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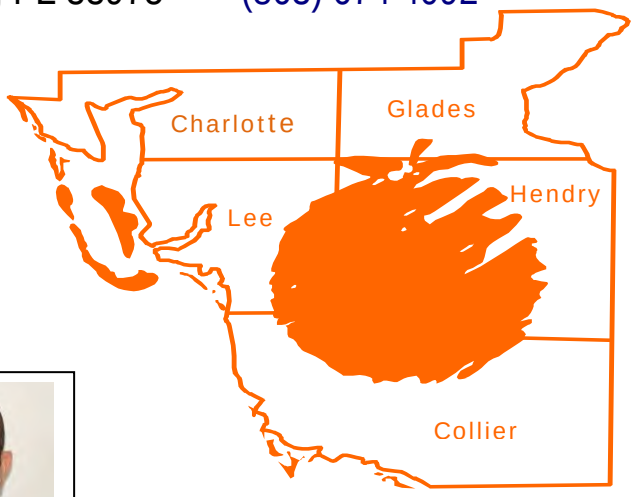
EXTENSION

Institute of Food and Agricultural Sciences

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

Flatwoods Citrus



Vol. 25, No. 4 **April 2022**

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

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Date Change

April 2022 Citrus Seminar **in-person and via Zoom**

Pre-registration is required. No registration fee and lunch is free Thanks to **Sarah Markle with Valent**

Please do 1 **or** 2, not both

1. To reserve an in-person seat and have lunch, send an e-mail to Dr. Mongi Zekri at maz@ufl.edu
2. To attend via Zoom, click on this link: https://ufl.zoom.us/j/97534453210?pwd=VFJxRkxkd09Uak51R2tlZWZuY3ltdz09 After registering, you will receive a confirmation email containing information about joining the Zoom meeting.

Date & Time: **Thursday, April 21**, 2022, 11:00 AM – 12:00 Noon
Title: **Improving 'yield-safety' in citrus weed management**
Speaker: **Dr. Ramdas Kanissery**, Assistant Professor in weed science, UF/IFAS Southwest Research & Education Center, Immokalee

Managing weeds in citrus involves several strategies including the most widely utilized chemical weed control. Several factors like efficacy on target weeds, cost-effectiveness, and most importantly, their impact on tree health and productivity must be considered before selecting a specific management approach.
Dr. Kanissery will discuss strategies that help growers adopt a weed control program to successfully manage the weeds while minimizing their impact on citrus trees and yield.

Coordinator: Dr. Mongi Zekri, Multi-County Citrus Extension Agent, UF-IFAS

1 CEU for pesticide license renewal
1 CEU for certified crop advisors

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Please mark your calendar and plan to attend

May 2022 Citrus Seminar via Zoom only

The Zoom link will be provided early next month

Pre-registration is required. No registration fee

Date & Time: **Wednesday, May 25**, 2022, **10:00 AM** – 11:00 AM
Title: Threshold-based IPM for Asian citrus psyllid under endemic greening
Speaker: **Dr. Lukasz Stelinski**, Professor in entomology, UF/IFAS Citrus Research & Education Center, Lake Alfred

Results indicate that the 0.2 psyllid per tap threshold can effectively predict need for ACP treatment application in mature citrus and may also be useful in younger trees. But, going above this threshold may not be possible without reducing yield. Our results also suggest that combining an action threshold with an appropriate rotation program can effectively prevent development of insecticide resistance among psyllid populations. Furthermore, our results indicate that a highly effective dormant season insecticide spray targeting both adult and immature psyllids near budbreak of the first seasonal flush will be required in order to implement a low (0.2 psyllids / tap) treatment threshold during the remainder of the season. Implementation of thresholds to predict need for ACP sprays could allow for transitioning away from calendar-based spray programs and development of more sustainable citrus management programs.

Coordinator: Dr. Mongi Zekri, Multi-County Citrus Extension Agent, UF-IFAS

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CEUs for pesticide license renewal

Earn CEU Credits NOW online through Southeast AgNet & Citrus Industry magazine

http://citrusindustry.net/ceu/

The following series of articles and quizzes are available with their expiration dates noted:

- 2022 #1: **Increasing Pesticide Effectiveness With Adjuvants** **(1/31/23)**
- 2021 #4: **Protecting People From Pesticide Exposure** **(10/31/22)**
- 2021 #3: **Before You Spray** **(7/31/22)**
- 2021 #2: **When a Pesticide Doesn't Work** **(4/30/22)**

Each article grants one General Standards (Core) CEU when submitted and approved toward the renewal of a Florida Department of Agriculture and Consumer Services restricted-use pesticide license.

