

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

# Flatwoods Citrus



Vol. 13, No. 7

July 2010

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



## Table of Contents

|  |       |
|--|-------|
| Important Events.....  | 2     |
| Newsletter Sponsors.....   | 3-5   |
| Preparing for a Hurricane .....                                    | 6     |
| Prepare and Stay Aware!.....                                       | 7     |
| Pre-Storm Preparation .....  | 8     |
| Lovebugs in Florida .....  | 9-10  |
| Flooding Injury.....   | 11-12 |
| Drainage .....   | 13    |
| Importance of Fertilizers-Let Us Talk About Zinc (Zn).....         | 14    |
| Florida Gulf Citrus Growers Association.....                       | 15    |
| Final Market News Bulletin for the 2009-2010 Season.....           | 16    |
| 2011 International Research Conference on Huanglongbing (HLB)..... | 17    |

**Previous issues of the Flatwoods Citrus newsletter can be found at:**

<http://irrec.ifas.ufl.edu/flcitrus/>

<http://citrusagents.ifas.ufl.edu/agents/zekri/index.htm>

# IMPORTANT   EVENTS   &   NEWS

## **CITRUS EXPO**

### **IN FORT MYERS**

Wednesday, August 18 &  
Thursday, August 19, 2010

[www.CitrusExpo.net](http://www.CitrusExpo.net)



---

## **CITRUS PSYLLID, GREENING, AND BLACK SPOT MANAGEMENT**

**Date: Thursday, October 7, 2010, Time: 9:30 AM-12:00 Noon**

**Location: Immokalee IFAS Center**

---

## **2010 Florida Ag Expo**

November 10, 2010 in Balm, Florida

For more information go to:

[www.FloridaAgExpo.com](http://www.FloridaAgExpo.com)



---

## **Sign Up For Free For Florida Grower Today**

For more than 100 years, *Florida Grower* magazine has been a trusted resource for citrus growers across the state. This tradition continues today, featuring growers and packers who utilize the latest production techniques to squeeze the most out of the state's signature crop. *Florida Grower* also covers the latest in citrus disease research, market news, and updates on government regulations. In addition, the magazine offers a weekly eNewsletter with Ag news important to Florida. If you don't receive *Florida Grower* magazine or the eNews, sign up for **free** at [www.growingproduce.com/subscribe](http://www.growingproduce.com/subscribe)

---

**THE CITRUS BLACK SPOT WEBPAGE** is now available on the CREC website ([www.crec.ifas.ufl.edu](http://www.crec.ifas.ufl.edu)). It is located underneath the extension section or you may visit it directly at:

[http://www.crec.ifas.ufl.edu/extension/black\\_spot/citrus\\_black\\_spot.htm](http://www.crec.ifas.ufl.edu/extension/black_spot/citrus_black_spot.htm)



**Mike Roberts**  
863 207 7779

[mroberts@agraquest.com](mailto:mroberts@agraquest.com)

[www.agraquest.com](http://www.agraquest.com)

**Susan S. Thayer**



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**



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](mailto: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

[Edward.L.Early@USA.dupont.com](mailto:Edward.L.Early@USA.dupont.com)

**Cody Hoffman**

**SYNGENTA**

1505 Paloma Dr., Fort Myers, FL 33901

Mobile: 321 436 2591

Fax: 239 479 6279

[cody.hoffman@syngenta.com](mailto:cody.hoffman@syngenta.com)

**Douglas Brown**  
**AMERICAN AG PRODUCTS**  
**CORPORATION**

Mobile: 239 633 7655  
Fax: 239 693 6654  
[americanagproducts@earthlink.net](mailto:americanagproducts@earthlink.net)

**Donald Allen**  
**AGLIME SALES, INC.**

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

**Nufarm Agriculture USA**  
**Craig Noll**

Office-239 549 2494  
Mobile-239 691 8060  
[craig.noll@us.nufarm.com](mailto:craig.noll@us.nufarm.com)  
**Gary Simmons**  
Phone: 772 260 1058

