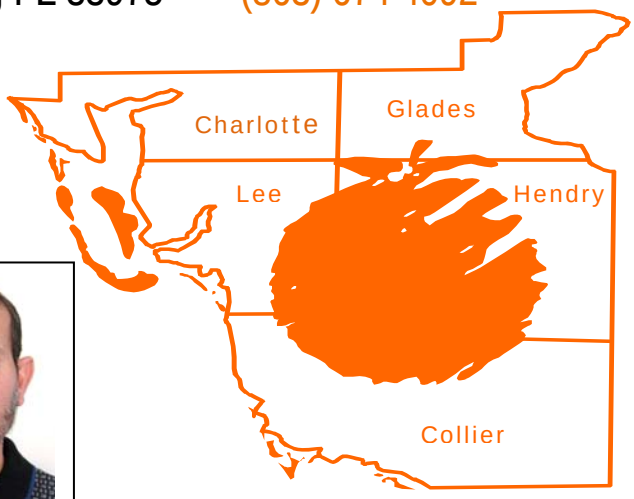
UF UNIVERSITY of FLORIDA
IFAS Extension

EXTENSION

Institute of Food and Agricultural Sciences

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

Flatwoods Citrus



Have a Happy Holiday Season and a Productive New Year!!!

Vol. 12, No. 1 **January 2009**

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

U P C O M I N G E V E N T S

--Scouting for citrus psyllid, citrus leafminer, and rust mite
--Current recommendations for psyllid, leafminer, and rust mite control/management

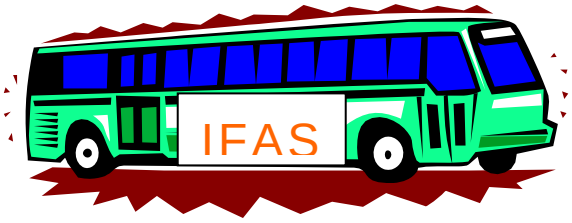
Date: Tuesday, January 27, 2009, Time: 10:00 AM – 12:00 Noon
Location: Southwest Florida REC (Immokalee)
Speakers: Mr. Barry Kostyk and Drs. Phil Stansly, Jawwad Qureshi, and Alejandro Arevalo
2 CEUs for Pesticide License Renewal
2 CEUs for Certified Crop Advisors
Attendance & lunch are free, but **pre-registration is required**.
RSVP is required. To RSVP, call 863 674 4092 or send an e-mail to maz@ifas.ufl.edu

If you want to print a color copy of the Flatwoods Citrus Newsletter, get to the Florida Citrus Resources Site at http://flcitrus.ifas.ufl.edu/

THE INDIAN RIVER CITRUS SEMINAR

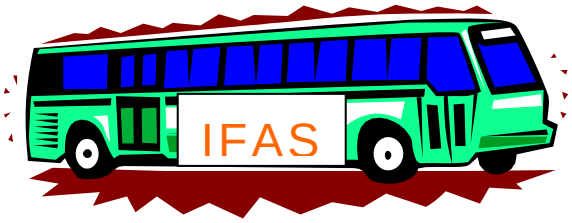
January 28-29, 2009
St. Lucie County Fairgrounds, Ft. Pierce, FL
For information and registration, visit
http://floridagrower.net/flgevents/

HENDRY COUNTY EXTENSION AG TOUR



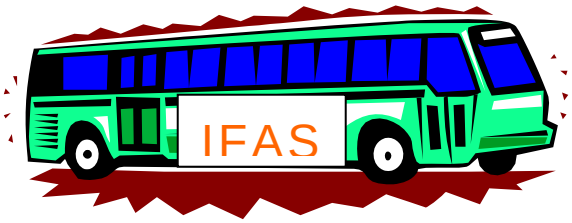
Saturday, 7 February 2009
For more information or to sign up, call 863 674 4092

CHARLOTTE COUNTY EXTENSION AG TOUR



Tuesday, 17 March 2009
For more information or to sign up, call Holly Shackelford at 941/764-4352

COLLIER COUNTY EXTENSION AG TOUR



Wednesday, 18 March 2009
For more information or to sign up, call Robert D. Halman at 239-353-4244

-PILE BURNER CLASSES- DIVISION OF FORESTRY

http://www.fl-dof.com/training_education/training_schedule.html

Contact: Benjamin Koubek : flboy275@ufl.edu
352/ 846-2374

January 15, 2009	**Certified Pile Burner Training**	**Jacksonville**	**Open- $50 fee**
February 24, 2009	**Certified Pile Burner Training**	**Sebring**	**Open- space is limited $50 fee**

Special Thanks **to the following sponsors (on pages on pages 3, 4, and 5) 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@ifas.ufl.edu**

Susan S. Thayer

Maxijet®

"The Standard of Quality in Low-Volume Irrigation"

8400 Lake Trask Rd.
P.O. Box 1849, Dundee, FL 33838
Phone: 800 881 6994

Steve Fletcher

Fletcher Flying Service, Inc.