FYI, there are also CORE CEU available at Growing Produce
http://www.growingproduce.com/crop-protection/ceu-series/

http://www.growingproduce.com/crop-protection/ceu-series/

Online Pesticide CEUs
https://pested.ifas.ufl.edu/ceu/

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EL NIÑO/SOUTHERN OSCILLATION (ENSO) DIAGNOSTIC DISCUSSION

issued by

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

10 March 2022

ENSO Alert System Status: La Niña Advisory

Synopsis: La Niña is favored to continue into the Northern Hemisphere summer (53% chance during June-August 2022), with a 40-50% chance of La Niña or ENSO-neutral thereafter.

Below-average sea surface temperatures (SSTs) strengthened during February 2022 across the central and east-central tropical Pacific, with negative anomalies stretching from the central to eastern equatorial Pacific Ocean [Fig. 1]. In particular, the weekly Niño-3.4 index decreased from -0.6°C at the beginning of February to -1.1°C in the last week [Fig. 2], while the other Niño SST regions were between -0.6°C and -1.3°C in the last week. Subsurface temperatures anomalies (averaged between 180°-100°W and 0-300m depth) were near zero [Fig. 3], as the recent warming associated with the downwelling Kelvin wave has attenuated. Below-average temperatures have expanded near the surface and at depth near ~150°W [Fig. 4]. Tropical atmospheric anomalies strengthened during the past month, with the extension of enhanced low-level easterly winds across the equatorial Pacific and upper-level westerly wind anomalies remaining over the east-central and eastern Pacific Ocean. Suppressed convection strengthened around the Date Line, while convection was enhanced near Indonesia [Fig. 5]. Overall, the coupled ocean-atmosphere system reflected the continuation of La Niña.

The IRI/CPC plume average for the Niño-3.4 SST index continues to forecast a transition to ENSO-neutral during the Northern Hemisphere spring [Fig. 6]. This month, the forecaster consensus favors a slower decay of La Niña due to the recent renewal of ocean-atmosphere coupling, which contributed to cooler near-term forecasts from several state-of-the-art climate models. For the summer and beyond, there is large uncertainty in the state of ENSO; however forecasters lean toward negative Niño-3.4 index values even if the index does not reach La Niña thresholds. In summary, La Niña is favored to continue into the Northern Hemisphere summer (53% chance during June-August 2022), with a 40-50% chance of La Niña or ENSO-neutral thereafter; click CPC/IRI consensus forecast for the chances in each 3-month period).

La Niña is anticipated to affect temperature and precipitation across the United States during the upcoming months (the 3-month seasonal temperature and precipitation outlooks will be updated on Thurs. Mar. 17th).

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). Additional perspectives and analysis are also available in an ENSO blog. A probabilistic strength forecast is available here. The next ENSO Diagnostics Discussion is scheduled for 14 April 2022.

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

MICRONUTRIENTS IN CITRUS NUTRITION

Iron (Fe): One of the functions of Fe is to act as a catalyst in the production of chlorophyll. Iron deficiency has been of importance on calcareous soils in certain areas of Florida where the soil contains high amount of calcium carbonate and has a pH of 8.0. Iron deficiency is attributed to low Fe content in white sandy areas near lakes and places known locally as "sand soaked areas". Iron deficiency can be induced by high levels of P and accumulations of heavy metals, primarily Cu, in the soil. In Florida, Fe deficiency is commonly associated with Zn and Mn deficiencies.

The symptoms of Fe deficiency are also known as "iron chlorosis". They occur on new growing leaves which are very light in color and sometimes almost white but with the veins greener than the remainder of the leaf. In acute cases, the leaves are reduced in size, very thin, and shed early. The trees die back severely on the periphery and especially in the top. Fruit set, yield, and fruit size will be reduced.

Iron deficiency is usually associated with high soil alkalinity, but it is also associated with over irrigation, prolonged spells of wet soil conditions or poor drainage and low soil temperature. Several areas affected with Fe chlorosis in south Florida have been materially helped or completely cured by careful control of irrigation and drainage. Iron deficiency sometimes occurs where excess salts are present in the soil.