**Chemtura Crop Protection**

**Jay Hallaron**  
Phone: 407 256 4667  
Fax: 407 523 1097  
Cell: 321 231 2277  
[jay.hallaron@chemtura.com](mailto:jay.hallaron@chemtura.com)

**MONSANTO**

**Jack Conroy**  
Phone: 863 318 1486  
Fax: 886 318 8617  
Mobile: 863 559 4468  
[Andrew.j.conroy@monsanto.com](mailto:Andrew.j.conroy@monsanto.com)

**FMC**  
**FMC Corporation APG**

**Ronald Palumbo**  
Cell: 305 304-7491  
Nextel Agnet: 14772  
[ronald.palumbo@fmc.com](mailto:ronald.palumbo@fmc.com)  
[fmccrop.com](http://fmccrop.com)

**Magna-Bon** Agricultural Control Solutions  
**Canker Suppressant, Canker**  
**Wash Solutions, Line Cleaner**  
Nextel 158\*17\*10066  
Phone: 800 845 1357  
**Susan Wright**



**FARM CREDIT**  
Country Mortgages

330 N. Brevard Avenue • Arcadia, FL 34266  
800-307-5677 • [FarmCreditSWFL.com](http://FarmCreditSWFL.com)

**Financing for land, homes, & country living**



**Imidan**  
Agricultural Insecticide

**Bart Hoopgarner**  
(941) 737-7444  
bhoopgarner@gowanco.com

**Gowan**

**Supracide 2E**  
Insecticide

**NeXter**

**Ricky Bass**  
**Plant Health Care, Inc.**  
**Cell: 863 673 1940**  
rbass@planthealthcare.com  
[www.planthealthcare.com](http://www.planthealthcare.com)



**Wellmark**

**EXTINGUISH**  
Professional Fire Ant Bait

**Extinguish**  
PLUS

**Jack Kilgore**  
M: 239-707-7677 Nextel: 158\*17\*24422  
g8trmanjek@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

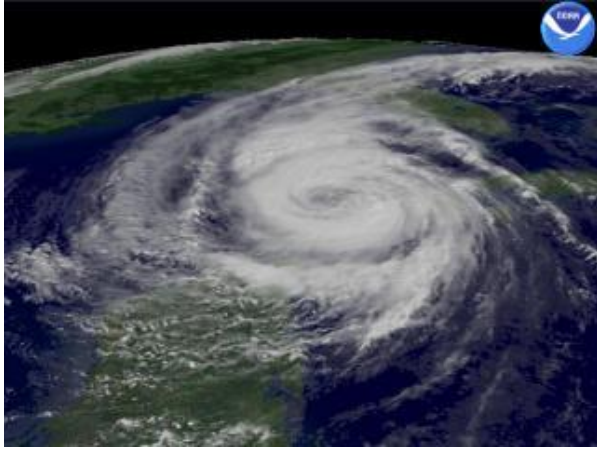
**Mark White**  
**G.P. SOLUTIONS**  
Liquid fertilizers, Micronutrients, & Organic Products  
Phone: 239 214 1072  
Fax: 863 938 7452  
E-mail: [mwhite@nitro30.com](mailto:mwhite@nitro30.com)

**Jeff Summersill**  
**THOMAS R. SUMMERSILL, INC.**  
Custom Aerial  
Ground Application  
Mobile 561-722-4502, Agnet # 33169  
[trsummersill@msn.com](mailto:trsummersill@msn.com)

**Stacey Howell**  
**BAYER CropScience**  
239-272-8575 (mobile)  
239-353-6491 (office/fax)  
[stacey.howell@bayercropscience.com](mailto:stacey.howell@bayercropscience.com)

**Garry Gibson**  
**BASF Corporation**  
1502 53<sup>rd</sup> Avenue  
Vero Beach, FL 32966  
Cell: 772 473 1726  
Fax: 772 567 2644  
[w.garry.gibson@basf.com](mailto:w.garry.gibson@basf.com)

# PREPARING FOR A HURRICANE



Hurricane season is upon us once again. While hurricanes may develop any time during the June to November hurricane season, they are most likely to occur between August and October. In order to best protect yourself and your groves or nursery, it is essential to develop a hurricane plan and prepare in advance.

