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Institute of Food and Agricultural Sciences

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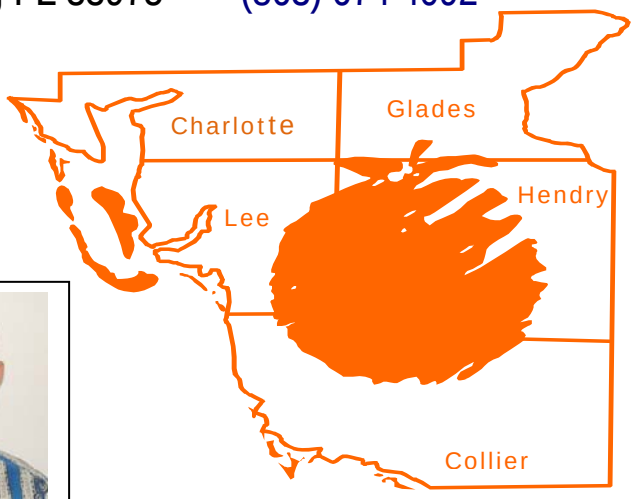
Flatwoods Citrus



Vol. 16, No. 4 **April 2013**

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

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Previous issues of the Flatwoods Citrus newsletter can be found at:
http://citrusagents.ifas.ufl.edu/agents/zekri/index.htm
http://irrec.ifas.ufl.edu/flcitrus/

I M P O R T A N T E V E N T S

Citrus greening interaction and some ways to alleviate greening damage to citrus

Date: Tuesday, April 23rd, 2013, Time: **10:00 AM** – 12:10 PM
Location: Southwest Florida REC (Immokalee)

1. Open hydroponic systems for citrus**- Dr. Arnold Schumann**
2. Root Health and Phytophthora on HLB affected trees**- Dr. Evan Johnson**
3. Basics for citrus nutrient and fertilizer management programs**- Dr. Kelly Morgan**
4. Pruning and Nutritional Therapy for rehabilitating HLB trees in Florida- **Dr. Bob Rouse**

2 CEUs for Pesticide License Renewal
2 CEUs for Certified Crop Advisors (CCAs)

Pre-registration is required. No registration fee and lunch is free Thanks to **Mark White with G.P. Solutions.** To reserve a seat, call 863 674 4092, or send an e-mail to Dr. Mongi Zekri: maz@ufl.edu

Citrus BMPs and the UF-IFAS Citrus Breeding

Date: Wednesday, May 29th, 2013, Time: **10:00 AM** – 12:00 Noon
Location: Southwest Florida REC (Immokalee)

1. Comprehensive BMP Manual for Florida Citrus**- Dr. Brian Boman**
2. BMPs Cost Share**- Mrs. Callie Walker**
3. Fast Track and New Citrus Varieties Facing Trial**- Mr. Peter Chaires**

2 CEUs for Certified Crop Advisors (CCAs)

Pre-registration is required. To reserve a seat, call 863 674 4092, or send an e-mail to Dr. Mongi Zekri: maz@ufl.edu

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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FOLIAR FEEDING

Foliar feeding is becoming very common on many horticultural crops including citrus. Economic and environmental considerations require the utilization of more efficient methods for nutrient applications.

It is usually assumed that foliar feeding refers to nutrient applications to the plants' leaves. In fact, it has been shown that all aboveground parts of a plant can absorb nutrients, including twigs, branches, buds, fruit, flowers, and stems. However, since leaves usually represent the largest surface area, they are the most important structures.

Foliar feeding is not intended to completely replace soil-applied fertilization of the macronutrients (nitrogen, potassium, and phosphorous). However, macronutrients can be foliarly applied in sufficient quantities to influence both fruit yield and quality. Some crops, such as citrus, can have a large part of the nitrogen, potassium, and phosphorous requirements met through foliar applications.

Foliar applications of other plant nutrients (calcium, magnesium, and sulfur) and micronutrients (zinc, manganese, copper, boron, and molybdenum) have proven for many crops to be an excellent means for supplying the plants' requirements.

Foliar feeding should be used as an integral part of the annual nutritional program. It can be used in other situations to help plants through short, but critical periods of nutrient demand, such as fruit set and bud differentiation. Foliar nutrition may also prove to be useful at times of soil or environmentally induced nutritional shortages. Foliar application of nutrients is of significant importance when the root system is unable to keep up with crop demand or when the soil has a history of problems that inhibit normal growth.

Foliar feeding is proven to be useful under prolonged spells of wet soil conditions, dry soil conditions, calcareous soil, cold weather, or any other condition that decreases the tree's ability to take up nutrients when there is a demand. Foliar feeding may be utilized effectively when a nutritional deficiency is diagnosed. A foliar application is the quickest method of getting the most nutrients into plants. However, if the deficiency can be seen, the crop might have already lost some potential yield.

Foliar fertilization is also efficient since it increases the accuracy of fertilizer application. Applications made to the soil can be subject to leaching and volatilization losses and/or being tied up by soil particles in unavailable forms to citrus trees.

While foliar feeding has many advantages, it can burn plants at certain rates under certain environmental conditions. It is important, therefore, to foliar feed within the established guidelines. There are a number of conditions that can increase the chances of causing foliar burn. A plant under stress is more susceptible to damage. Stressful conditions include drying winds, disease infestations, and poor soil conditions. The environmental conditions at the time of application are also important factors. Applications when the weather is warm (above 80^0F) should be avoided. This means that during warm seasons, applications should be made in the morning or evening. Additionally, applications should not be at less than two-week intervals to give the plant sufficient time to metabolize the nutrients and deal with the added osmotic stress.

Another important factor when applying nutrient foliarly is to ensure that the pH of the material is in the proper range. The pH range of the spray solution should be between 6 and 7. Attention should be paid to the pH of the final spray solution. This is significant in areas where water quality is poor.