Phone: 239 860 2028
Fax: 863 675 3725

Heath Prescott

KeyPlex®

Toll Free: 800 433 7117
Mobile: 863 781 9096
Nextel: 159*499803*6

Scott Houk

Dow AgroSciences
13543 Troia Drive
Estero, FL 33928
Phone: 239-243-6927
SEHouk@dow.com

FIRST BANK

P.O. Box 697
LaBelle, FL 33975
LaBelle Phone: 863 675 4242
Fax: 863 675 1099
Moore Haven: 863 946 1515

Ed Early

DuPont Ag. Products

5100 S. Cleveland Ave.,
Suite 318-368
Fort Myers, FL 33907
Phone: 239 994 8594

Gary Sawyer

SYNGENTA

Office Phone: 813-737-1718
Cell Phone: 813-917-1818
gary.sawyer@syngenta.com

Donald Allen

AGLIME SALES, INC.

1375 Thornburg Road
Babson Park, FL 33827-9549
Mobile: 863 287 2925
Agnet # 52925

Bart Hoopingarner

United Phosphorus, Inc.

3605 162nd Ave East, Parrish, FL 34219
Phone: 941 737 7444
Ag Net: 158*17*9485
bart.hoopingarner@uniphos.com

Special Thanks **to the following sponsors (on pages on pages 3, 4, and 5) 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@ifas.ufl.edu**

Special Thanks **to the following sponsors (on pages on pages 3, 4, and 5) 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@ifas.ufl.edu**

Nichino America

Paul Hudson
Phone: 941 924 4350
Fax: 941 924 4135
phudson@nichino.net

Wellmark

EXTINGUISH Professional Fire Ant Bait

Extinguish PLUS

Jack Kilgore
M: 239-707-7677 Nextel: 158*17*24422
g8tmanjek@comcast.net

Brent Beer
BEER LEVELING &
LAND DEVELOPMENT
Citrus Tree Removal – Ditch Cleaning
863 675 1663 Office
863 673 3173 Mobile
158*17*43857 Nextel

Mark White
G.P. SOLUTIONS
Liquid fertilizers, Micronutrients, & Organic Products
Phone: 239 214 1072
Fax: 863 938 7452
E-mail: mwhite@nitro30.com

Jeff Summersill
THOMAS R. SUMMERSILL, INC.
Custom Aerial
Ground Application
Mobile 561-722-4502, Agnet # 33169
trsummersill@msn.com

Rachel M. Walters
***BAYER* CropScience**
Phone/Fax: 941 575 5149
Mobile: 239 707 1198
Nextel 158*17*41198
rachel.walters@bayercropscience.com

Garry Gibson
BASF Corporation
1502 53rd Avenue
Vero Beach, FL 32966
Cell: 772 473 1726
Fax: 772 567 2644
w.garry.gibson@basf.com

United States Department of Agriculture
Animal and Plant Health Inspection Service
Plant Protection and Quarantine
Citrus Health Response Program

Shipping Home Grown Citrus Fruit from Florida, 2008 – 2009 Season

The US Department of Agriculture's (USDA) Animal and Plant Health Inspection Service (APHIS) has quarantined the entire State of Florida for citrus canker, a serious bacterial disease not found in any other citrus-producing areas of the United States or its territories. Scientific studies have shown that fruit that shows no visible signs of citrus canker infection that is commercially packed poses a minimal risk of spreading citrus canker. Based on these studies, USDA has determined that fresh citrus fruit can be shipped out of the citrus canker quarantine area to non-citrus producing states if it is commercially packed, regardless of whether it is produced in a commercial grove or grown in a homeowner's back yard. During the commercial packing process, fruit is generally washed, disinfected, graded and inspected by government inspectors. As part of the commercial packing process, it is also packed into specially marked shipped containers and issued a "Limited Permit" for shipment to non-citrus producing states. **It is important to note that under the citrus canker quarantine, fresh citrus cannot be shipped to any citrus producing state or territory, including AZ, CA, HI, LA, TX, Puerto Rico, the US Virgin Islands, Guam and the Northern Mariana Islands.**

The following packinghouses have indicated they will pack home grown citrus fruit. This list is not all-inclusive, and is subject to change. There may be other packinghouses willing to pack home grown citrus fruit. You are urged to contact local packinghouses in your area to see if they can assist you. Packinghouses are under no obligation to provide this service, and the USDA offers no guarantee of customer satisfaction. Listed packinghouses merely meet the minimum USDA requirements necessary to provide this service. Please contact the Citrus Health Response Program hotline at 1-800-282-5153 for future changes.