Although there is not much that can be done to prevent damage to trees and fruit from the wind, rain has the potential to cause the most severe and longest lasting damage to citrus. There are precautions that can be taken to help minimize damage and protect your grove or nursery.

## **Be “Water Wise”**

- Clean and pump down ditches and grade areas to help maximize drainage and water removal efforts after the storm.

- Irrigate trees and remove water from reservoirs. Dismantle irrigation risers.
- Provide for portable water storage.
- Fill additional fuel tanks, sprayers and portable containers with water.
- Turn off water, natural and propane gas and electricity.

## **Non-Water Preparations**

- Make sure all emergency equipment is on hand and in good, working condition. This includes generators, chain saws, torches and air compressors.
- Ensure radios are in working order. Have hand-held portable radios with extra batteries, or direct truck-to-truck radio communication available in case of downed phone lines.
- Secure all hazardous materials.
- Fill fuel, fertilizer and other liquid material tanks so they won't move in the wind and rain, and to ensure sufficient fuel is available for the recovery process.
- Establish personnel assignments. Make a list of all tasks that will need to be performed and whose responsibility they will be following the storm so there are no last-minute surprises. Keep an updated list of contact information for workers at their place of safety so that you can communicate with them following the storm.
- Keep a list of emergency contact information for agencies that you may need assistance from during or after the storm.

## **Emergency Contact Phone Numbers and Websites**

***Florida Emergency Information Line - 800-342-3557***

***FEMA Disaster Assistance - 800-621-3362***

***FDACS - 800-435-7352***

***National Hurricane Center - [www.nhc.noaa.gov](http://www.nhc.noaa.gov)***

***National Weather Service - [www.nws.noaa.gov/oh/index.html](http://www.nws.noaa.gov/oh/index.html)***

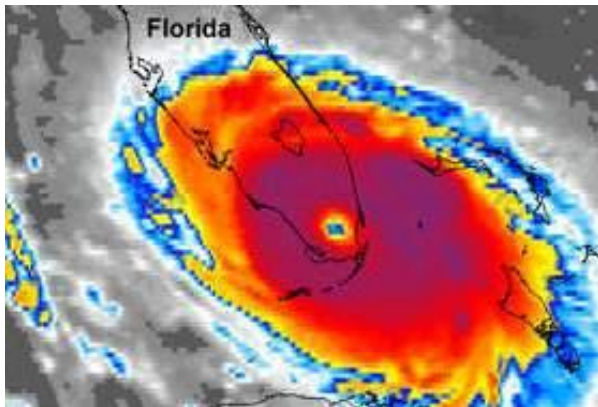
***Florida Hurricane Reports - <http://iwin.nws.noaa.gov/iwin/fl/hurricane.html>***



## **PREPARE AND STAY AWARE!**

### **When is Hurricane Season?**

**June 1 - November 30**



#### **What Is A Hurricane?**

A hurricane is a tropical cyclone, which generally forms in the tropics and is accompanied by thunderstorms and a counterclockwise circulation of winds. Tropical cyclones are classified as follows:

#### **TROPICAL DEPRESSION**

An organized system of clouds and thunderstorms with a defined surface circulation and maximum sustained winds\* of 38 mph or less

#### **TROPICAL STORM**

An organized system of strong thunderstorms with a defined surface circulation and maximum sustained winds of 39-73 mph

#### **HURRICANE**

An intense tropical weather system of strong thunderstorms with a well-defined surface circulation and maximum sustained winds of 74 mph or higher

**STORM SURGE** - is water that is pushed toward the shore by the force of the winds swirling around the storm. This advancing surge combines with the normal tides to create

the hurricane storm tide, which can increase the mean water level 15 feet or more.