Foliar applications of low-biuret urea or phosphite in late December-early January are known to increase flowering, fruit set, and fruit production. **Postbloom foliar applications of potassium nitrate (KNO_3) or mono-potassium phosphate (MKP) have been found to increase fruit yield and size.**

FOLIAR POTASSIUM APPLICATIONS

BRIEF SUMMARY FROM A POWERPOINT PRESENTATION

By Dr. Brian Boman at the University of Florida, IFAS

Potassium (K) in Citrus

•A primary component in cell walls
•K accounts for over 40% of ash from fruit
•70% of fruit size is related to number of cells
•Cell division ceases by late April
•Size changes after April is mainly from cell enlargement
•Post-bloom K (applied in April) may increase cell numbers plus help cell enlargement
•Absorption of K into leaves after foliar application is very rapid

Grapefruit Summary

•Post bloom most important
•Late summer/fall applications successful in half of years
•8 lb K_2O per acre per application
•1/2 to 1 size increase due to foliar K applications
•Smaller fruit increased more than larger fruit

Foliar K Advantages on Valencia

25% more fruit
28% more boxes/acre
33% more size 80 and larger fruit
28% higher gross returns for packed fruit
23% more TSS/acre

SUMMARY

Foliar K applications can increase fruit size and help return higher $$
• K source is not critical
• Salt index should be considered when using low gal/ac applications (MKP or DKP)
• Coverage is not as critical as for fungicides or insecticides
• At least 8 lb/ac K_2O per application recommended
• Foliar applications not a substitute for good nutrition program
• Potential results:
Grapefruit: ½ to 1 size increase
Valencia: Significantly more solids/acre
Sunburst: More larger-sized fruit

Sri Lanka Weevil (*Myllocerus undecimpustulatus undatus* Marshall)

It is considered to be an invasive species not previously known to the new world until its discovery in Broward County, Florida in 2000. In nine years, it has spread to over 20 Florida counties on both coasts. The adult weevil is 7-8 mm in length, generally whitish-grey. It is very similar to the common, native little leaf notcher weevil found in Florida, but look for spines along the back femur and a yellowish tint to the head. It has been imported from Sri-Lanka. It feeds on a wide variety of host plants and has become quite established in the southern half of the state. Adults cause excessive leaf damage to a growing list of at least 138 plant species, including citrus and many important commercial tropical and sub-tropical fruits and ornamental plants.

A typical life cycle for a weevil is the following: Egg-Larva-Pupa-Adult. The immature stages are spent entirely in the soil where larvae damage roots. The pest is usually active from April to November and passes winter in the adult stage, hidden in debris or trees. The life cycle is completed in 6 to 8 weeks during the active period. The female lays on an average 360 eggs over a period of 24 days. The eggs hatch in 3 to 5 days. The larvae or grubs feed on roots and complete their development in one to two months. Pupation occurs in the soil and takes about one week. The adult weevils feed on leaves, nibbling the leaves from the margins and eating away small patches of leaves. Heavy populations can be reached in a very short period of time. Leaf damage can be very extensive. The adults live for 8 to 11 days in the summer, but up to 4 months in the winter.

Florida Citrus Pest Management Guide: Citrus Root Weevils
http://edis.ifas.ufl.edu/cg006

PLANT GROWTH REGULATORS FOR CITRUS IN CALIFORNIA

The plant growth regulators 2,4-dichlorophenoxyacetic acid (2,4-D), gibberellic acid (GA_3) are registered for preharvest use on California citrus crops. 2,4-D is used mainly to delay and reduce unwanted fruit abscission (fruit drop), GA_3 is used mainly to delay senescence (overripening).

In order to be effective, plant growth regulators must be absorbed by plant tissue. Good spray coverage is essential and climatic conditions that favor absorption are therefore desirable.

Both 2,4-D and GA_3 seem to be compatible with urea, potassium foliar sprays, zinc and manganese micronutrient sprays, and neutral copper sprays, but the timing of growth regulator applications may not coincide with the best time for nutrient sprays.

2,4-dichlorophenoxyacetic acid (2,4-D). 2,4-D is used to control preharvest fruit drop, increase fruit size (oranges, grapefruit, mandarin, and mandarin hybrids), and to control leaf and fruit drop following an oil spray. When you use 2,4-D to reduce drop of mature fruit, apply the compound before (preferably *shortly* before) fruit drop becomes a problem, but far enough ahead of flowering to minimize undesirable effects that 2,4-D would otherwise have on the spring cycle of growth. For navel oranges, October through December sprays are common. October, however, may be too early to effectively reduce fruit drop if conditions favor it (e.g., warm winter, protracted harvest). January sprays may be somewhat risky, especially when environmental factors favor an earlier-than-usual spring flush of growth.

For mature grapefruit and 'Valencia' orange trees, 2,4-D can be applied to control drop of mature fruit or as a dual-purpose spray (to control mature fruit drop and to improve fruit size for the next year's crop). Fruit-sizing sprays require excellent coverage. In general, 'Valencia' orange is more responsive than grapefruit to fruit-sizing sprays. For mandarin and mandarin hybrids, 2,4-D fruit sizing sprays are applied 21 to 35 days after 75% petal fall.

Gibberellic acid (GA_3). The purpose of applying GA_3 to citrus trees in California is to delay fruit senescence. Make applications while the fruit are still physiologically young, but are approaching maturity. GA_3 can have a negative effect on flowering and thus on production for the following year, especially if it is applied much later than specified on the current label or in these guidelines. It delays changes in rind color, an effect that can be considered either desirable or undesirable. For example, if you apply GA_3 to navel orange trees while the fruit still have green rinds, delayed coloring will have a negative effect on your ability to harvest and market the fruit early in the season. In contrast, this effect is desirable for late-harvested fruit because it delays rind senescence, which results in fruit that are paler in color than the deeper-colored fruit from untreated trees. GA_3 applications amplify the re-greening of "Valencia" oranges. This is considered undesirable and can be minimized if you apply the compound no later than the date specified on the label or in these guidelines. GA_3 application may result in leaf drop, which can be severe, especially when it is applied to navel orange trees that are under heat or water stress. When this happens, the tree may also suffer twig dieback. By including 2,4-D in the GA_3 spray, you may be able to reduce this kind of damage.

