/SOUTHERN OSCILLATION (ENSO) DIAGNOSTIC DISCUSSION

issued by

CLIMATE PREDICTION CENTER/NCEP/NWS
and the International Research Institute for Climate and Society
12 September 2019

ENSO Alert System Status: Not Active

Synopsis: ENSO-neutral is favored during the Northern Hemisphere fall 2019 (~75% chance), continuing through spring 2020 (55-60% chance).

During August, ENSO-neutral continued as reflected by near-average sea surface temperatures (SST) across most of the central and eastern equatorial Pacific Ocean (Fig. 1). The latest weekly Niño-3 and Niño-3.4 indices were -0.2°C and 0.0°C, respectively, with the westernmost Niño-4 region index remaining above average (0.5°C) and the easternmost Niño-1+2 region index remaining below average (-0.6°C; Fig. 2). Upper-ocean subsurface temperature anomalies (averaged across 180°-100°W) decreased slightly during the month (Fig. 3), with below-average temperatures strengthening in the east-central equatorial Pacific (Fig. 4). Suppressed tropical convection continued over parts of Indonesia, while near-average convection was evident near the Date Line (Fig. 5). Low-level and upper-level winds were near average over most of the tropical Pacific Ocean. Overall, oceanic and atmospheric conditions were consistent with ENSO-neutral.

The majority of models in the IRI/CPC plume (Fig. 6) continue to favor ENSO-neutral (Niño-3.4 index between -0.5°C and +0.5°C) through the Northern Hemisphere spring. Interestingly, the statistical model averages favor Niño-3.4 values above the El Niño threshold (+0.5°C) during the fall and winter, while the dynamical model average indicates values near +0.2°C. Forecasters are leaning toward the dynamical model average, which is also supported by the current tendency of the ocean toward cooler conditions. In summary, ENSO-neutral is favored during the Northern Hemisphere fall 2019 (~75% chance), continuing through spring 2020 (55-60% chance; click CPC/IRI consensus forecast for the chance of each outcome for each 3-month period).

This discussion is a consolidated effort of the National Oceanic and Atmospheric Administration (NOAA), NOAA's National Weather Service, and their funded institutions. Oceanic and atmospheric conditions are updated weekly on the Climate Prediction Center web site (El Niño/La Niña Current Conditions and Expert Discussions). Forecasts are also updated monthly in the Forecast Forum of CPC's Climate Diagnostics Bulletin. Additional perspectives and analysis are also available in an ENSO blog. The next ENSO Diagnostics Discussion is scheduled for 10 October 2019. To receive an e-mail notification when the monthly ENSO Diagnostic Discussions are released, please send an e-mail message to: ncep.list.enso-update@noaa.gov.

Climate Prediction Center
National Centers for Environmental Prediction
NOAA/National Weather Service
College Park, MD 20740

Citrus Spray Programs

Dr. Jawwad Qureshi and Dr. Phil Stansly, UF IFAS- Immokalee

Asian citrus psyllid (ACP) control has been the main objective of Florida citrus growers for more than 10 years. While some may question the value of controlling ACP in trees with high HLB incidence, replicated field studies have shown the economic benefit of maintaining young flush pathogen free. Good ACP control starts with effective dormant sprays that will control ACP when populations are low, reducing ACP infestation and thus HLB infection of the all-important spring flush. Pyrethroids (Danitol, Baythroid or Mustang) and organophosphates (dimethoate, chlorpyrifos,or Imidan) provide great winter season control of ACP. Best not to use pyrethroids or OPs again during the year except for border sprays which will reduce the need for whole block applications. Follow up with bloom sprays of labeled products to clean up stragglers. Subsequent whole block sprays should target ACP as well as other pests like rust mites and leafminers that may be problematic.