Packinghouses Accepting Home Grown Fruit

Poinsettia Groves
1481 U.S. Hwy 1, Vero Beach FL 32960
(772)562 -3356, Contact: Jeb Hudson
Details: Can only run fruit into a corrugated bin – to be supplied by grower. Cannot pack into cartons. After December. Will provide certificate letter with stamp.

Neukom Groves, Inc.
5409 Gall Blvd, Zephyrhills, Florida 33542-3929
(813) 782-5596, fax (813) 788-2048

The Orange Shop
PO Box 125, Citra, Florida 32113-0125
1-800-672-6439, email:
info@floridaorangeshop.com

Butrico Groves
6065 Magnolia St, Scottsmoor FL 32775
(321) 268-8109, Contact: Lee Bird
Details: Minimum of 5 field boxes (8 bushels)

Heritage Grove Fresh Citrus
190 S Carpenter Rd, Titusville FL 32796
(321) 267-7733, Contact: Gene Thurston

May Groves
1885 US Hwy 1 North
Titusville, FL 32796
Phone: 321-745-8575, Contact: Barry Gainer

Taylor's Packing and Shipping
713 S Evers St, Plant City FL 33563
(813) 752-1355, fax: (813) 754-0781

Pkg's Plus
2447 N Wickham Rd, Suite 138, Melbourne FL 32935
(321) 757-6696, email: citrus@pkgsplus.com
Details: No minimum. Please contact store in advance for citrus shipments over 400 pounds.

The Mail Center
3206 S Hopkins Ave, Titusville FL 32780
(321) 268-2255

A.W. Crisafulli Groves
5515 N Courtenay Pkwy
Merritt Island FL 32953-7223
(321) 452-8100, 800-683-6700
Details: Minimum of 1/2 bushel (4 gallons)

CURRENT FLOWER BUD INDUCTION ADVISORY #3 for 2008-2009-12/16/08 http://www.lal.ufl.edu/extension/flowerbud/index.htm

L. Gene Albrigo, Horticulturist, Citrus Research & Education Center, Lake Alfred, FL

Current status for 2008-09 fall-winter – Cool weather accumulation has continued at a good rate to the point that the induced buds are now very easy to stimulate into flower bud growth and differentiation. The flowering monitor program indicates that the easy to induce buds have started to differentiate in the more northern locations (Avalon at 800 hours and Umatilla at 820 hours). Other areas of the state may follow suit if temperature highs stay at 80 degrees F or higher for several days this week. Through December 16th, citrus locations had accumulated low temperatures (< 68 degrees F) of 720 to 1000 hours from southern to the most northern areas, respectively. The next 8 day forecast from NOAA calls for relatively cool temperatures and another 80 to 100 hours below 68 degrees F should accumulate. The current values are acceptable for commercial crops in all areas except Ft. Pierce and more southern East Coast locations. In another 8 days, the East Coast area should have an acceptable level of cool temperature accumulation also. The northern areas have projected first bloom wave dates of February 2nd (Avalon) and February 6th (Umatilla) which, if correct, are very early and would put the flowers at risk to a potential frost. Since the accumulated cool temperatures are in the 800s, the first wave of flowers should be the major wave for all of the citrus production areas. During the past 3 years the trees have not responded by having their major bloom from this many hours of cool temperature accumulation. If they do respond this year with the major bloom from the first initiation-differentiation wave, then the trees have probably finally returned to normal after the 2004-05 hurricanes.

The cool temperature accumulation is so good that I would advise trying to minimize growth through moderate drought maintenance rather than applying urea or phosphorous acid sprays to enhance flowering. This is the most economical option as it saves spray and materials cost as well as some irrigation costs. In all cases where the current crop is low to moderate, the return flowering should be very good without help. Even if the current crop is a fairly heavy another two weeks should put induction levels at a high level, exceeding 1000 hours.

It is not advisable to start pushing growth of the trees as 1. An early February bloom is not desirable, and 2. Irrigating might reduce the cold hardiness level which should still be fairly good with the consistent cool temperatures experienced so far this fall and winter. The freeze hazard will be fairly high from now until January 15th. In this Neutral ENSO winter, freezes are more likely. The Jet Stream flow is still mostly horizontal from West to East across the southern two-thirds of the US so rapid Arctic Express cold air movement into Florida is not likely. Check the Weather Underground on the CREC Weather links for easy access to Jet Stream patterns and watch it carefully over the next month for any significant change to a southern dip that can easily lead to freezing temperatures in Florida.