Iron deficiency has been found to be one of the most difficult deficiencies to correct especially on calcareous soils. Foliar applications of Fe are not recommended because of their lack of effectiveness and risk of leaf and fruit burn. At their best, foliar sprays of Fe produce a spotted greening of the leaves rather than an overall greening. The most reliable means of correcting Fe chlorosis in citrus is by soil application of iron chelates. Iron sulfate has not given satisfactory control on either acid or alkaline soils. Citrus rootstocks vary in their ability to absorb Fe. Trifoliate orange and its hybrids (Swingle citrumelo and Carrizo citrange) are the least able to do so.

Iron Chelates	Effective pH Range
Fe-EDTA	4 to 6.5
Fe-HEDTA	4 to 6.5
Fe-DTPA	4 to 7.5
Fe-EDDHA	4 to 9.0

Zinc (Zn): Zinc is essential for the formation of chlorophyll and function of normal photosynthesis. Zinc is also needed for the formation of auxins which are growth-promoting substances in plants.

Zinc deficiency symptoms are characterized by irregular green bands along the midrib and main veins on a background of light yellow to almost white. The relative amounts of green and yellow tissue vary from a condition of mild Zn deficiency in which there are only small yellow splotches between the larger lateral veins to a condition in which only a basal portion of the midrib is green and the remainder of the leaf is light yellow.

In less acute stages, the leaves are almost normal in size, while in very acute cases the leaves are pointed, abnormally narrow with the tendency to stand upright, and extremely reduced in size. In mild cases, Zn deficiency symptoms appear on occasional weak twigs. Fruit formed on these weak twigs are drastically reduced in size and have an unusually smooth light-colored thin skin and very low juice content.
Zinc deficiency symptoms can be so severe that they may mask or noticeably alter the symptoms of other deficiencies or disorders. Deficiency in Zn can develop due to soil depletion or formation of insoluble compounds. Excessive P or N has also been found to induce or aggravate Zn deficiency.

Foliar spray applications of 3-5 lbs/acre of zinc are recommended on each of the three major flushes of citrus trees to prevent nutrient deficiencies, cope with HLB, and improve production. Sulfate forms are less expensive and nitrate forms appear to facilitate the uptake of micronutrients. Maximum benefit is obtained if spray is applied to the young growth when it is two-thirds to nearly fully expanded and before it hardens off.

Manganese (Mn): Manganese is involved in the production of amino acids and proteins. It plays a role in photosynthesis and in the formation of chlorophyll.

Manganese deficiency occurs commonly in Florida. It is particularly evident in the spring after a cold winter. Manganese deficiency leads to a chlorosis in the interveinal tissue of leaves but the veins remain dark green. Young leaves commonly show a fine pattern or network of green veins on a lighter green background but the pattern is not so distinct as in Zn or Fe deficiencies because the leaf is greener. By the time the leaves reach full size, the pattern becomes more distinct as a band of green along the midrib and principal lateral veins with light green areas between the veins.

In more severe cases, the color of the leaf becomes dull-green. Interveinal leaf areas may develop many whitish opaque spots which give the leaf a whitish or gray appearance. The leaves are not reduced in size or changed in shape by Mn deficiency, but affected leaves prematurely fall from the tree. No particular twig symptoms have been related to Mn deficiency. In cases of acute Mn deficiency, the growth is reduced giving the tree a weak appearance.

Manganese deficiency may greatly reduce the crop and the color of the fruit. Manganese deficiency is frequently associated with Zn deficiency. This combination of the two deficiency symptoms on leaves is characterized by dark green veins with dull whitish green areas between the veins. In such combinations, the Mn deficiency is acute and the Zn deficiency is relatively mild.

In Florida, Mn deficiency occurs on both acid and alkaline soils. It is probably due to leaching in the acid soils and to insolubility

in the alkaline soils. For deficient trees on alkaline soils, treatments by sprays of Mn compounds are recommended. On acid soils, Mn can be included in the fertilizer. Foliar spray application quickly clears up the pattern on young leaves but older leaves respond less rapidly and less completely. When Mn sprays are given to Mn-deficient orange trees, fruit yield, total soluble solids in the juice and pounds solids per box of fruit increase. Foliar spray applications of 3-5 lbs/acre of manganese are also recommended on each of the three major flushes of citrus trees to prevent nutrient deficiencies, cope with HLB, and improve production. Sulfate forms are less expensive and nitrate forms appear to facilitate the uptake of micronutrients.