The table below offers alternative products for different months, depending on which pests are of major concern at the time. Neonicotinoids like imidacloprid, thiamethoxam or clothianidin have not been included as spray options due to their importance for controlling ACP in young trees. Superscripts after the pesticide name are now in sequential order to facilitate use and correspond to superscripts after pests controlled. Make choices based on: (1) effectiveness against ACP and other pests that may be problematic, (2) avoiding repetition of any insecticide mode of action in the interest of resistance management, and (3) rebuilding and maintaining an effective natural enemy complex in the grove. Confining the broad-spectrum insecticides (pyrethroids and organo-phosphates) to the winter season and border sprays during growing season will help conserve these products as well as populations of beneficial insects and mites.

Spray Options for Citrus Pest Management

Dormant Season ← → **Growing Season**

Months	Nov-Dec	Jan	Feb-Mar	Apr	May - June	July - Aug	Sep-Oct
Products *** Labeled for bloom**	OP[1] (e.g. Imidan, Dimethoate, chlorpyrifos)	Pyrethroid[2] (Mustang Danitol Baythroid)	*Sivanto[3] *Movento[4] *Portal[5] *Micromite[6] Intrepid[7] Exirel[8]	Portal[5] Micromite[6] Exirel[8] Apta[9] Sivanto[3] Oil[13]	Movento[4] Delegate[11] Abamectin[12] Knack[14] Exirel[8] Apta[9] Sivanto[3] Oil[13] MinectoPro[10]	Sivanto[3] Apta[9] OP[1] MinectoPro[10] Oil[13]	Movento[4] Delegate[11] Apta[9] Sivanto[3] Oil[13]
Pests	ACP Weevils	ACP Weevils	ACP Mites Leafminer Weevils Scales Aphids	ACP Mites Leafminer Weevils Aphids	ACP Rustmite Leafminer Scales	ACP	ACP Rustmite Leafminer

ACP[+++ 1,2,3,4,8,9,10] ACP[++ 5,11] ACP[+ 6,12] Leafminer[6,7,8, 9,11, 12] Rustmite[4, 12]
Scales[4,13] Aphids[3,4] Mealybugs[3,4] (+++ excellent, ++ good,+ fair)

United States Department of Agriculture
National Agricultural Statistics Service

CITRUS

COMMERCIAL CITRUS INVENTORY PRELIMINARY REPORT

Cooperating with the Florida Department of Agriculture and Consumer Services
851 Trafalgar Ct, Suite 310E, Maitland, FL 32751-4132
(407) 648-6013 · (855) 271-9801 FAX · www.nass.usda.gov/fl

August 28, 2019

All Citrus Acreage Down 4 Percent

Results of the annual Commercial Citrus Inventory show total citrus acreage is 430,601 acres, down 4 percent from the last survey and the lowest in a series which began in 1966. The net loss of 16,411 acres is more than twice what was lost last season. New plantings at 10,068 acres are down 17 percent. All citrus trees, at 61.4 million, are down 2 percent from the previous season.

Of the 25 published counties included in the survey, 24 recorded decreases in acreage. Only Sarasota County showed an increase. For the second consecutive season, Indian River County lost the most acreage, down 3,520 acres from last year. Desoto County now has the most acres at 67,406 acres, surpassing Polk County which lead in citrus acreage the previous season.

Orange acreage declined to 392,515, down 3 percent from the previous season. The Western area has the most orange acreage at 124,909. The Central area has the second most with 123,852 acres. The Southern area now has 123,399 acres. The remaining two areas, the Northern and Indian River, combined have 20,355 orange acres. Valencia acreage accounts for 58 percent of the total orange acreage, non-Valencia acreage represents 41 percent, and the remaining orange acreage is unidentified.

Grapefruit acreage is now at 25,339 acres, down 18 percent from last season. White grapefruit (including seedy) is 17 percent of the total with 4,334 acres, while red grapefruit is 82 percent of the total with 20,805 acres, and the remaining grapefruit acreage is unidentified. The Indian River District has 70 percent of the total grapefruit acreage.

Specialty fruit acreage, at 12,747 acres is up 1 percent from last season. Tangelos account for 13 percent of the total. Early tangerines (Fallglo and Sunburst), comprise 21 percent, Royal tangerines account for 6 percent and Honey tangerines constitute 20 percent. Other tangerines account for 22 percent of the total specialty fruit acreage. The remaining specialty fruit acreage includes true lemons and other citrus acreage, with a total of 2,257 acres, or 18 percent.