**INLAND FLOODING** - In the last 30 years, inland flooding has been responsible for more than half the deaths associated with tropical cyclones in the United States.

**HIGH WINDS** - Hurricane-force winds can destroy poorly constructed buildings and mobile homes. Debris such as signs, roofing material, and small items left outside become flying missiles in hurricanes.

**TORNADOES** - Hurricanes can produce tornadoes that add to the storm's destructive power. Tornadoes are most likely to occur in the right-front quadrant of the hurricane.

**Hurricanes and tropical storms can be very devastating to agriculture including the Florida citrus industry. In 2004 and 2005, growers and farmers have seen their groves, barns, equipment and homes destroyed. If a hurricane hit our state this year, damage to trees would be of varying degrees. Some trees would be uprooted. Others would have major limbs split off or would have major defoliation. Fruit would litter the ground and grapefruit trees would suffer the most loss because of the larger size and heavier weight fruit.**

#### **PLAN AND PREPARE**

Hurricanes can strike at any time during June through October. It is best to devise a hurricane plan and use it to make preparations far before the hurricane season. The hurricane plan should provide protection from a storm and recovery after the storm.

For more details, go to "Hurricane Preparedness For Citrus Groves"

by **Dr. Bob Rouse** at :

<http://edis.ifas.ufl.edu/CH178>

# PRE-STORM PREPARATION

By *Bob Rouse*

**Personnel assignments** - A major part of the hurricane plan is ensuring that all managers know their responsibilities prior to, during, and after a hurricane. Make a list of all tasks that will need to be performed so there are no last-minute, unanticipated gaps to plug. Identify and maintain an updated list of the members of a damage inspection team which will determine where storm damage occurred and how extensive it is. Make sure each team member knows his or her responsibilities. Specific workers should be assigned to fix ditches, prop up trees, fix roadways and perform other tasks after the storm. Make sure you know how to contact workers at their place of safety, and that they have a way to call in after the storm.

**Safety training** - Workers should be trained in the safe operation of unfamiliar equipment they may have to use if a hurricane hits. For instance, drivers may wind up using chain saws to remove a downed tree that is blocking a road.

**Liquid tanks** - Tanks containing fuel, fertilizer and other materials should be kept full so they don't move in the wind and rain, and to ensure that sufficient fuel is available for machinery used in recovery efforts after the storm.

**Ditches** - Ditches should be kept clean and pumped down to help maximize water removal efforts after the storm.

**Emergency equipment** - Make sure that all emergency equipment - including generators, chain saws, torches, and air compressors - is on hand and in good repair. Emergency generators should be available for use in headquarters and equipment maintenance shops. Large diesel powered generators with 25 to 60 kilowatt capacity can be rented or leased by the month during the hurricane season.

**Communications equipment** - Ensure that radios are in good working order. Have hand-held portable radios with extra charged battery packs available for workers who will need them in the field after the storm. Direct truck-to-truck radio communication is most reliable when phone lines are down, but cellular phones with radio capabilities, and standard cellular phones can help workers save valuable time during the recovery process, as opposed to communication systems that require messages to be relayed through a base unit.

**Hazardous materials** - Hazardous materials should be secured prior to a storm, and gasoline pumps should be shut down.

**Emergency contacts** - Have a list of phone numbers you might need in an emergency, including numbers for the phone and electric companies.



# LOVEBUGS IN FLORIDA

By D. E. Short, Entomologist, UF, IFAS

'Lovebugs' are small black flies with red thoraxes. Males are 1/4 inch, and females are 1/3 inch in length. These flies are members of the family Bibionidae and are known as March flies. Several species of March flies are native to Florida, however, Lovebugs, *Plecia nearctica* Hardy are recent invaders from the west.