C. J. Lovatt, Botany and Plant Sciences, UC Riverside
C. W. Coggins, Jr., Botany and Plant Sciences, UC Riverside

PLANT GROWTH REGULATORS IN FLORIDA

By Davies, Ismail, Stover, and Wheaton, UF-IFAS

Plant growth regulator (PGR) sprays can provide significant economic advantages to citrus growers when used in appropriate situations. Many citrus growers routinely use PGRs to enhance crop profitability. Depending on variety and timing, PGRs may improve fruit set, increase fruit size by reducing cropload, extend the harvest season by delaying rind aging, reduce preharvest fruit drop, or reduce hand-suckering by controlling trunk sprout growth in young citrus trees. Excessive rates, improper timings, untested surfactants or tank mixes and inappropriate environmental conditions can result in phytotoxicity, erratic results and/or greatly reduced cropping. Growers are urged to become familiar with PGRs through application to small plots before treating significant acreage. To avoid drift onto susceptible crops in surrounding areas, products containing 2,4-D (2,4-Dichlorophenoxyacetic acid) have stringent requirements for application conditions.

Importance of material concentration and spray volume

Most registered pesticides are effective over a fairly broad concentration range with little likelihood of phytotoxicity. Since PGRs function by directly influencing plant metabolism, plant response can vary considerably with concentration, making sprayer calibration and accurate material measurement especially important. Studies show that variability in spray deposition increases as spray volume is reduced below 250 gallons/acre in mature citrus groves. At lower water rates, canopy surfaces closest to the sprayer manifold tend to retain much more material than other plant surfaces. Because material concentration is especially important in PGR use, water volumes below 250 gallons/acre are not recommended.

PGR uptake

Unlike most agrichemicals applied to crop plants, efficacy of PGRs depends on entry of materials into plant tissues. Uptake is influenced by a number of factors: amount of PGR applied, concentration of PGR, presence of surfactants, after application, and plant stress level.

Effect of surfactants and tank mixes

Surfactants and other spray adjuvants can affect uptake in several ways. Surfactants and oils spread spray materials over leaf surfaces, and increase uptake by enhancing the total area contacted by spray solution. Many surfactants, urea, ammonium salts and oils can also directly enhance uptake by helping materials penetrate the plant cuticle. Organosilicone surfactants and some oils can result in very rapid uptake by carrying material through plant pores known as stomates. Surfactants can significantly enhance entry of PGRs into plant tissues, however, most PGR studies in citrus were conducted without surfactants or with less effective surfactants than many currently available. Use of untested surfactants may significantly enhance uptake, resulting in excessive plant response and/or phytotoxicity. Tank mixing with other spray materials may influence PGR uptake through surfactants or oils in material formulation or may bind PGR molecules rendering them ineffective.

Importance of weather conditions

Studies with other crops have shown that weather conditions greatly influence PGR uptake. Uptake generally increases with both temperature and duration of spray drying. Application at night or in early morning often enhances uptake because greater drying time more than compensates for somewhat lower temperature.

Dew following application is likely to enhance PGR uptake by prolonging drying. Considerable uptake often occurs after spray has dried, therefore, rain within a few hours of application may significantly reduce PGR effectiveness. Many PGRs degrade rapidly in sunlight. Growers should consider the likely influence of environmental factors in timing PGR sprays. It is illegal to apply 2,4-D when wind speed is above 10 miles/hour and distance to susceptible crops downwind is specified at lower wind speeds.

Influence of plant stress

Trees under significant drought, cold, or pest stress may respond excessively to PGR treatments. Therefore, application of PGRs is recommended only to healthy citrus trees.

Leaf curling

Even when properly applied, some PGRs may cause leaf curling, especially when sprayed on young leaves.

Recommended Chemical Controls

READ THE LABEL. See Table 1.

Rates for pesticides are given as the maximum amount required to treat mature citrus trees unless otherwise noted. To treat smaller trees with commercial application equipment including handguns, mix the per acre rate for mature trees in 250 gallons of water. Calibrate and arrange nozzles to deliver thorough distribution and treat as many acres as this volume of spray allows.

Table 1. Recommended Plant Growth Regulators.

Growth Regulator	Rate/Acre[1]	Variety and Activity	Time of Application/Cautions
Fruit Fix K-Salt **200** (Naphthaleneacetic acid, NAA, 200 g/gal liquid formulation)	8-20 pt. Use lower rates on Murcotts.	Tangerines, Murcotts, & Tangelos. Fruit thinning to increase fruit size and reduce alternate bearing.	May/June drop, typically mid-May. Activity is temperature dependent. Severe overthinning may result from applications made to trees of low vigor and/or under stress conditions. Heavy rain within several hours of application may reduce activity.
[1]Rates are based on application in 250 gallons per acre to mature trees. Proportional reduction in water and material rates is desirable for smaller trees. Application of Pro-Gibb at full rate to juice oranges in 125-150 gallons per acre to mature trees has been effective. The effects of applications in concentrate sprays are unknown.			
[2]Greater uptake at lower spray solution pH. Do not use in water above pH 8.			

Table 1. Recommended Plant Growth Regulators.