There are two useful Websites to follow weather forecasts. The Florida Agricultural Weather Network (FAWN) now has an easy access function to the NOAA 4 day forecast, just type location and click. Alternative, an 8 day forecast can be viewed by going to www.crec.ifas.ufl.edu and click on resources> weather> 8-day forecast. Remember during this critical freeze period to view FAWN, use the on-line monitor site provided in the first advisory and the NOAA 8 day forecast and watch the Jet Stream pattern. In order to prevent bud growth now that trees are at a high level of induction, trees should be slightly stressed if a warm period (5-7 days with maximum temperatures above 80 degrees F.) is predicted.

If you have further questions, please contact me (albrigo@ufl.edu or phone 863-956-1151).

FERTILIZER PRICES: BIG CHANGES AHEAD

Gary Hergert, Extension Soils Specialist
University of Nebraska-Lincoln Extension

The past two years have seen major changes in crop production costs, especially fertilizer. What happened and what's projected for 2009? That depends on the world market. Fertilizer is truly an international commodity, so what happens in the Middle East, India, China and in former Soviet Union Republics like the Ukraine (Yuzhny) influences local prices.

Nitrogen

Nitrogen prices tripled compared to two years ago in September, but have dropped just like the stock market since then.

World demand for fertilizer rose 14% in the past few years (primarily from South America, China and India) which drove up prices. With increases in U.S. ethanol production, corn acreage and nitrogen demand increased — 45% of all N fertilizer is used for corn. When the financial crisis spread around the world in September, it also affected demand for fertilizer, causing a huge price drop. These are world prices. Local prices will be at least 20% higher to reflect transportation and dealer mark up.

In the U.S., ammonia for fertilizer accounts for only about 2% of total uses which are primarily industrial.

Historically, the price of ammonia is strongly correlated with natural gas prices because 85-90% of the production cost of ammonia is natural gas. Industrial ammonia is used to produce nylons, acrylonitrile for fibers and plastics, isocyanates for polyurethanes, hydrazine and explosives. Industrial ammonia use is reflecting steep declines because of decreased use tied to the U.S. housing and construction slump and automobile, pulp and paper industries decreased use.

Demand for ethanol has declined with the drastically decreased crude oil and gas prices. Late harvest, high prices and wet soils limited corn belt nitrogen application this fall to about 50% of normal. All of these factors have led to excess supply (industrial and fertilizer) in the U.S. and the world and are reflected in world prices.

So, why haven't you seen a decline in prices at your local supplier? The problem is that dealers have high-priced inventory in bins and tanks they are waiting to sell. Many bought before peak prices last summer, but now will have to see if they can "cost average" to help bring down costs, knowing there is cheaper product on the market. Dealers cannot sell those products below their cost or they will not be in business even though current prices on the world market are much less. Many are not pricing until January. Barge traffic up the Mississippi is closed for winter, storage is full, and there are tanker ships sitting off Tampa full of ammonia that is being offered for less than $200/T, but there are no buyers and no place to move it.

Phosphorus

Phosphate prices quadrupled since two years ago before dropping again. China and India had bid up the market to $1200/ton for 18-46-0 (DAP) this summer. The Chinese had put an export tax on nitrogen and phosphorus last year, but have dropped it for December-January 2009, trying to encourage buying. Other major world companies (Yara, Agrium, Koch, Terra) have curtailed production in Europe, Canada, the Caribbean and the U.S., but there is too much excess supply for production cuts to affect prices in the short term.

Recommendations

As you plan for 2009, fertilizer prices will be fluctuating and may be higher than in 2008, although there may be some bargains later next spring. You can't control fertilizer prices (other than being aware of world trends and locking in a good deal when you find one) and you can't control commodity prices. What you can control are your production inputs and costs by improved management.

FACTORS AFFECTING BLOOM, FRUIT PRODUCTION AND QUALITY

In subtropical regions during the winter months, the temperature normally falls below 70 °F for several months. This causes growth to cease and trees to become dormant for about 3 months. This dormancy, among other things, induces flowering when warmer temperatures in the early spring cause resumption of vegetative growth. In a tropical climate, there is no period of cold temperature to induce dormancy. However, with periods of less than ample soil moisture, flushes of bloom and vegetative growth normally follow periods of drought.