If N is needed, adding 7 to 10 lbs of low biuret urea will increase Mn uptake.

Boron (B): Boron is particularly necessary where active cell division is taking place. Boron plays an important role in flowering. Florida sandy soils are low in B, and a deficiency of this element in citrus occasionally occurs under field conditions. The deficiency may be aggravated by severe drought conditions, heavy lime applications, or irrigation with alkaline water. Boron is very mobile in the soil profile of sandy soils and readily leaches by rainfall or excess irrigation.

Boron deficiency is known as "hard fruit" because the fruit is hard and dry due to lumps in the rind caused by gum impregnation. The chief fruit symptoms include premature shedding of young fruits. Such fruit have brownish discoloration in the white portion of the rind (albedo), described as gum pockets or impregnations of the tissue with gum and unusually thick albedo. Older fruit are undersized, lumpy, mis-shapen with an unusually thick albedo containing gum deposits. Seed fails to develop and gum deposits are common around the axis of the fruit.

The first visual symptoms of B deficiency are generally the death of the terminal growing point of the main stem. Further symptoms are a slight thickening of the leaves, a tendency for the leaves to curl downward at right angles to the midrib, and sometimes chlorosis.

Young leaves show small water soaked spots or flecks becoming translucent as the leaves mature. Associated with this is a premature shedding of leaves starting in the tops of the trees and soon leaving the tops almost completely defoliated. Fruit symptoms appear to be the most constant and reliable tool for diagnostic purposes.

Borax and other B compounds are generally used in treating citrus affected with B deficiency. They can be applied either foliarly or in the fertilizer. As a maintenance program, apply B in the fertilizer at an annual rate equivalent to 1/300 of the N rate. In Florida, foliar spray applications have been found much safer and more efficient than soil application. Soil applications frequently fail to give satisfactory results during dry falls and springs and may result in toxicity problems if made during the summer rainy season. Boron solubility in the soil is reduced at soil pHs below 5 and above 7. Foliar spray may be applied during the dormant period through post bloom, but preferably during early flower development. Treating at this growth stage is important because boron does not move very readily from other parts of the tree to the buds. Applying boron at this time will assist in flower initiation and pollen production, satisfy the needs for pollen tube growth, and enhance fruit set. Foliar spray applications of 0.25-0.50 lb/acre of boron are also recommended on each of the three major flushes of citrus trees.

Boron levels in the leaf tissue should not drop below 40 ppm or exceed 120 ppm (dry wt basis). Where deficiency symptoms are present, double the amount suggested. Use care not to apply more than the recommended

amount because it is easy to go from deficiency to excess.

Copper (Cu): Copper also has a role in photosynthesis and chlorophyll formation. The functions of Cu in the mineral nutrition of plants are numerous. Heavy fertilization with N tends to increase the severity of Cu deficiency.

If Cu in citrus leaves falls below 4 ppm in dry matter, severe Cu deficiency will develop. In the range of 4 to 5 ppm, mild to moderate deficiency symptoms may occur. Copper deficiency rarely occurs when the Cu concentration in leaves is 6 ppm or above.

Excessive applications of nitrogenous fertilizers have been considered for years a contributing cause for this trouble giving rise to the term "ammoniation". The cause might be an unbalanced N/Cu ratio.

The first symptom is the formation of unusually vigorous large dark green foliage with a "bowing up" of the midrib. The twigs are also unusually vigorous, long, soft, angular, frequently "S" shaped and more or less drooping.

Fruit symptoms are most pronounced on oranges. Brown stained areas of hardened gum on the rind of the fruit may precede the appearance of leaf and twig symptoms. In severe cases, dieback of young twigs will occur and the twigs will be covered by reddish brown droplets of gums.

Insufficient available Cu in the soil is believed to be the primary cause of the symptoms described. Copper deficiency is more of a problem on newly planted flatwoods land than the ridge. Prevention or cure of Cu deficiency is accomplished by either foliar sprays or soil applications of Cu compounds. A Cu spray of solution containing 3 to 5 lbs of elemental Cu applied during bloom time commonly causes an almost immediate recovery and results in a good setting of normal fruit. Copper deficiency can be a controlling factor in fruit production, and acute Cu deficiency may put trees entirely out of production. Foliage sprays are often valuable emergency treatments when symptoms of Cu deficiency are first observed.