Southern Louisiana experienced flights of lovebugs during the 1920's. The species was described by Hardy in 1940 from specimens collected in Mississippi. First reports of their presence in Florida were made in 1947 from Escambia County. Subsequent reports indicate their presence in Leon County in 1955-56 and Alachua - Marion Counties in 1964-65. Since that time, flights have progressively moved southward. In 1974, specimens were collected in Homestead. Lovebugs also have moved northward and have been reported from Georgia and South Carolina. Two flights of lovebugs occur each year. The spring flight occurs during May. A second flight occurs during September. Flights extend over periods of 4 to 5 weeks. Mating takes place almost immediately after emergence of the females. Adult females live only 2-3 days.

## Larvae Aid Growing Plants



Female lovebugs lay from 100 to 350 eggs, which are deposited beneath decaying vegetation. Larvae (immature stage) feed on decaying plant material and live on the soil surface just beneath the decaying organic matter. Larvae perform a beneficial function by converting the plant material into organic components, which can again be used by the growing plants. After larvae mature, they transform into pupae. The pupal stage requires about 7 to 10 days.

Adult lovebugs are harmless and do not sting or bite. They feed on the nectar of various plants, especially sweet clover, goldenrod and Brazilian pepper. Usually, lovebug flights are restricted to daylight hours and temperatures above 68°F. At night lovebugs rest on low growing vegetation.

## **Lovebugs Hinder Motorists**

Lovebugs are a considerable nuisance to motorists. They congregate in unbelievable numbers along highways and the insects spatter on the windshields and grills of moving trucks and automobiles. Windshields become covered with the fatty remains, and vision is obscured. During flights, the flies clog radiator fins causing cars to overheat. They also get into refrigeration equipment on trucks causing them to malfunction. The fatty tissue will cause pitting of the car's finish if it is not removed within a few days. Flies enter cars and sometimes drivers and passengers soil their clothing by sitting on lovebugs. They are also a considerable nuisance to fresh paint. The flies enter houses under construction in such numbers that carpenters refuse to work. Beekeepers complain because worker bees do not visit flowers that have been infested with the flies.

A number of insecticides have been evaluated for effectiveness in controlling lovebug larvae and adults. Most of them kill lovebugs but are impractical because high populations of the insects occur over vast areas of the state. A vacuum cleaner can be used to remove adults from confined areas, such as in buildings and vehicles.

## **Predators Reduce Lovebug Flights**

During the past several years, both the April-May and August-September lovebug flights have been substantially reduced in North Central Florida. This reduction in the population is partly attributed to predators. Larvae aggregate in extremely high numbers in pastures and other grassy habitats. This makes them vulnerable to foraging birds. Lovebug

larvae have been found in the gizzards of robins and quail. Although examinations of the stomach contents of armadillos have been negative, observations suggest that they, too, may be excellent predators of the larvae.

Laboratory studies using invertebrate predators found in lovebug infested pastures indicated they were voracious predators too. These included earwigs, two species of beetle larvae and a centipede.

There are several things that can be done to lessen the problem facing motorists. By traveling at night motorists can avoid the insects; lovebugs reach peak activity at 10:00 am and stop flying at dusk. Traveling at slower speeds will reduce the number of bugs that will be spattered. A large screen placed in the front of the grill will keep the radiator fins from clogging, and will protect the finish on the front of the car. If a large screen is not used in front of the grill, at least place a small screen behind the grill in front of the radiator.

Spattered bugs should be washed off the car as soon as possible. Lovebugs are more easily removed, and the chance of damaging the car's finish is lessened if the car has been waxed recently. When the remains are left on an unwaxed car for several days, the finish will often be permanently damaged. Soaking for several minutes with water aids in their removal. When lovebugs are numerous, some motorists spread a light film of baby oil over the front of the hood, above the windshield and on the grill and bumper. This practice will make their removal a simpler task.