Growth Regulator	Rate/Acre[1]	Variety and Activity	Time of Application/Cautions
Citrus Fix (2,4-Dichlorophenoxyacetic acid isopropyl ester 3.36 lb/gal)	3.2 oz	Orange, Temple and grapefruit. Reduction of preharvest drop.	Nov-Dec. Do not apply during periods of leaf flush. Observe restrictions to avoid drift.
Citrus Fix (2,4-Dichlorophenoxyacetic acid isopropyl ester 3.36 lb/gal)	2.4 oz	Navel orange. Reduction of summer and fall drop.	6-8 wks after bloom for summer drop or Aug-Sept for fall drop. Do not apply fall spray when fruit is to be harvested early. Do not apply during periods of leaf flush. Observe restrictions to avoid drift.
Pro-Gibb (Gibberellic acid, GA_3, 4.0% liquid concentrate)[2]	20 oz	Seedless grapefruit. Delay of rind aging process and peel color development. Combine with Citrus Fix for fruit drop control.	Nov-Dec. Greater response prior to colorbreak but early harvest is disrupted by delayed coloring and irregular green spotting may develop. Surfactants increase activity but may cause fruit marking, so use is not recommended. Application within 6 weeks of copper or oil may increase rind marking. Application in Dec may reduce subsequent crop and regreen fruit.
Pro-Gibb (Gibberellic acid, GA_3, 4.0% liquid concentrate)[2]	10-20 oz	Tangelo. Improvement of fruit set. Can result in small fruit size from excessive cropping and/or leaf drop.	Full bloom. Surfactants not recommended.
Pro-Gibb (Gibberellic acid, GA_3, 4.0% liquid concentrate)[2]	20 oz	Minneola tangelo. Delay of stem rind deterioration.	Apply 2 weeks before aniticipated colorbreak. Application after or during coloring may cause rind staining or blotchy color development.
Pro-Gibb (Gibberellic acid, GA3, 4.0% liquid concentrate)2	18 oz	Oranges for processing. Delay of rind aging process and peel color development. Delays decline in peel firmness and increases juice extraction weight during processing.	Apply at or near colorbreak. Application may delay bloom the following year. Do not apply after December 1.
Tre-Hold (Naphthaleneacetic acid, NAA, 1.0% liquid concentrate)	Apply undiluted to trunk only as thorough spray or light brush application.	Nonbearing citrus. Inhibition of trunk sprout growth.	Prior to sprout growth. Caution-may inhibit sprouting desired for tree recovery following freeze. Excessive heavy application may result in tree damage. Do not apply after Sept 1.

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

2013 WATER WATCH

Keeping an Eye on Water Resources

District-Wide Conditions for March 19, 2013

The South Florida Water Management District (SFWMD) is issuing the following briefing:

Some locally heavy rain fell over the southern interior of the District this week, providing a helpful soaking after three weeks of scant rainfall. However, the District has averaged only half an inch of rainfall so far this month.

The driest stretch of the dry season typically begins in March, and water levels across the region have been declining. Water levels are expected to continue falling through the spring as warmer temperatures accelerate evapotranspiration rates. However, water levels remain adequate for this time of year.

Year-round water conservation is key to reducing demand on freshwater sources. The District is storing as much water as possible and maintaining canals at seasonally appropriate levels.
For more information:

- SFWMD Weather/Rainfall Data
- National Weather Service Dry Season Forecast
- Climate Prediction Center Precipitation Forecast

Lake Okeechobee Levels

Today	**13.94** feet
Historical Average for Today	**14.41** feet
This Date One Year Ago	**12.79** feet
One Month Ago	**14.42** feet
One Week Ago	**14.08** feet

Water Levels in Key Locations

LOCATION	CURRENT WATER LEVEL	ONE MONTH AGO	HISTORICAL AVERAGE FOR TODAY
Lake Istokpoga	**38.92** feet	**39.38** feet	**38.88** feet
WCA-1	**16.25** feet	**16.54** feet	**15.49** feet
WCA-2	**10.18** feet*	**11.41** feet	**11.18** feet
WCA-3	**9.43** feet	**9.78** feet	**9.19** feet
Lake Kissimmee	**49.67** feet	**50.40** feet	**50.15** feet
For a map of dry season rainfall totals in all District basins, click here.			

** The canal level n WCA-2 is 10.18 feet, while the interior marsh water level remains at 11.55 feet.*

Other Actions

Navigation

- All Kissimmee River navigation locks are operational and available for boat traffic.
- The S-193 Lock, located on Taylor Creek on the north shore of Lake Okeechobee, reopened to boaters earlier this month after a complete overhaul.

Water Conservation Measures

- South Florida is under the District's Year-Round Landscape Irrigation Rule that limits residential and business landscape irrigation to two or three days per week based on location.
  - To determine watering days and times in your area, contact your local government or visit www.sfwmd.gov/2days.
- Permitted water users such as nurseries, agriculture, golf courses and utilities should continue following the water use conditions in their permits.
  - Permit details can be found in the Application/Permit records search online at www.sfwmd.gov/ePermitting.
- For information about water conservation, visit www.savewaterfl.com.

# # #

Media inquiries can be directed to:
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South Florida Water Management District
Office: (561) 682-2800 or Cellular: (561) 389-3386

SFWMD Governing Board Recognizes Water Conservation Month

Conservation is essential for protecting and sustaining water resources

West Palm Beach, FL — To reaffirm an ongoing commitment to water conservation, the South Florida Water Management District (SFWMD) Governing Board joined the State of Florida and more than 50 South Florida communities and organizations in recognizing April as Water Conservation Month.

"Water Conservation Month is an annual reminder that everyone has a role in protecting South Florida's water resources," said SFWMD Governing Board Chair Dan O'Keefe. "Reducing water use, not just in April but every month of the year, is essential to ensure a long-term, sustainable water supply."

Water Conservation Month is recognized each April, which is historically the height of the dry season due to minimal rainfall and peak demand. At this time of year, limited rainfall, an increase in temperature and higher evapotranspiration rates result in a seasonal decline in regional water supplies across the District's 16 counties.

CHMA Sectional Mapping Program

The CHMA Sectional Mapping Program is intended to provide growers and industry professional with an interactive perspective of the Asian Citrus Psyllid (ACP) pressure throughout the state. ACP scouting being conducted by the USDA-APHIS and Florida Department of Agriculture and Consumer Services began in August of 2011. Over 6,000 blocks are scouted every 3 weeks throughout Florida.

The CHMA Sectional Mapping Program displays the Township, Range, and Section (TRS) of the groves being scouted by the regulatory agencies. Each TRS is unique in location and ACP pressure. The ACP pressure can change between each 3 week cycle. The ACP counts collected by the regulatory agencies are sorted according to TRS and then an average is created. The average ACP count is plotted on to the interactive TRS map.

The maps will allow growers and industry professionals to identify areas within each CHMA that are under high ACP pressure. Once an area with high ACP pressure is identified, corrective action can be taken.

The CHMA Sectional Mapping Program will be updated every 3 weeks with new data. The maps begin in August 2011 and continue through the most current cycle.