It is well known that vegetative growth is competitive with fruit growth for available nutrients such as sugars and minerals. Flushes of heavy vegetative growth will reduce the solids available to developing fruit, while a period of dormancy will increase solids. This competition for nutrients between vegetative growth and fruit development is one of the reasons reducing solids concentration often found in oranges produced in the tropics as compared with those produced in subtropical regions.

Fruit production and quality is influenced by many factors including climatic conditions and production practices. Within fairly broad parameters of adequate soil and reasonably good cultural and crop protection practices, climate is the most important component of the climate-soil-culture complex causing differences in fruit quality among commercial citrus production areas.

CLIMATE

There is considerable diversity among citrus cultivars in their response to climate, especially as regards to market quality of the fruit. For example, 'Navel' develops its best eating and eye-appeal qualities in a Mediterranean type climate with cool, wet winters and hot, dry summer. In wet, tropical regions, it tends to be large, with poorly colored rinds, and low total soluble solids and acid in the juice. However, 'Valencia' is adapted to a broad range of climates, producing excellent to acceptable fruit quality in most of the important citrus regions. Unlike 'Navel', most grapefruit cultivars develop optimum internal quality in warm climates with little winter chilling.

Cultural practices cannot completely overcome these differences. For example, there is no known cultural practice that allows California (with Mediterranean climate) to produce low-acid, thin-peel Florida world top quality grapefruit.

Worldwide, climate has a significant effect on citrus yield, growth, fruit quality, and economic returns. In growing regions where the average temperatures remain high all year, chlorophyll levels remain high for oranges and tangerines and the fruit peel stays green, while the peel color of oranges and mandarins is more intense and of greater eye-appeal at maturity in the cold-winter subtropical climates.

In lowland tropical areas, due to the high respiration rate at warm temperatures, the fruit mature fast, do not have sufficient time to accumulate high soluble solids levels and acidity declines

so rapidly that the soluble solids/acid ratio increases sharply and the fruit quickly become insipid and dry. Total soluble solids (TSS) in the fruit accumulate most slowly in cool coastal areas. Maximum levels of TSS are usually attained in the mid-tropics and in humid subtropical regions with warm winters. Total acid (TA) levels are generally greatest in semiarid or arid subtropical and coastal regions and decline more slowly than in other regions. This decrease in TA is primarily a function of temperature (heat unit accumulation) and the rapid respiration of organic acids at those temperatures.

GROWTH REGULATORS

Application of plant growth regulators can provide significant economic advantages to citrus growers when used in appropriate situations. Depending on cultivar and timing, plant growth regulators may improve fruit set, increase fruit size by reducing cropload, extend the harvest season by delaying rind aging, and reduce preharvest fruit drop.

Gibberellic acid (GA) is recommended for citrus hybrids that are weakly parthenocarpic and without sufficient cross-pollination to improve fruit set. Applied from full bloom to two-third petal fall, GA can effectively set and produce an excellent crop of seedless Robinson, Nova, Orlando, Minneola, or other self-incompatible mandarin hybrids. Application of GA to citrus fruit approaching maturity enhances peel firmness and delay peel senescence.

Application of GA in the fall often increases juice extraction from sweet oranges. It is likely that GA enhances juice extraction efficiency because increased peel firmness provides better mechanical support for fruit within extraction cups.

Applied in winter during floral induction to cultivars that routinely flower heavily but set poor crops such as Navel, Ambersweet, and Ortanique, GA reduces flowering and often results in increased fruit set. A combination of GA and 2,4-D has been used in many fresh fruit growing regions to enhance peel strength and extend the harvest seasons for grapefruit and oranges.

Naphthaline acetic acid (NAA) is used to reduce the number of fruit with excessive set. The advantage of NAA thinning in heavily cropping trees is increased fruit size. The greatest response has been shown when the average fruit diameter is around half an inch, which typically occurs 6 to 8 weeks postbloom. Thinning of Murcott and Sunburst tangerine with NAA was found to increase fruit size, mean fruit weight, and percent packout through improved fruit appearance.

CULTIVAR/ROOTSTOCK

The most important determinant of fruit production and quality under the control of the grower is the selected cultivar. Under comparable conditions, ‘Hamlin’ orange always has poorer juice color and lower soluble solids than ‘Midsweet’ or ‘Valencia’ orange. On the other hand, ‘Hamlin’ produces higher, more consistent yields per acre than any other sweet orange cultivar. ‘Valencia’ is worldwide known to produce premium quality fruit. Its internal quality is excellent. The fruit has high sugars, superior flavor, and deep orange juice color at maturity.