## FLOODING INJURY

Almost all citrus trees grown in southwest Florida are located on high water table, poorly drained soils. Water management on poorly drained soils is difficult and expensive because during heavy rains in the summer, excess water must be removed from the rootzone and in periods of limited rainfall, irrigation is needed. On these soils, drainage is as important as irrigation. The concept of total water management must be practiced. If either system—irrigation or drainage—is not designed, operated, and maintained properly, then the maximum profit potential of a grove cannot be achieved. Both surface and subsoil drainage is necessary to obtain adequate root systems for the trees.

Roots, like the rest of the tree, require oxygen for respiration and growth. Soils in Florida typically contain 20-21 % oxygen. When flooding occurs, the soil oxygen is replaced by water. This condition causes tremendous changes in the types of organisms present in the soil and in the soil chemistry.

Flooding injury would be expected if the root zone were saturated for 3 days or more during extended summer rains at relatively high soil temperatures (86-95° F). Flooding during the cooler December-March period can be tolerated for several weeks at low soil temperatures (< 60° F). The rate of oxygen loss from the soil is much greater at high than at low temperatures. The potential for damage to roots is less obvious but equally serious when the water table is just below the surface. Flooding stress is much less when water is moving than when water is stagnant. The use of observation wells is a very reliable method for evaluating water-saturated zones in sites subject to chronic flooding injury.



Short-term estimates of flooding stress can be obtained by digging into the soil and smelling soil and root samples. Sour odors indicate an oxygen deficient environment. The presence of hydrogen sulfide (a disagreeable rotten egg odor) and sloughing roots indicate that feeder roots are dying. Under flooded conditions, root death is not exclusively associated with oxygen deficiency. Anaerobic bacteria (the kind that can grow only in the absence of oxygen) develop rapidly in flooded soils and contribute to the destruction of citrus roots. Toxic sulfides and nitrites formed by anaerobic sulfate- and nitrate-reducing bacteria are found in poorly drained groves. Sulfate-reducing bacteria require both energy and sulfates in order to change sulfates to sulfides. The best sources of energy have been found to be certain organic acids contained in citrus roots, grass roots, and buried pieces of palmetto. Thus, citrus roots can contribute to their own destruction by being an energy source for these bacteria.

Symptoms of flooding injury may occur within a few days or weeks, but usually show up after the water table has dropped and the roots become stranded in dry soils. Leaf wilting, leaf drop, dieback, and chlorosis patterns may develop and tree death may occur. Trees subjected to chronic flooding damage are stunted with sparse canopies, dull colored, small leaves and produce low yields of small fruit. New flushes of growth will have small, pale leaves due to poor nitrogen uptake by restricted root systems. Usually, the entire

grove is not affected, but most likely smaller more defined areas will exhibit the symptoms. Striking differences in tree condition can appear within short distances associated with only slight changes in rooting depths. Water damage may also be recognized by a marked absence of feeder roots and root bark, which is soft and easily sloughed.

With acute water damage, foliage wilts suddenly followed by heavy leaf drop. Trees may totally defoliate and actually die, but more frequently partial defoliation is followed by some recovery. However, such trees remain in a state of decline and are very susceptible to drought when the dry season arrives because of the shallow, restricted, root systems. Moreover, waterlogged soil conditions, besides debilitating the tree, are conducive to the proliferation of soil-borne fungi such as *Phytophthora* root and foot rot. These organisms cause extensive tree death especially in poorly drained soils.



Water damage may usually be distinguished from other types of decline by a study of the history of soil water conditions in the affected areas. Areas showing water damage are usually localized and do not increase in size progressively as do areas of spreading decline. Foot or root rot symptoms include a pronounced chlorosis of the leaf veins caused by root damage and girdling of the trunk. Lesions also appear on the trunk usually near the soil level (foot rot) or roots die and slough-off (root rot). Flood damage does not produce lesions. Trees with blight or CTV are usually

randomly distributed within the grove and diagnostic tests are available to distinguish them from water-damaged trees.