Growers and industry professionals can access the Sectional Mapping Program by visiting the CHMA website, www.flchma.org, and clicking on the banner that says "CHMA Sectional Mapping Program". Growers are asked to sign up for the program by providing their name, email, and creating a username and password. Once a grower is logged into the program they have two options to choose from, the cycle data page and the presentation page. The CHMA website contains video tutorials about each aspects of the program.

Any question, contact:

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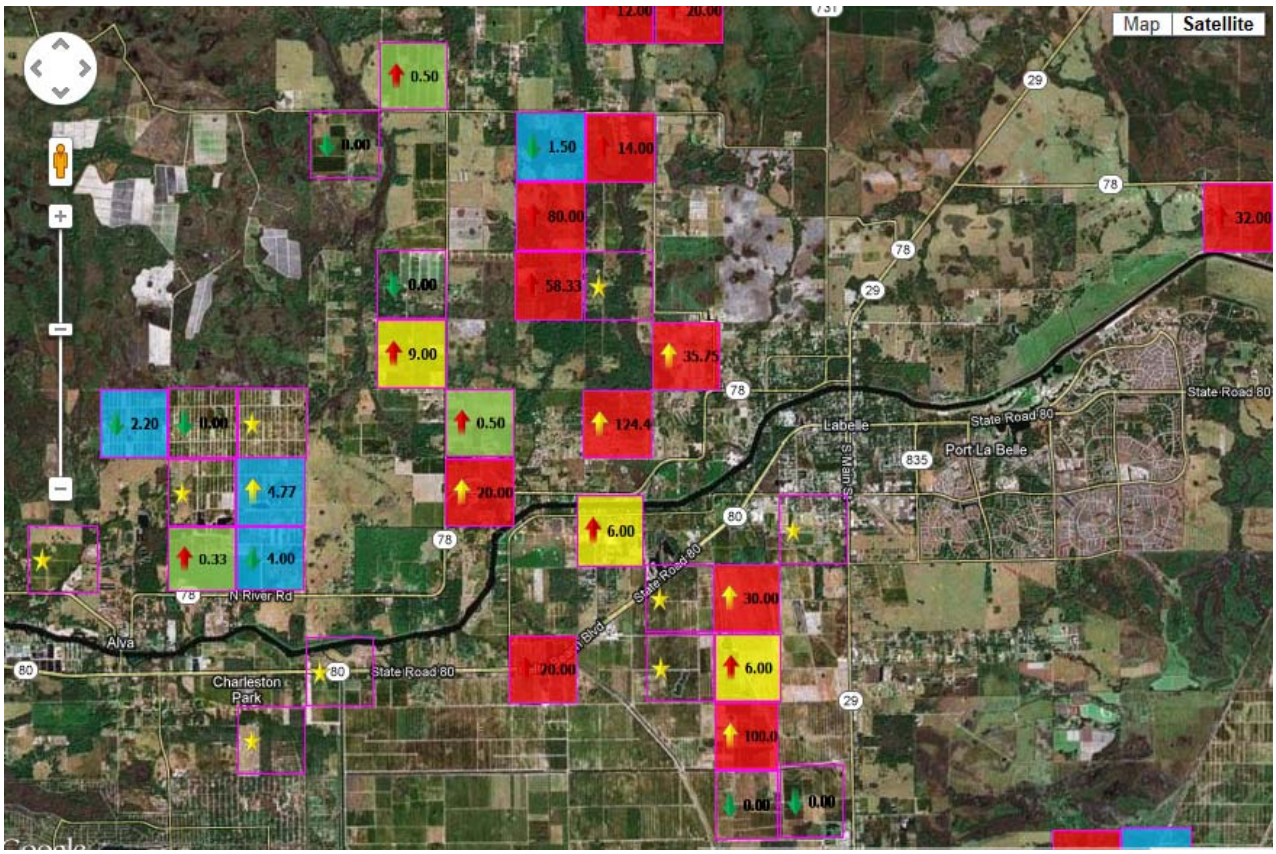
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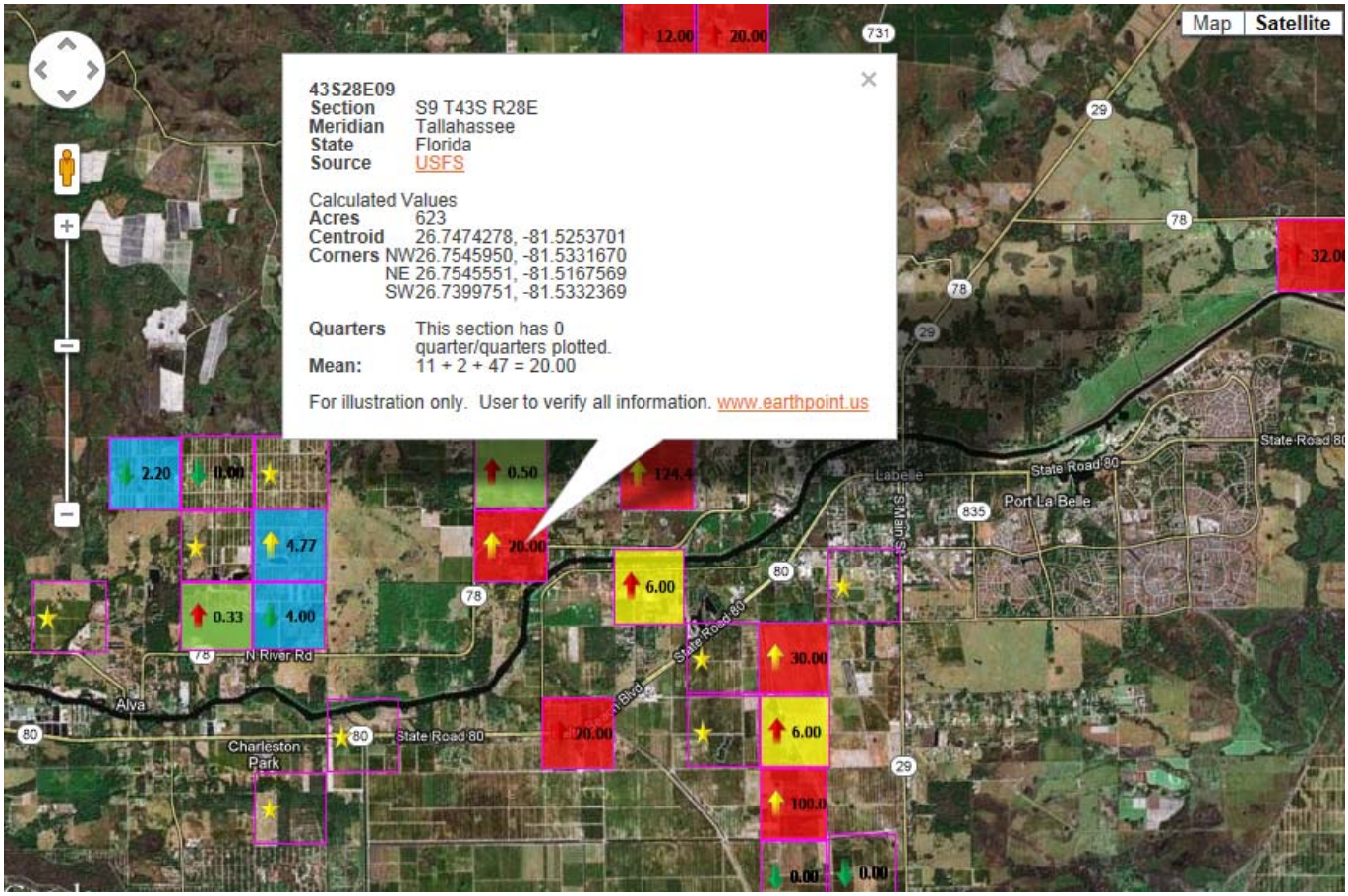
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For illustration only. User to verify all information. www.earthpoint.us
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United States Department of Agriculture
National Agricultural Statistics Service