Beside the cultivar, many horticultural characteristics are influenced by the rootstock including tree vigor and size, fruit yield, fruit size, maturity date, and fruit quality. One of the best known examples is the small fruit size of ‘Valencia’ budded on Cleopatra mandarin rootstock. Cleopatra mandarin is well suited for use with tangerines, Temple, and tangerine hybrids. Cleo is not widely

used for grapefruit and 'Valencia'. Sweet orange and grapefruit cultivars on Cleo generally produce small fruit and are not precocious. Low yield results from poor fruit set and size and fruit splitting. Scions on Cleo are most productive on heavier soils.

Larger fruit with thicker, rougher peel, and lower concentrations of soluble solids and acids in the juice are generally associated with cultivars budded on fast-growing vigorous rootstocks such as rough lemon, Volkamer lemon, *Citrus macrophylla*, and Rangpur lime. However, these rootstocks impart high vigor to the scion and induce high yield. Tangerine fruit from trees grown on vigorous rootstocks tends to be puffy, hold poorly on the tree, and have high incidence of granulation.

Cultivars budded on slower-growing rootstocks, generally do not produce vigorous vegetative growth, but tend to produce small to medium size fruit with smooth peel texture and good quality fruit with high soluble solids and acid contents in the juice. This latter group of rootstocks includes trifoliate orange and some of its hybrids (citranges and citrumelos). Sweet oranges budded on Carrizo have been among the most profitable combinations over the long term in Florida. Planted on the right soils, trees on Swingle are very productive at high-density plantings.

IRRIGATION AND NUTRITION

Although citrus trees develop largely in response to their genetic endowment and the climate, good production practices can have favorable influences on fruit production and quality. Cultural practices that attempt to cope with climatic or weather problems include irrigation and nutrition. Irrigation is of particular importance during the spring, which coincides with the critical stages of leaf expansion, bloom, fruit set, and fruit enlargement.

Irrigation increases fruit size and weight, juice content and soluble solids-acid ratio. Soluble solids per acre may increase due to yield increase. However soluble solids per box and acid contents are reduced. Through its tendency to stimulate vegetative growth, irrigation in the dry fall and winter may reduce soluble solids in the fruit. Decline in total acid levels can also be aggravated by excessive irrigation.

Citrus trees require a good water management system and a balanced nutrition program formulated to provide specific needs for maintenance and for expected yield and fruit quality performance. Adequately watered and nourished trees grow stronger, have better tolerance to pests and stresses, yield more consistently, and produce good quality fruit. On the other hand, excessive or deficient levels of watering or fertilization will result in low fruit yield and oversize fruit with poor quality and diluted soluble solids content.

The most important nutrients influencing fruit quality are nitrogen, phosphorus, and potassium. However, when any other nutrient is deficient or in excess, fruit yield and quality are negatively altered. Nitrogen (N) increases juice content, TSS per box and per acre, and acid content. However, excessive N can induce excess vigor and promote a

vegetative rather than a flowering tree and can result in lower yields with lower TSS per acre. In contrast, low N levels promote extensive flowering but fruit set and yields are poor.

Phosphorus reduces acid content, which increases soluble solids-acid ratio. Potassium (K) increases fruit production, fruit size, green fruit and peel thickness. Foliar spray of potassium nitrate or monopotassium phosphate in the spring often increases fruit size of tangerine and grapefruit, and fruit size and total pound solids of 'Valencia' orange. Foliar application (6 to 8 weeks before bloom) of low biuret urea can increase flowering and fruit set.

SUNLIGHT AND PRUNING

Even though citrus trees can tolerate shade and still flower and fruit, maximum flowering occurs when leaves are fully exposed to the sun. Therefore, pruning including topping and hedging to avoid crowding is extremely important for optimum flowering. The amount of fruit that is set has a very significant effect on fruit quality. There is a positive correlation between the number of fruit per tree and fruit quality. When the number of fruit per tree is low, the peel texture, shape of fruit, and often fruit color are poor. Quality of individual fruit varies significantly, even on the same tree. Inside heavily shaded fruit have less total soluble solid than outside exposed fruit. Insufficient light contributes to reduced total soluble solid concentration of inside fruit nourished by heavily shaded leaves.

Pruning is also an important factor affecting fruit production and quality. Crowded conditions result in poor light accessibility and reduction in fruit yield, size, and external quality. Therefore, good management dictates the need to prune before the occurrence of these undesirable effects.

It is well established that shoots with fruit do not flower the following year. A heavy fruit crop tends to deplete carbohydrates and results in a small crop and increased vegetative growth the following year. Pruning after a heavy crop additionally stimulates vegetative growth and reduces fruit yield the following year. Pruning after a light crop and before an expected heavy crop can increase fruit size and help reduce alternate bearing. Pruning or topping and hedging usually increase fruit size and packout of fresh-market fruit by reducing cropload, thus increasing net cash returns to growers.