CONCLUSION

Most micronutrient deficiencies may be recognized by visual symptoms. However, leaf analysis is helpful in verifying deficiencies particularly when non-typical symptoms or multiple nutrient deficiencies appear. Leaf analysis also provides information on low, but not yet deficient, amounts of an element so that treatment may be applied to prevent a deficiency.

For more details and more information on citrus nutrition, go to Nutrition of Florida Citrus Trees at:

http://edis.ifas.ufl.edu/pdffiles/SS/SS47800.pdf

CITRUS CANKER

Start early: At least 3 applications at a 21-day interval should be scheduled: in mid-April (fruit at 0.25 to 0.5-inch stage), in early/mid-May, and late May/early June.

Major citrus canker outbreaks generally occur when new shoots are emerging or when fruit are in the early stages of development, especially if a major rainfall event occurs during this critical time. Frequent rainfall in warm weather, especially storms, contributes to disease development. Citrus canker causes defoliation, shoot die-back and fruit drop.

With endemic canker, infection starts as early as April.

Leaf susceptibility is complicated by the Asian leafminer. The galleries caused by leafminer larvae do not heal quickly and increase leaf susceptibility. This results in leaves with highly susceptible wounds for long periods of time through which the bacterium can infect the leaf.

Almost all leaf and stem infections occur within the first 6 weeks after initiation of growth unless there is a leafminer infestation. The most critical period for fruit infection is when the fruit are between 0.5-1.5 inch in diameter for grapefruit and 0.25-1.25 inch in diameter for oranges. That is the stage when the stomates on the fruit surface are opening and fruit are particularly susceptible to bacterial penetration. After petal fall, fruit remain susceptible during the first 60 to 90 days for oranges or tangerines and 120 days for grapefruit.

Management

The Citrus Health Response Plan (CHRP) does not require removal of affected trees. Thus, growers should use their best judgment in management of citrus canker. The entire state of Florida is under quarantine, and fruit movement is subject to specific regulations depending on market destination.

Canker losses can be severe under Florida conditions, and can be difficult to control on grapefruit and the most susceptible early season orange varieties.

Endemic Canker. Where canker is already endemic, the primary means of control are: 1) planting of windbreaks, 2) protection of fruit and leaves with copper sprays, and 3) control of leafminer.

Windbreaks. Windbreaks are highly effective for reducing the spread of canker, but more importantly, they reduce the severity of the infection in endemic situations. The vast majority of the infection occurs by wind-blown rains that push the bacteria into tissues. Winds of 18 to 20 mph are needed to force bacteria into stomates on leaves and fruit.
For more information on selection of plant species and design, see the CREC Web site (http://www.crec.ifas.ufl.edu/extension/windbreaks/).

No material has proven more effective than copper products. Copper products are quite effective for preventing fruit infection, but much less effective for reducing leaf infection. Application of copper to young leaves protects against infection, but it is soon lost due to rapid expansion of the surface area. Also, copper has limited value in reducing disease spread.

For oranges with endemic canker, most of the infection will occur from April to July. No more than five copper sprays applied at 21-day intervals are recommended for early processing oranges: one in early April (fruit at 0.25 to 0.5-inch stage); a second in late April, a third in mid-May, a fourth in early June and a fifth in late June to early July when the fruit is about 1.5-inch diameter. Three applications at a 21-day interval should be sufficient for Valencias and midseason varieties, in mid-April (fruit at 0.25 to 0.5-inch stage), in early/mid-May, and late May/early June. Varieties of early oranges grown for higher color score (Early Gold, Westin, Ruby, Itaborai) are more susceptible than Hamlin and may require additional sprays before April and beyond July.

The most critical period for fruit infection is when the fruit is between 0.5-1.5 inch in diameter

Navel oranges are susceptible to canker and will probably need to be sprayed every 21 days from early April to mid-July. Fallglo is relatively tolerant and probably three sprays in April, May and June should suffice. Newly planted trees in canker exposed settings are more susceptible because they produce leaf flushes more often and the flush tissue represents a high proportion of the canopy volume. The recommendation for the more susceptible varieties (grapefruit and early oranges) is that the trees be sprayed every 3 to 4 weeks to coincide with vegetative flush cycles from spring though the fall. Sprays should be applied with a hoop sprayer that thoroughly covers the foliage on all sides of the canopy.