CITRUS

APRIL FORECAST
MATURITY TEST RESULTS AND FRUIT SIZE

Cooperating with the Florida Department of Agriculture & Consumer Services
2290 Lucien Way, Suite 300, Maitland, FL 32751
(407) 648-6013 · (407) 648-6029 FAX · www.nass.usda.gov/fl

April 10, 2013

All Orange Production Down 1 Percent
Non-Valencia Orange Production Unchanged
Valencia Orange Production Down 1 Percent
All Grapefruit Production Unchanged
All Tangerine Production Down 5 Percent
Tangelo Production Unchanged
FCOJ Yield 1.61 Gallons per Box (42° Brix)

FORECAST DATES – 2012-2013 SEASON
[Release time 12:00 p.m. EDT]
May 10, 2013 June 12, 2013
July 11, 2013

Citrus Production by Type and State – United States

Crop and State	Production [1]			2012-2013 Forecasted Production [1]	
	2009-2010	2010-2011	2011-2012	March	April
	(1,000 boxes)	(1,000 boxes)	(1,000 boxes)	(1,000 boxes)	(1,000 boxes)
Non-Valencia Oranges [2]					
Florida	**68,600**	**70,300**	**74,200**	**67,000**	**67,000**
California	42,500	48,000	45,500	46,500	45,500
Texas	1,360	1,700	1,108	1,220	1,260
United States	112,460	120,000	120,808	114,720	113,760
Valencia Oranges					
Florida	**65,100**	**70,200**	***72,500**	**72,000**	**71,000**
California	15,000	14,500	*13,000	12,500	12,500
Texas	275	249	311	286	295
United States	80,375	84,949	*85,811	84,786	83,795
All Oranges					
Florida	**133,700**	**140,500**	***146,700**	**139,000**	**138,000**
California	57,500	62,500	*58,500	59,000	58,000
Texas	1,635	1,949	1,419	1,506	1,555
United States	192,835	204,949	*206,619	199,506	197,555
Grapefruit					
Florida-All	**20,300**	**19,750**	**18,850**	**17,000**	**17,000**
White	**6,000**	**5,850**	**5,350**	**4,500**	**4,500**
Colored	**14,300**	**13,900**	**13,500**	**12,500**	**12,500**
California	4,500	4,310	*4,000	4,000	4,100
Texas	5,600	6,300	4,800	5,280	5,500
United States	30,400	30,360	*27,650	26,280	26,600
Lemons					
California	21,000	20,500	20,500	20,500	20,000
Arizona	2,200	2,500	750	1,800	1,800
United States	23,200	23,000	21,250	22,300	21,800
Tangelos					
Florida	**900**	**1,150**	**1,150**	**1,000**	**1,000**
Tangerines					
Florida-All	**4,450**	**4,650**	**4,290**	**3,700**	**3,500**
Early [3]	**2,250**	**2,600**	**2,330**	**2,000**	**2,000**
Honey	**2,200**	**2,050**	**1,960**	**1,700**	**1,500**
California [4]	9,900	10,600	10,900	11,800	13,500
Arizona [4]	350	300	200	200	200
United States	14,700	15,550	15,390	15,700	17,200

* Revised
[1] Net pounds per box: oranges in California-80 (75 prior to the 2010-2011 crop year), Florida-90, Texas-85; grapefruit in California-80 (67 prior to the 2010-2011 crop year), Florida-85, Texas-80; lemons-80 (76 prior to the 2010-2011 crop year), tangelos-90; tangerines and mandarins in Arizona and California-80 (75 prior to the 2010-2011 crop year), Florida-95.
[2] Navel and miscellaneous varieties in California. Early (including Navel) and midseason varieties in Florida and Texas. Small quantities of tangerines in Texas and Temples in Florida.
[3] Fallglo and Sunburst varieties.
[4] Includes tangelos and tangors.