All Citrus Acreage, by Variety and Survey Year, and Changes Between Surveys – Florida: 1992-2019

Survey [1] year	Oranges [2]	Grapefruit	Specialty [2] fruit	Total	Change		Net change
					Gross loss	New plantings	
	(acres)	(acres)	(acres)	(acres)	(acres)	(acres)	(acres)
1992	608,636	135,166	47,488	791,290	74,704	133,227	+58,523
1994	653,370	146,915	53,457	853,742	45,214	107,666	+62,452
1996	656,598	144,416	56,673	857,687	35,947	39,892	+3,945
1998	658,390	132,817	54,053	845,260	49,325	36,898	-12,427
2000	665,529	118,145	48,601	832,275	59,516	46,531	-12,985
2002	648,806	105,488	43,009	797,303	77,197	42,225	-34,972
2004	622,821	89,048	36,686	748,555	88,875	40,127	-48,748
2006 [3]	529,241	63,419	28,713	621,373	150,805	23,623	-127,182
2008	496,518	56,881	23,178	576,577	66,924	22,128	-44,796
2009	492,529	53,863	22,422	568,814	19,918	12,155	-7,763
2010	483,418	50,189	20,430	554,037	25,109	10,332	-14,777
2011	473,086	48,990	19,252	541,328	21,769	9,060	-12,709
2012	464,918	48,191	18,384	531,493	19,383	9,548	-9,385
2013	459,311	47,656	17,673	524,640	15,115	8,262	-6,853
2014	452,364	45,922	16,861	515,147	21,041	11,548	-9,493
2015	441,628	43,962	15,806	501,396	26,094	12,343	-13,751
2016	425,728	40,316	14,077	480,121	31,365	10,090	-21,275
2017	405,832	36,084	13,057	454,973	36,863	11,715	-25,148
2018 [3]	403,457	30,923	12,632	447,012	20,114	12,153	-7,961
2019	392,515	25,339	12,747	430,601	26,479	10,068	-16,411

[1] One year survey beginning in 2009.
[2] Temples in specialty fruit through 2006 survey, then included in oranges through 2016 survey. Reclassified as Royal tangerines in the 2017 survey.
[3] August and September hurricanes in 2004. October hurricane in 2005. October hurricane in 2017.

All Citrus Acreage, by Variety and Year Set – Florida: Crop Year 2018-2019

Year set	All citrus	Oranges					Grapefruit		
		Early non-Valencia	Midseason non-Valencia	Valencia	Unidentified	Total	Red Seedless	White Seedless	Seedy
	(acres)	(acres)	(acres)	(acres)	(acres)	(acres)	(acres)	(acres)	(acres)
Pre-1975	10,571	2,429	1,274	4,525	-	8,228	1,161	733	45
1975-1984	19,079	8,083	844	6,718	-	15,645	3,250	93	6
1985-1994	131,013	40,078	4,370	72,239	-	116,687	8,166	2,744	74
1995-1997	22,705	6,198	885	14,689	-	21,772	279	(D)	(D)
1998-2000	32,614	10,042	1,246	20,312	-	31,600	522	89	7
2001-2003	32,362	13,004	1,551	16,469	-	31,024	722	126	9
2004-2006	26,630	11,420	911	13,074	-	25,405	859	(D)	(D)
2007-2009	30,657	12,649	1,492	15,122	-	29,263	1,073	56	3
2010-2012	34,508	12,582	1,885	16,678	10	31,155	2,177	77	-
2013-2015	47,888	16,887	1,688	24,203	617	43,395	2,146	(D)	-
Bearing	**388,027**	**133,372**	**16,146**	**204,029**	**627**	**354,174**	**20,355**	**4,168**	**(D)**
2016	17,503	4,751	355	9,504	1,474	16,084	154	(D)	-
2017	15,003	2,338	387	8,437	2,016	13,178	202	(D)	-
2018	10,068	2,107	208	5,341	1,423	9,079	94	(D)	-
Non-bearing	**42,574**	**9,196**	**950**	**23,282**	**4,913**	**38,341**	**450**	**20**	-
Total	**430,601**	**142,568**	**17,096**	**227,311**	**5,540**	**392,515**	**20,805**	**4,188**	**(D)**

See footnote(s) at end of table.