Spray volumes for young and fruiting trees will have to be adjusted as more experience is gained. The rates of copper products depend on the length of protection expected and the weather. As little as 0.5 to 1.0 lb of metallic copper will protect spring flush growth or fruit during the dry spring season. However, in the rainy season, more than 1 lb of metallic copper may be required to protect fruit for 3-week periods.

Tables

Table 1.

Recommended chemical controls for citrus canker.

Pesticide	FRAC MOA[1]	Mature Trees Rate/Acre[2]
Blockade 50WG (formally Actigard)	P01	See Table 2
copper fungicide	M01	Use label rate

[1] Mode of action class for citrus pesticides from the Fungicide Resistance Action Committee (FRAC) 2018. Refer to ENY624, *Pesticide Resistance Management*, in the 2019–2020 Florida Citrus Production Guide for more details.

[2] Lower rates can be used on smaller trees. Do not use less than the minimum label rate.

Table 2.

Recommended rates and use patterns for Blockade 50WG/100 trees.

Number of Applications/Year[1]	Tree Age and Rate[2,4] (oz)/Application			
	< 1 year[3]	1–2 years	2–3 years	>3 years
4 or less	0.125–0.25	0.25–0.50	0.50–0.75	0.75–1.5
5 or more	0.125	0.25	0.50	0.75–1

[1] Minimum interval between applications is 30 days. If tree stunting, yellowing or other symptoms of possible phytotoxicity are observed, reduce the use rates in subsequent applications to the low end of the recommended rate range and increase the application interval to 60 days.

[2] Do not use more than 12.8 oz/A/year and no more than 3.2 oz/A/application.

[3] For newly planted trees, delay applications until trees become established and overcome transplant shock, and initiate treatment at 0.125 oz/100 trees.

[4] As tree size increases during the season, dosages should be adjusted toward the upper end of the recommended rate range.

https://edis.ifas.ufl.edu/cg040

United States Department of Agriculture
National Agricultural Statistics Service

CITRUS APRIL FORECAST MATURITY TEST RESULTS AND FRUIT SIZE

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

April 8, 2022

Florida All Orange Production Down 7 Percent from March Forecast
Florida Non-Valencia Orange Unchanged
Florida Valencia Orange Production Down 13 Percent
Florida All Grapefruit Production Down 8 Percent
Florida All Tangerine and Tangelo Unchanged

FORECAST DATES - 2021-2022 SEASON
May 12, 2022 June 10, 2022
July 12, 2022

Citrus Production by Type – States and United States

Crop and State	Production [1]		2021-2022 Forecasted Production [1]	
	2019-2020	2020-2021	March	April
	(1,000 boxes)	(1,000 boxes)	(1,000 boxes)	(1,000 boxes)
Non-Valencia Oranges [2]				
Florida	29,650	22,700	18,200	18,200
California	43,300	*41,300	39,000	43,000
Texas	1,150	1,000	300	250
United States	74,100	*65,000	57,500	61,450
Valencia Oranges				
Florida	37,750	*30,250	23,000	20,000
California	10,800	*7,700	8,600	8,300
Texas	190	50	100	100
United States	48,740	*38,000	31,700	28,400
All Oranges				
Florida	67,400	*52,950	41,200	38,200
California	54,100	*49,000	47,600	51,300
Texas	1,340	1,050	400	350
United States	122,840	*103,000	89,200	89,850
Grapefruit				
Florida-All	4,850	4,100	3,900	3,600
Red	4,060	3,480	3,200	3,000
White	790	620	700	600
California	4,700	*4,200	3,500	4,100
Texas	4,400	2,400	1,600	2,000
United States	13,950	*10,700	9,000	9,700
Lemons				
Arizona	1,800	*750	1,400	1,500
California	25,300	*20,100	23,000	23,000
United States	27,100	*20,850	24,400	24,500
Tangerines and Tangelos				
Florida	1,020	890	800	800
California [3]	22,400	*28,800	21,000	21,000
United States	23,420	*29,690	21,800	21,800

* Revised
[1] Net pounds per box: oranges in California-80, Florida-90, Texas-85; grapefruit in California and Texas-80, Florida-85; lemons-80; and tangerines and mandarins in California-80, Florida-95.
[2] Navel and miscellaneous varieties in California. Early (including Navel) and midseason varieties in Florida and Texas.
[3] Includes tangors.