All Oranges 138.0 Million Boxes

The 2012-2013 Florida all orange forecast released today by the USDA Agricultural Statistics Board is 138.0 million boxes, down 1 percent from last month, and 6 percent less than last season's production. The total includes 67.0 million boxes of non-Valencia oranges (early, midseason, Navel, and Temple varieties) and 71.0 million boxes of Valencia oranges. The hurricane seasons of 2004-2005 and 2005-2006 have been excluded from the usual 10-year regression analysis and from comparisons of the current season to previous seasons. For those previous 8 seasons, the April forecast has deviated from final production by an average of 2 percent with 5 seasons below and 3 above, and differences ranging from 3 percent below to 1 percent above. All references to "average", "minimum" or "maximum" refer to the previous 8 non-hurricane seasons unless noted.

Non-Valencia Oranges 67.0 Million Boxes

The forecast of non-Valencia orange production is unchanged at 67.0 million boxes. The route survey (Row Count) conducted April 1-2, showed 99 percent of all non-Valencia orange rows have been harvested. The Navel portion of the non-Valencia forecast remains unchanged at 2.2 million boxes.

Valencia Oranges 71.0 Million Boxes

The forecast of Valencia production is lowered one million boxes to 71.0 million boxes. The Size and Drop survey conducted in late March showed droppage is above the maximum and average size is below minimum. Estimated utilization to the 1st of the month is 17.0 million boxes. The route survey (Row Count) showed 27 percent of the rows have been harvested.

All Grapefruit 17.0 Million Boxes

The forecast of all grapefruit production is unchanged at 17.0 million boxes. Of the total grapefruit forecast, 4.5 million are white and 12.5 million are the colored varieties. The route survey (Row Count) showed 72 percent of the white grapefruit and 85 percent of the colored grapefruit rows have been harvested.

All Tangerines 3.5 Million Boxes

The forecast of all tangerine production is lowered by 200,000 boxes to 3.5 million boxes due to decreased utilization of the later maturing Honey tangerine variety. The early varieties (Fallglo and Sunburst) remain at 2.0 million and the Honey variety is reduced to 1.5 million boxes. The route survey (Row Count) showed 86 percent of the Honey tangerine rows have been harvested.

Tangelos 1.0 Million Boxes

The forecast of tangelo production remains unchanged at 1.0 million boxes, including an allocation of 100,000 boxes for non-certified use. The route survey (Row Count) showed 99 percent of the rows have been harvested.

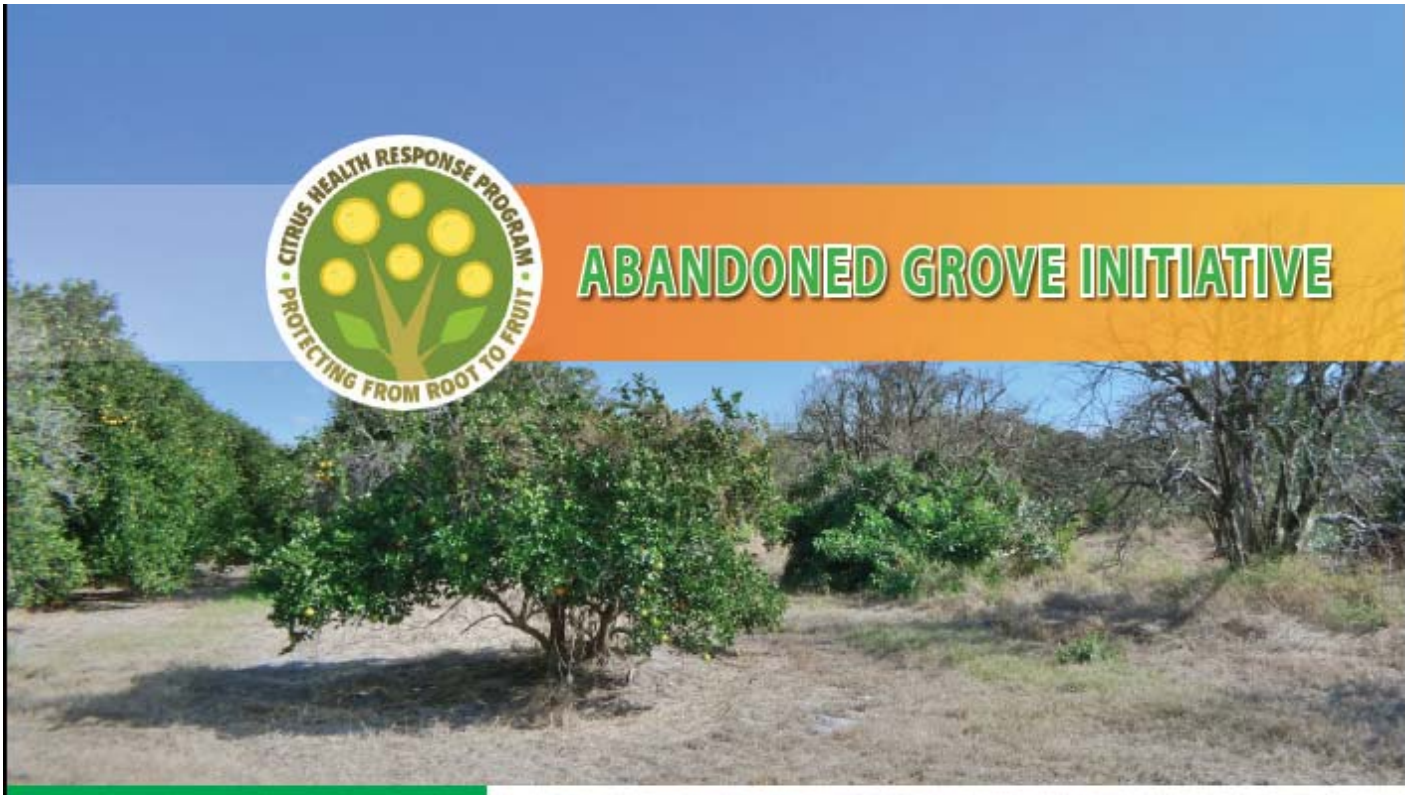
FCOJ Yield 1.61 Gallons per Box

The projection for frozen concentrated orange juice (FCOJ) is unchanged at 1.61 gallons per box of 42° Brix concentrate. The projection for Valencia oranges remains at 1.71 gallons per box. The final yield for non-Valencia oranges is 1.508465 gallons per box, as reported by the Florida Department of Citrus (FDOC) in Report No. 21. Last season's final yield for all oranges was 1.628480 gallons per box, 1.529715 gallons per box for non-Valencia oranges and 1.745597 for Valencia oranges.