–continued

All Citrus Trees, by Variety and Year Set – Florida: Crop Year 2018-2019

Year set	All citrus	Oranges					Grapefruit		
		Early non-Valencia	Midseason non-Valencia	Valencia	Unidentified	Total	Red Seedless	White Seedless	Seedy
	(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 trees)	(1,000 trees)
Pre-1975	1,214.8	284.8	157.8	551.6	-	994.2	103..0	66.8	4.3
1975-1984	2,285.1	981.3	113.7	839.1	-	1,934.1	330.1	9.7	0.6
1985-1994	18,877.9	5,644.7	645.1	10,728.4	-	17,018.2	1,005.1	324.3	7.4
1995-1997	3,193.4	842.9	121.3	2,105.3	-	3,069.5	29.7	(D)	(D)
1998-2000	4,319.6	1,314.1	169.2	2,705.9	-	4,189.2	64.1	9.4	0.8
2001-2003	4,222.4	1,693.3	218.3	2,156.5	-	4,068.1	79.7	13.1	0.9
2004-2006	3,400.9	1,446.4	119.8	1,682.7	-	3,248.9	101.5	(D)	(D)
2007-2009	4,141.9	1,692.9	201.6	2,076.0	-	3,970.5	126.6	5.2	0.3
2010-2012	4,890.3	1,796.2	284.4	2,339.0	1.4	4,421.0	276.9	8.7	-
2013-2015	7,582.2	2,592.3	245.2	3,861.9	95.5	6,794.9	311.0	(D)	-
Bearing	**54,128.5**	**18,288.9**	**2,276.4**	**29,046.4**	**96.9**	**49,708.6**	**2,427.7**	**464.0**	**(D)**
2016	3,036.9	820.0	52.8	1,697.1	222.7	2,792.6	19.0	(D)	-
2017	2,570.3	360.1	66.4	1,424.9	328.0	2,179.4	33.4	(D)	-
2018	1,628.7	296.7	28.8	877.1	251.4	1,454.0	19.0	(D)	-
Non-bearing	**7,235.9**	**1,476.8**	**148.0**	**3,999.1**	**802.1**	**6,426.0**	**71.4**	**3.5**	-
Total	**61,364.4**	**19,765.7**	**2,424.4**	**33,045.5**	**899.0**	**56,134.6**	**2,499.1**	**467.5**	**(D)**

See footnote(s) at end of table.

–continued

United States Department of Agriculture
National Agricultural Statistics Service

CITRUS OCTOBER FORECAST
MATURITY TEST RESULTS AND FRUIT SIZE

Cooperating with the Florida Department of Agriculture and Consumer Services
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October 10, 2019

Florida All Orange Production Up 3 Percent From Last Season
Florida Non-Valencia Orange Production Up 5 Percent
Florida Valencia Orange Production Up 2 Percent
Florida All Grapefruit Production Up 2 Percent
Florida All Tangerine and Tangelo Production Up 6 Percent