All Oranges 38.2 Million Boxes

The 2021-2022 Florida all orange forecast released today by the USDA Agricultural Statistics Board is lowered 3.0 million boxes to 38.2 million boxes. If realized, this will be 28 percent less than last season's revised final production. The forecast consists of 18.2 million boxes of non-Valencia oranges (early, mid-season, and Navel varieties) and 20.0 million boxes of Valencia oranges. 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 and first late bloom.

Non-Valencia Oranges 18.2 Million Boxes

The forecast of non-Valencia orange production is unchanged at 18.2 million boxes. Non-Valencia harvest is over for the season. The Row Count survey conducted March 28-29, 2022, showed 99 percent of the early & mid-season non-Valencia rows are harvested. The Navel forecast, included in the non-Valencia portion of the forecast, is 490 thousand boxes.

Valencia Oranges 20.0 Million Boxes

The forecast of Valencia orange production is lowered 3.0 million boxes from the previous forecast and is now 20.0 million boxes. Final fruit size is below the minimum, requiring 273 pieces to fill a 90-pound box. Final droppage, measured at 51 percent, is above the maximum and the highest in a series, excluding hurricane seasons, dating back to the 1960-1961 season. The Row Count survey conducted March 28-29, 2022, showed 48 percent of the Valencia crop is harvested. Estimated utilization for Valencia oranges to April 1, with an allocation for non-certified fruit, is 10.8 million boxes.

All Grapefruit 3.60 Million Boxes

The forecast of all grapefruit production is lowered 300,000 boxes to 3.60 million boxes. The Row Count survey conducted March 28-29, 2022, indicated 93 percent of the red grapefruit rows and 95 percent of the white grapefruit rows are harvested.

Tangerines and Tangelos 800,000 Boxes

The forecast for tangerines and tangelos is unchanged at 800,000 boxes. Utilization to April 1, with an allocation for non-certified fruit, is 757,000 boxes. This forecast number includes all certified tangerine and tangelo varieties.

Reliability

To assist users in evaluating the reliability of the April 1 Florida production forecasts, the "Root Mean Square Error," a statistical measure based on past performance, is computed. The deviation between the April 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 April 1 Florida all orange production forecast is 3.3 percent. If you exclude the three abnormal production seasons (three hurricane seasons), the "Root Mean Square Error" is 3.5 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 3.3 percent, including abnormal seasons or 3.5 percent excluding abnormal seasons. Chances are 9 out of 10 (90 percent confidence level) that the difference will not exceed 5.7 percent including abnormal seasons, or 6.1 percent excluding abnormal seasons.

Changes between the April 1 Florida all orange forecast and the final estimates during the past 20 years have averaged 3.06 million boxes (3.20 million, excluding abnormal seasons), ranging from 0.05 million boxes to 5.7 million boxes including abnormal seasons, (1.3 to 5.7 million boxes excluding abnormal seasons). The April 1 forecast for all oranges has been below the final estimate 10 times, above 10 times, (below 9 times, above 8 times, excluding abnormal seasons). The difference does not imply that the April 1 forecasts this year are likely to understate or overstate final production.

Forecast Components, by Type – Florida: April 2022

[Survey data is considered final in December for Navels, January for early & mid-season (non-Valencia) oranges, February for grapefruit, and April for Valencia oranges]

Type	Bearing trees	Fruit per tree	Droppage	Fruit per box
	(1,000 trees)	(number)	(percent)	(number)
ORANGES				
Early & mid-season (Non-Valencia) [1]	18,171	571	39	326
Navel	864	160	28	137
Valencia	30,349	394	51	273
GRAPEFRUIT				
Red	1,776	393	28	127
White	314	481	15	104

[1] Excludes Navels

The 31st Annual Farm Safety Day

Friday, 6 May 2022
Saturday, 7 May 2022

AN IMPORTANT MESSAGE TO EMPLOYERS

Safe and competent equipment operators are important to you as an employer. Accidents, which cause damage, injury or death to employees, equipment and crops, are costly. We believe all types of accidents can be reduced with proper employee training. Our training has been designed to help your employees perform better, operate safely to prevent accidents, fulfill necessary training requirements and build pride in themselves and their farm company.

Certificates

The 2022 Southwest Florida Farm Safety Day is almost here. Farm Safety Day is an educational event designed to emphasize the importance of farm/equipment safety. Each participant is presented with a certificate of attendance and **the employer will be provided with a certificate of training that can be placed into the employee's file**.