PESTS AND DISEASES

The improvement in fruit quality that a grower can achieve through choice of rootstocks, irrigation/nutrition management, and other grove practices may easily be overwhelmed by pests, diseases, and other injuries. Excessive leaf loss will noticeably reduce flowering the following spring and fruit production. The primary causes of leaf loss are freeze and tropical storm injury, salt and water stress problems including drought stress and flooding injuries, mites, greasy spot, herbicides and pesticide phytotoxicities. Excessive leaf loss in the fall and in early winter is the worst thing that can happen to citrus trees. It will reduce flowering, fruit set, and fruit yield.

HEDGING AND TOPPING CITRUS TREES

Hedging and topping is another important cultural grove practice during late fall and winter. Severe hedging or topping of citrus trees during the winter can reduce cold hardiness. Trees with exposed internal scaffold wood and new tender growth are more susceptible to cold injury.

In general, tree response to hedging and topping depends on several factors including variety, tree age, vigor, growing conditions, and production practices. No one system or set of rules is adequate for the numerous situations encountered in the field. Growers are encouraged to gain a clear understanding of the principles involved in hedging, topping, and to take advantage of research results as well as consulting knowledgeable colleagues and custom operators for their observations.

Hedging should be started before canopy crowding becomes a problem that would cause cutting of small branches. Removal of a significant portion of the tree will result in excessive vegetative growth and a drastic reduction in subsequent yield. Hedging is usually done at an angle, with the boom tilted inward toward the treetops so that the hedged row middles are wider at the top than at the bottom. This angled hedging allows more light to reach the lower skirts of the tree. Hedging angles being used vary from 0 to 25 degrees from vertical, with 10 to 15 degrees being more commonly used.

Topping should be done before trees have become excessively tall and should be an integral part of a tree size maintenance program. Long intervals between toppings increases the cost of the operation due to heavy cutting and more brush disposal. Excessively tall trees are more difficult and expensive to harvest and spray. Topping trees will increase fruit quality and size. Some common topping heights are 12 to 14 ft at the shoulder and 15 to 16 ft at the peak.

Excessive nitrogen after severe hedging or topping will produce vigorous vegetative growth at the expense of fruit production. Therefore, nitrogen applications should be adjusted to the severity of hedging and/or topping. Reducing nitrogen applications avoids an imbalance when heavy pruning is done. Reducing or omitting a nitrogen application before and possibly after heavy hedging will reduce both costs and excessive vegetative growth. However, light maintenance hedging should not affect fertilizer requirements.

Large crops tend to deplete carbohydrates and results in a reduced crop and increased vegetative growth the following year. Pruning after a heavy crop additionally stimulates vegetative growth and reduces fruit yield the following year. Pruning after a light crop and before an expected heavy crop is recommended because it can help reduce alternate bearing which can be a significant problem in Valencia and Murcott production.

Severe hedging stimulates vigorous new vegetative growth, especially when done before a major growth flush. This happens because an undisturbed root system is providing water and nutrients to a reduced leaf area. The larger the wood that is cut, the larger is the subsequent shoot growth. Severe pruning reduces fruiting and increases fruit size.

The best time of year to hedge and/or top depends on variety, location, severity of pruning, and availability of equipment. Since pruning is usually done after removal of the crop, early maturing varieties are generally hedged before later maturing varieties. Many prefer to hedge early before bloom, but they may also get more vegetative regrowth, which may not be desirable. Pruning could begin as early as November in warmer areas. Valencia trees may be hedged in the late fall with only minimal crop reduction when the hedging process removes only a small amount of vegetative growth. In cases where excessive growth is to be removed, the trees are usually harvested before hedging is conducted. Light maintenance pruning can be done throughout the summer and until early fall with little or no loss in fruit production. Moderate pruning should not continue late into the fall in freeze-prone areas, as trees with tender regrowth are more susceptible to cold injury. With the finding of citrus greening disease, selecting the best time for hedging and topping is becoming more complicated. New growth flushes promoted by hedging and topping in late spring, during the summer, and early fall can increase the population of psyllids and aggravate the spread of citrus greening. For more details, go to http://edis.ifas.ufl.edu/HS290

FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES

Division of Plant Industry
Bureau of Pest Eradication and Control
Citrus Health Response Program (CHRP)
3027 Lake Alfred Road, Winter Haven, FL 33881-1438
Phone: (863) 298-7777; Fax: (863) 291-5219