FORECAST DATES – 2019-2020 SEASON
November 8, 2019
December 10, 2019

Citrus Production by Type – States and United States

Crop and State	Production [1]			Forecasted Production [1]
	2016-2017	2017-2018	2018-2019	2019-20120
	(1,000 boxes)	(1,000 boxes)	(1,000 boxes)	(1,000 boxes)
Non-Valencia Oranges [2]				
Florida	**33,000**	**18,950**	**30,400**	**32,000**
California	39,300	35,900	40,800	38,000
Texas	1,090	1,530	2,210	2,050
United States	73,390	56,380	73,410	72,050
Valencia Oranges				
Florida	**35,850**	**26,100**	**41,350**	**42,000**
California	9,000	8,300	9,000	9,000
Texas	280	350	290	650
United States	45,130	34,750	50,640	51,650
All Oranges				
Florida	**68,850**	**45,050**	**71,750**	**74,000**
California	48,300	44,200	49,800	47,000
Texas	1,370	1,880	2,500	2,700
United States	118,520	91,130	124,050	123,700
Grapefruit				
Florida-All	**7,760**	**3,880**	**4,510**	**4,600**
Red	**6,280**	**3,180**	**3,740**	**3,900**
White	**1,480**	**700**	**770**	**700**
California	4,400	3,800	3,200	4,200
Texas	4,800	4,800	6,100	5,700
United States	16,960	12,480	13,810	14,500
Lemons				
Arizona	1,550	1,000	1,350	1,400
California	20,500	21,200	22,800	20,000
United States	22,050	22,200	24,150	21,400
Tangerines and Tangelos				
Florida-All [3]	**1,620**	**750**	**990**	**1,050**
Early [4]	**600**	**(NA)**	**(NA)**	**(NA)**
Royal	**210**	**(NA)**	**(NA)**	**(NA)**
Honey	**530**	**(NA)**	**(NA)**	**(NA)**
Tangelo	**280**	**(NA)**	**(NA)**	**(NA)**
California [5]	23,800	19,200	26,000	23,000
United States	25,420	19,950	26,990	24,050

NA Not available.
[1] Net pounds per box: oranges in California-80, Florida-90, Texas-85; grapefruit in California and Texas-80, Florida-85; lemons-80; tangerines and mandarins in California-80, Florida-95.
[2] Navel and miscellaneous varieties in California; Early non-Valencia (including Navel) and midseason non-Valencia varieties in Florida; Early and mid-season varieties in Texas.
[3] In 2016-2017, includes Fallglo, Sunburst, Royal, and Honey tangerine varieties and tangelos. Beginning in 2017-2018, includes all certified varieties of tangerines and tangelos.
[4] Fallglo and Sunburst varieties.
[5] Includes tangelos and tangors in California.

All Oranges 74.0 Million Boxes

The 2019-2020 Florida all orange forecast released today by the USDA Agricultural Statistics Board is 74.0 million boxes, 3 percent more than last season's final production. The total includes 32.0 million boxes of non-Valencia oranges (early, midseason, and Navel varieties) and 42.0 million boxes of Valencia oranges. The Navel orange forecast, at 800 thousand boxes, accounts for 3 percent of the non-Valencia total.

The estimated number of bearing trees for all oranges is 50.1 million. Trees planted in 2016 and earlier are considered bearing this season. Field work for the latest Commercial Citrus Inventory was completed in June 2019. Attrition rates were applied to the results to determine the number of bearing trees which are used to weight and expand objective count data in the forecast model.

A 9 year regression has been used for comparison purposes. All references to "average", "minimum", and "maximum" refer to the previous 10 seasons, excluding the 2017-2018 season, which was affected by Hurricane Irma. Average fruit per tree includes both regular bloom and the first late bloom.

Non-Valencia Oranges 32.0 Million Boxes

The non-Valencia forecast of 32.0 million boxes is 5 percent higher than last season's production. The estimated number of bearing trees (without Navels) is 19.5 million, down 1 percent from the previous season. The estimated fruit per tree for early-midseason oranges is 775, a decrease of 5 percent from last season. Projected fruit size is below average, requiring an estimated 308 pieces of fruit to fill a 90-pound box. At 26 percent, droppage is above average.

The Navel forecast of 800 thousand boxes is 7 percent higher than last season's production. The estimated number of bearing trees is 932 thousand, down 1 percent from the previous season. The estimated fruit per tree is 236, an increase of 11 percent from last season. Projected fruit size is below average, requiring an estimated 142 pieces of fruit to fill a 90-pound box. Projected droppage is above average at 25 percent.

Valencia Oranges 42.0 Million Boxes

The Valencia forecast of 42.0 million boxes is 2 percent higher than last season's production. The estimated number of bearing trees is 29.6 million, up 2 percent from the previous season. The estimated fruit per tree is 536, a decrease of 12 percent from last season. Projected fruit size is below average, requiring an estimated 245 pieces of fruit to fill a 90-pound box. Projected droppage is above average at 28 percent.