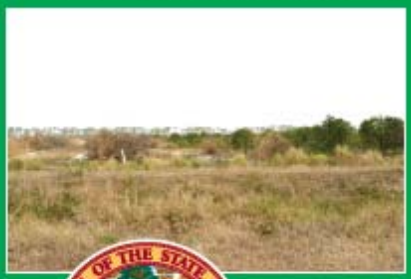
Forecast Components, by Variety — Florida: April 2013

[Survey data is considered final in December for Navels, January for early-midseason oranges, February for grapefruit, and April for Valencias]

Type	Bearing trees	Fruit per tree	Droppage	Fruit per box
	(1,000 trees)	(number)	(percent)	(number)
ORANGES				
Early-midseason	23,741	1,032	18	274
Navel	1,013	409	27	137
Valencia	32,049	661	22	231
GRAPEFRUIT				
White	1,314	550	22	120
Colored	3,581	492	20	125



ABANDONED GROVE INITIATIVE



KEEPING YOUR GREENBELT TAX EXEMPTION FOR CITRUS

Abandoned and unmanaged citrus groves harbor pests and diseases that threaten to destroy Florida's citrus industry. By destroying unwanted and unproductive citrus trees, grove owners may qualify for the lowest tax rates available by simply following these steps:

1. Contact your local FDACS/ Division of Plant Industry (DPI) Field Office and request an information packet on the Abandoned Grove Initiative.
2. Contact your local County Property Appraiser and verify their participation in our Abandoned Grove Program.
3. Destroy citrus trees in abandoned, unmanaged or diseased groves at owner's expense and call DPI for destruction verification and an Abandoned Grove Compliance Agreement.

Helpline: 1-888-397-1517

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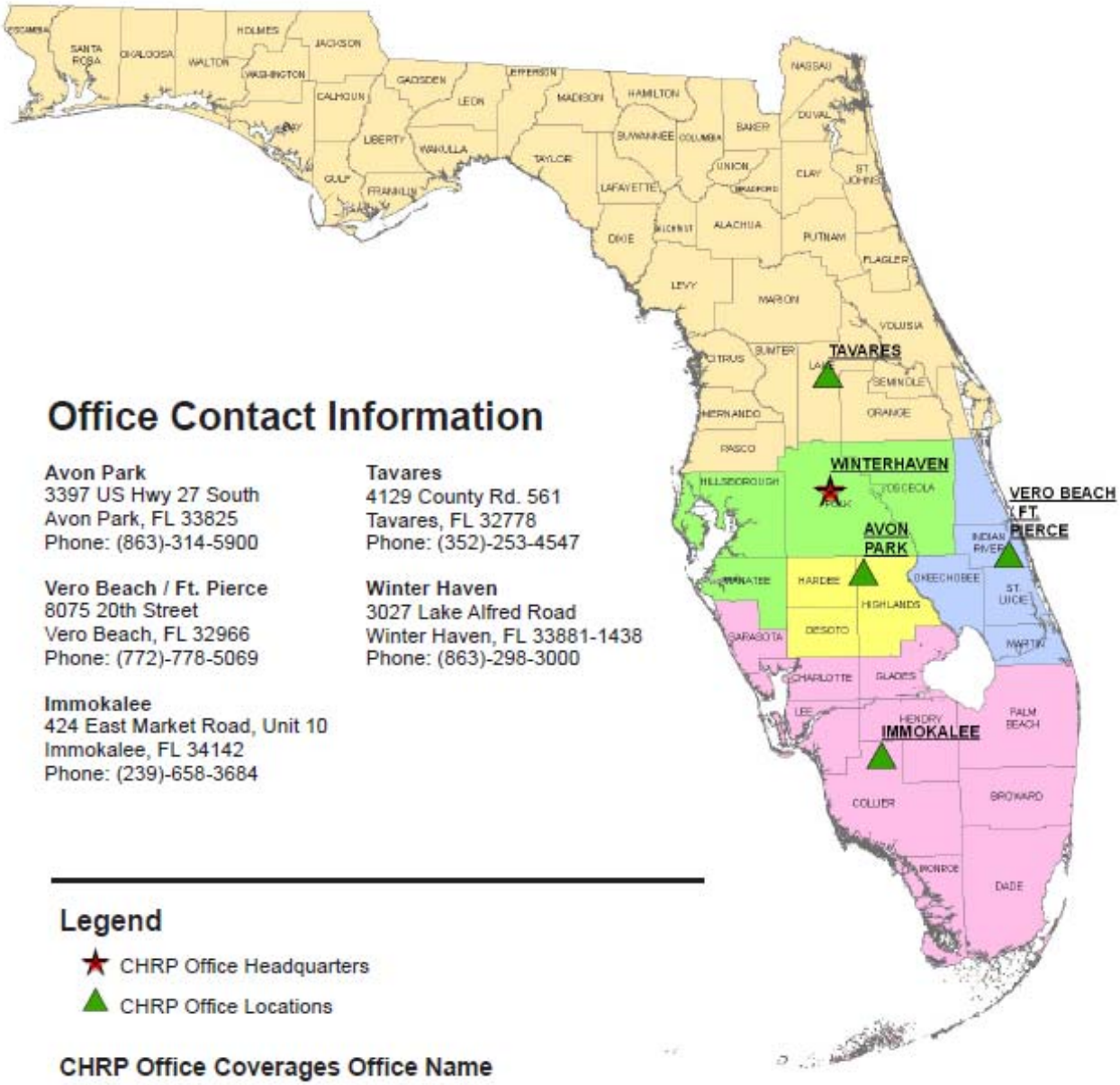
FDACS/DPI Citrus Health Response Program Offices



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Legend

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Flatwoods Citrus

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Racial-Ethnic Background

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

Gender

__Female __Male