CHRP Compliance for 2008-2009

• 2007-2008 DACS Compliance Agreements are extended for the 2008-2009 harvest season
- Continue to use DACS 2007-2008 Compliance Agreements until further notice

• All stakeholders are urged to remain engaged in the CHRP Program
- Stay in touch with DPI and UF-IFAS through newsletters and websites
- Report changes in ownership or management of citrus groves
- Call your local CHRP Office if you have any questions (See attached list)

• Grower self-survey and disease management are critical to your success
- Report findings of grower self-surveys to your local CHRP office
- Choose to actively manage citrus greening and canker diseases
- Decontaminate to prevent the spread of canker to disease-free groves

• Business Plans submitted in 2007-2008 may also be carried forward for 2008-2009
- Please contact your local CHRP office if you would like to have your plans reviewed or if you make any changes in your plans so we can update our records

• Harvesting Permits are still required for European Union (EU) exports
- The *Application for Participation* is required for growers planning to ship to the EU in 2008-2009 harvesting season [Please remit by 7/01/08]
- Applications may be obtained from our CHRP office in Winter Haven

• Grower Compliance Agreement Number (C/A Number) assigned for the 2007–2008 citrus harvesting season is required on all field trip tickets
- C/A Numbers will remain unchanged for the majority of growers
- Only growers who change managers, caretakers or cooperatives may experience a change in C/A Number [Affected parties will be notified]

• FDACS/ DPI will provide services to the extent resources permit
- Assistance with Business Plan development, as requested
- Grower requested training and supplemental grove surveys
- Data entry and feedback from grower self-survey records

• We can be reached at the Division of Plant Industry/ PE&C/ CHRP
- **Tel: 863-298-7777 / Fax: 863-291-5219/ Web: www.doacs.state.fl.us/pi/chrp**

INFORMATION RESOURCES

CITRUS HEALTH RESPONSE PROGRAM - COMPLIANCE AGREEMENT ATTACHMENT - SCHEDULE 10

Current information regarding the Citrus Health Response Program (CHRP) and quarantine areas may be found at the following local field offices or the FDACS and USDA CHRP Web sites listed below:

Main Regulatory Office
3027 Lake Alfred Road
Winter Haven, FL 33881-5219
TEL: 863-298-7777
FAX: 863-291-5219

Brevard (south of SR 520), St. Lucie, Indian River, Martin and Okeechobee
4244 Bandy Boulevard
Fort Pierce, FL 34981
TEL: 772-429-2000
FAX: 772-429-2009

Collier, Hendry, Lee, Charlotte, Broward, Miami-Dade, Monroe, Sarasota, Palm Beach, Broward and Glades
424 E Market Road, Unit 10
Immokalee, FL 34142
TEL: 239-658-3684
FAX: 239-658-3692

Highlands, Hardee and De Soto
3397 US Hwy 27 South
Avon Park, FL 33825
TEL: 863-314-5900
FAX: 863-314-5911

Alachua, Brevard, (north of SR 520), Citrus, Flagler, Hernando, Lake, Marion, Orange, Pasco, Putnam, Seminole, Sumter, Volusia and All northern counties)
4129 Country Road 561
Tavares, FL 32778
TEL: 352-253-4547
FAX: 352-253-4549

Polk, Osceola, Pinellas, Manatee and Hillsborough
3027 Lake Alfred Road
Winter Haven, FL 33881-5219
TEL: 863-298-7777
FAX: 863-291-5219

University of Florida-IFAS, Citrus Research & Educational Center, Lake Alfred, 863-956-1151

Citrus Health Response Program Help Line: 800-282-5153

USDA-APHIS-PPQ: 301-734-8645
Div. Fruit & Vegetables: 863-291-5820
Citrus Health Response Program Offices Web site:
www.doacs.state.fl.us/pi/pec/pec-dist-map.html

FDACS DPI Citrus Health Response Program Web site:
www.doacs.state.fl.us/chrp/

USDA APHIS Citrus Health Response Program Web site:
http://www.aphis.usda.gov/ppq/pdmp/index.html

Florida Department of Citrus:
http://www.floridajuice.com/growers.php

UF-IFAS Office Locator:
http://solutionsforyourlife.ufl.edu/map/index.html

Flatwoods Citrus

☐ If you did not receive the ***Flatwoods Citrus*** newsletter and would like to be on our 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

Subscriber's Name:_____

Company:_____

Address:_____

City:_____State:_____Zip:_____

Phone:_____

Fax:_____

E-mail:_____

Racial-Ethnic Background

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

Gender

__Female
__Male