Reliability

To assist users in evaluating the reliability of the October 1 Florida production forecasts, the "Root Mean Square Error," a statistical measure based on past performance, is computed. The deviation between the October 1 production forecast and the final estimate is expressed as a percentage of the final estimate. The average of squared percentage deviations for the latest 20-year period is computed. The square root of the average becomes statistically the "Root Mean Square Error." Probability statements can be made concerning expected differences in the current forecast relative to the final end-of-season estimate, assuming that factors affecting this year's forecast are not different from those influencing recent years.

The "Root Mean Square Error" for the October 1 Florida all orange production forecast is 10.8 percent. However, if you exclude the three abnormal production seasons (three hurricane seasons), the "Root Mean Square Error" is 6.6 percent. This means chances are 2 out of 3 that the current all orange production forecast will not be above or below the final estimates by more than 10.8 percent, or 6.6 percent excluding abnormal seasons. Chances are 9 out of 10 (90 percent confidence level) that the difference will not exceed 18.7 percent, or 11.5 percent excluding abnormal seasons.

Changes between the October 1 Florida all orange forecast and the final estimates during the past 20 years have averaged 10.2 million boxes (7.32 million, excluding abnormal seasons), ranging from 0.30 million boxes to 42.3 million boxes including abnormal seasons, (0.30 to 22.0 million boxes excluding abnormal seasons). The October 1 forecast for all oranges has been below the final estimate 4 times, above 15 times, (below 4 times, above 12 times, excluding abnormal seasons). The difference does not imply that the October 1 forecast this year is likely to understate or overstate final production.

Weather and Crop Progress

The citrus growing region had favorable weather leading up to the bloom period in early March. Only the Indian River District showed abnormally dry conditions; the remaining citrus growing region was drought free. By the end of March trees had formed an abundance of pea size fruit for the next season. Several growers had finished hedging and topping programs. Caretakers were pulling out non-productive and dying trees for disposal. By the end of April, oranges were observed in various measurements between marble and quarter size. May and June saw favorable conditions with mildly warm weather and above average rainfall. During the summer, conditions were normal with average rainfall and warm temperatures. The fruit sized much better than the previous season. The notable event of the summer was Hurricane Dorian, which stalled Sunday over the Bahamas as a Category 5 storm before weakening to Category 2 and traveling parallel to the state. Though it remained 70 to 100 miles offshore, rain bands from Dorian dropped 1 to 3 inches along Florida's eastern citrus growing area. Sustained winds were limited to 30 to 35 mph, with gusts up to 50 mph. Little to no damage was observed to the citrus crop. Growers were optimistic about a healthy crop and promising upcoming season.

Individual Protective Covers (IPCs)

An increasing number of citrus growers and researchers in Florida are using individual protective covers (IPCs) for their young citrus trees. They are called Tree Defenders, Tree Sleeves, TreeTubes, TreeGuardians, and mini-cups. These covers are installed immediately after the new trees are planted and are usually kept for two years. With no psyllids getting through the cover, trees avoid infection for the time the covers are on the trees. Without infection, trees enter the fruit-producing stage disease free. The delay in HLB infection maximizes yield for many years to come. The covers not only help prevent psyllids from infecting citrus trees with greening, but they also help trees grow faster and larger. Research demonstrated that IPCs stimulate growth due to increased leaf chlorophyll, reduced vapor pressure deficit, and increased stomatal conductance and photosynthesis. IPCs are a cost-effective and an efficient tool in growing healthy citrus trees. The covers cut the costs of chemical treatments to control psyllids, leafminers, weevils, aphids and other pests. Citrus canker infection and spread are also reduced. Although the primary target is the citrus psyllid, IPCs also protect trees from deer, wind, frost, and hail damage. Typically, the optimum profitability for use of small, cheap IPCs is 2 years, but IPCs can be reusable for several more years on future resets. In conclusion, IPCs provide an effective solution to citrus greening by preventing psyllids from infecting trees during their first two years. They are a highly profitable investment for citrus growers who plant young trees. They create a micro-environment that keeps insect pests out and promotes healthy vegetative growth.