Registration Info

The deadline for registration is Friday, April 22, 2022. It is the employer's responsibility to assure that the employee is present at 7:30 AM on Friday, May 6 **or** on Saturday, May 7 at the Immokalee IFAS Center, 2685 State Rd. 29 North, Immokalee, FL 34142 to receive their nametag. Upon arrival each participant will check in at the registration table and receive a packet containing their nametag, instructions (in both English and Spanish) session handouts, an evaluation form, rodeo cap and pencil. They will be directed to their respective course sessions.

Please give us the names of those who will be attending our 31st Farm Safety Day on Friday, 6 May or Saturday, 7 May 2022 (please select the date). The cost is $25.00 per person, which will include educational sessions, handouts, pencils, refreshments, lunch, door prizes, and a cap.

Make checks payable to: University of Florida

Mail registration and checks to:
University of Florida, IFAS, SWFREC
Attention: Barbara Hyman
2685 State Rd. 29 North
Immokalee, FL 34142

Deadline is Friday, April 22, 2022

Don't wait. The number of trainings offered and attendance at each training is LIMITED. Don't wait. For each day, class size is limited to the first 80 Spanish-speaking and 20 English-speaking people.

31st ANNUAL SAFETY DAY

Friday, 6 May 2022
Saturday, 7 May 2022

Location: University of Florida, IFAS, SWFREC
2685 State Rd. 29 North
Immokalee, FL 34142

TOPICS

1. Worker Protection Standard - Handler
2. Tractor Safety
3. Heat Stress Prevention
4. Mixing &Loading Pesticide Safely

SCHEDULE:

7:30-8:10	Check In, Coffee, Juice, Refreshments, Door Prizes
8:10-9:00	Session 1 (Begin sessions)
9:00-9:10	Break (change session, door prizes)
9:10-10:00	Session 2
10:00-10:10	Break (change session, door prizes)
10:10-11:00	Session 3
11:00-11:10	Break (change session, door prizes)
11:10-12:00	Session 4
12:00-1:30	Lunch and Adjourn

The 2022 FARM SAFETY DAY
REGISTRATION FORM

Please give us the names of those who will be attending our 30th Farm Safety Day on Friday, 6 May or Saturday, 7 May 2022 at the Immokalee IFAS Center, 2685 State Rd. 29 North, Immokalee, FL 34142. The cost is $25.00 per person, which will include educational sessions, handouts, refreshments, lunch, and a cap.

Make checks payable to:
University of Florida

Mail registration and checks to:
University of Florida, IFAS, SWFREC
Attention: Barbara Hyman
2685 State Rd. 29 North
Immokalee, FL 34142

Deadline is Friday, April 22, 2022

Company Name:

Administrative Contact Person:

E-mail address:

Mailing Address:

Telephone: _____ Fax:_____ County:_____

Please list the employees who will be attending our safety training and please check their language preference*. If there is not enough space to fill in all attendants, please attach an additional sheet with the necessary information.

Name	Friday or Saturday	English	Spanish	Name	Friday or Saturday	English	Spanish
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***Please Note: It is very important that we know the date (Friday, 6 May or Saturday, 7 May 2022) and the language capabilities for each attendee.**
Next to each attendee's name please mark in which language they are more fluent.
If there are any questions, please contact **Barbara Hyman (hymanb@ufl.edu) at 239 658 3400.**

Don't wait. The number of trainings offered and attendance at each training is LIMITED. Don't wait. For each day, class size is limited to the first 80 Spanish-speaking and 20 English-speaking people.

Sending hard copies of this **Flatwoods Citrus newsletter** by regular mail will stop this year. You will receive your copy only through e-mail or through

https://citrusagents.ifas.ufl.edu/newsletters/

☐ If you did not receive the ***Flatwoods Citrus*** newsletter and would like to be on our e-mailing list, please check this box and complete the information requested below.

☐ If you wish to be removed from our mailing list, please check this box and complete the information requested below.

Please send: Dr. Mongi Zekri
Multi-County Citrus Agent
Hendry County Extension Office
P.O. Box 68
LaBelle, FL 33975
or E-mail: maz@ufl.edu

Subscriber's Name:_____

Company:_____

Phone:_____

E-mail:_____

Racial-Ethnic Background

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

Gender

__Female
__Male