IPCs are useful for newly planted solid blocks as well as for resets. IPCs come in different sizes and shapes. Larger size IPCs can protect trees for up to 4 years.

However, like any other tool or strategy, these covers are not perfect. They allow some scale insects, mites, and mealy bugs inside some covers. These tiny pests or creatures can multiply to heavy populations because of the lack in biological control with parasitoids and predators not being able to get inside the covers.

DROUGHT

Water stress is the physiological condition to which a plant is subjected whenever the rate of water loss from the leaves by transpiration exceeds the rate at which water is absorbed by the root system. Water stress can be the result of excessive transpiration due to hot weather or slow absorption from a dry soil, flooded soil or saline conditions. Any degree of water imbalance can produce a deleterious change in physiological activity of growth and reproduction. Short-term drought often reduces production and prolonged drought can cause total crop failure. Severe drought between February and June can reduce fruit set, fruit development and fruit growth. The number of fruit, fruit size, and tree canopy are reduced with water stress. Extension growth in shoots and roots, and leaf expansion are all negatively correlated with water stress. Trees subjected to water stress are generally reduced in size. Vegetative growth is particularly sensitive to water deficit. Growth is closely related to turgor and the loss of turgidity reduces photosynthesis, leaf and fruit enlargement, juice content and yield, and increases wilting and leaf and premature fruit drop. Growers cannot afford water stress or water restrictions during critical periods. Irrigation is not only essential during the springtime, but it is also important during dry falls to minimize premature fruit drop.

MICROSPRINKLER IRRIGATION & FERTIGATION

Microsprinkler irrigation is an important component of citrus production systems in Florida. Microirrigation is more desirable than other irrigation methods for several reasons. Three important advantages are: water conservation, the potential for significantly improving fertilizer management and for cold protection.

Research has shown that when properly managed (no overirrigation), water savings with microirrigation systems can amount to as much as 80% compared with subirrigation and 50% compared with overhead sprinkler irrigation.

Microirrigation provides for precise timing and application of fertilizer nutrients in citrus production. Fertilizer can be prescription-applied during the season in amounts that the tree needs and at particular times when those nutrients are needed. This capability helps growers increase the efficiency of fertilizer application and should result in reduced fertilizer applications for citrus production. Research has also shown the important advantage of microsprinklers for freeze protection of citrus.

Fertigation is the timely application of small amounts of fertilizer through irrigation systems directly to the root zone.

Some advantages of fertigation:

♦ Fertilizer is placed in the wetted area where feeder roots are extensive,

♦ Fertilizer may be applied more frequently in small amounts so that it is available when the tree needs it,

♦ Increased fertilizer application frequency can increase fertilizer efficiency and reduce leaching,

♦ Application cost is much lower than that of dry or foliar fertilizer application.

Through fertigation, comparable or better yields and quality can be produced with less fertilizer. Microirrigation systems must properly maintain to apply water and fertilizer uniformly. Growers must determine:

(1) which fertilizer formulations are most suitable for injection,

(2) the most appropriate fertilizer analysis for different age trees and specific stages of growth,

(3) the amount to apply during a given fertigation event, and

(4) the timing and frequency of applications.

Properly managed applications of plant nutrients through irrigation systems significantly enhance fertilizer efficiency while maintaining or increasing yield. On the other hand, poorly managed fertigation may result in substantial yield losses. Fertigation involves deciding which and how much nutrients to apply, selecting the most effective formulations and scheduling injections to ensure that essential nutrients are available as needed.

Injection Duration

A minimum injection time of 45 to 60 minutes is recommended. This time is sufficient for uniform distribution of nutrients throughout the fertigation zone. Limit injection time to prevent the application of too much water, because excessive water leaches plant nutrients below the root zone.

Granular Controlled-Release Fertilizers

Most commonly used commercial fertilizers are water soluble, meaning they are readily available to plants when properly applied. Soluble fertilizers are applied to the soil dry in granular form, liquid through fertigation, or foliarly.

When applied in granular form to the soil, soluble fertilizers release nutrients relatively quickly, assuming the soil water content is at the appropriate level. Applying too much readily soluble fertilizer to crops at once can result in plant toxicity. In addition, heavy rainfall or irrigation can result in leaching of the nutrients. Therefore, it is suggested to split the soluble fertilizer into smaller doses.

Over many decades, the fertilizer industry has developed controlled-release fertilizers (CRFs). The Association of American Plant Food Control Officials defines CRFs as fertilizers that contain a plant nutrient in a form in which the plant uptake is delayed after application, or that provide a longer duration of nutrient availability compared with quick-release fertilizers. CRFs have become more popular in recent years.

CRFs are often called slow-release fertilizers (SRFs) or timed-release fertilizers. However, the terms CRF and SRF should not be used interchangeably. The main difference between CRFs and SRFs is that in CRFs, the factors affecting the rate, pattern, and duration of release are well known and controllable, whereas in SRFs, they are not well controlled. CRFs were initially developed for their horticultural benefits, but they have also attracted attention in the best management practices (BMPs) and citrus greening era.

CRFs have advantages in:
• inducing more growth and yield due to a continuous supply of nutrients.
• reducing rates and frequency of fertilizer applications.
• saving substantial labor and time.

CRFs are typically coated or encapsulated with inorganic or organic materials that control the rate, pattern, and duration of plant nutrient release. Soil moisture, temperature, and microbes have the greatest influence on nutrient release. CRFs have different N-P-K blends and may or may not include micronutrients. They can have different durations of release, expressed as months, which determine how long the CRF will persist.

Citrus fertilization research conducted in Florida within the past 30 years showed that tree growth and fruit yield where part or all of the fertilization program included CRF are similar or greater than growth and yield resulting from an all conventional water-soluble N fertilization program. CRFs are more efficient, have low plant toxicity hazard, and less leaching and volatilization potential than conventional soluble fertilizers. The improved efficiency of fertilizer use saves energy and reduces environmental pollution.

Applying Dry Fertilizers

Dry solid fertilizer spreaders should apply materials directly over the root zone. When applying fertilizers to young trees, managers should take advantage of manual or electronic spreader adaptations that deliver fertilizer rates accurately to small tree root zones while leaving out the area between trees where roots are not present. For economical and efficient fruit production, it is essential that spreaders be calibrated to apply accurate and appropriate amounts of fertilizers.

FLATWOODS CITRUS NEWSLETTER EVALUATION FORM

Please take a moment to rate the quality and usefulness of the information presented in the Flatwoods Citrus newsletter. Please send back the form to:

Dr. Mongi Zekri
University of Florida, IFAS
Hendry County Extension Office
P.O. Box 68
LaBelle, FL 33975
or Fax to 863 674 4636 or E-mail to maz@ufl.edu **Thank you for your input!!!**

Please circle or bold your answer

1	Was the information up to date and accurate?	Yes	No	Uncertain
2	Was the information delivered on time to be useful?	Yes	No	Uncertain
3	Was the information relevant to your situation?	Yes	No	Uncertain
4	Was the information easy to understand?	Yes	No	Uncertain
5	Have you had an opportunity to use the information?	Yes	No	Uncertain
6	Have you shared the information with someone else?	Yes	No	Uncertain

7 Overall, how do you feel about the Flatwoods Citrus Newsletter?

Satisfied Neither Satisfied Nor Dissatisfied Dissatisfied

8 **Do you have any suggestions that might improve the newsletter?**

(Please write in any comments)

9. How many years have you been using the Extension Service? _____ Years

10. What is your employment status?

_____ Grower	____ Chemical Industry	____ Service Provider
_____ Production Manager	____ Regulator	____ University
_____ Consultant	____ Association	Other _____

We appreciate your reactions and the time you have given us. Thank you, and please contact us when we may be of service to you.

Flatwoods Citrus

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Multi-County Citrus Agent
Hendry County Extension Office
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LaBelle, FL 33975

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Racial-Ethnic Background

__American Indian or native Alaskan
__Asian American
__Hispanic
__White, non-Hispanic
__Black, non-Hispanic

Gender

__Female __Male