Citrus trees respond physiologically to flooding long before morphological symptoms or yield reductions appear. Photosynthesis and transpiration decrease within 24 hours of flooding and remain low as flooding persists. Water uptake is also reduced which eventually translates to decreased shoot growth and yields.

It is both difficult and costly to improve drainage in existing groves, so drainage problems should be eliminated when the grove area is prepared for planting by including a system of ditches, beds and/or tiling. Growers should not depend on the slight and often unpredictable differences in rootstock tolerance to waterlogging to enable trees to perform satisfactorily under such conditions. Trees, irrespective of scion and rootstock cultivars, should be planted under the best drainage conditions possible. Drainage ditches should be kept free of obstruction through a good maintenance program including chemical weed control. Tree recovery from temporary flooding is more likely to occur under good drainage structure maintenance conditions.

Do not disk a grove if trees were injured by flooding. Irrigation amounts should be reduced, but frequencies should be increased to adequately provide water to the depleted, shallow root systems. Soil and root conditions should be evaluated after the flooding has subsided. Potential for fungal invasion should be determined through soil sampling and propagule counts. If there is a *Phytophthora* problem, the use of certain fungicides can improve the situation.



# DRAINAGE

In certain areas, several factors make drainage a necessity for agricultural production. These factors include slow soil permeability, flat or depressional topography, restrictive geologic layers underlying the soil profile, and periods of excess precipitation. Texture affects permeability or the ability of soils to drain water. Slowly permeable soils contain relatively high percentages of clay- and silt-sized particles, which hold water well but do not drain well. The permeability of the soil is also affected by soil structure. A granular soil structure promotes the movement of water through the soil while a massive structure with little or no granular components decreases the movement of water.

In the coastal Flatwoods areas of Florida during the rainy season, drainage of excess water is important since citrus root damage may occur under prolonged conditions of high water table.



Both surface and subsurface drainage are generally required for citrus grown in Flatwoods areas. Drainage systems in Flatwoods groves consist of systems of canals, retention/detention areas, open ditches, subsurface drains, beds, water furrows, swales, and pumps. These systems require continued good maintenance in order to minimize the chances of root damage from

prolonged exposure to waterlogged soils following high precipitations.

Observation wells are good tools for observing soil-water dynamics. They are very reliable for evaluating water-saturated zones in sites subject to chronic flooding injury. These wells can also be used to measure the rate of water table drawdown, which is the key to how long roots can tolerate flooding. Observation wells constructed with float indicators allow water tables to be visually observed while driving by the well site.

## Benefits of Drainage

1. Better soil aeration results from good drainage. This permits deeper and more extensive root development and a more favorable environment for beneficial soil microorganisms.
2. An increased supply of nitrogen can be obtained from the soil where water tables are lowered by a drainage system. This can reduce nitrogen fertilizer application.
3. Certain toxic substances and disease organisms are removed from the soil due to better drainage and better aeration.
4. Soil erosion can be reduced on a well-drained soil by increasing its capacity to hold rainwater, resulting in less runoff.
5. High water tables in the summer due to poor drainage and high precipitations cause shallow root development and a smaller soil volume from which trees can obtain water and nutrients.

*Increased crop yields and improved crop quality result from favorable soil water conditions with good drainage.*



## IMPORTANCE OF FERTILIZERS-LET US TALK ABOUT ZINC (Zn)

**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 phosphorous or nitrogen has also been found to induce or aggravate Zn deficiency.

A single spray of a solution containing 2 to 4 lbs of elemental Zn per acre from Zn sulfate, oxide, or nitrate can correct Zn deficiency. Under severe deficiency conditions however, application of Zn sprays may be necessary on each major flush of growth to keep the trees free of deficiency symptoms because Zn does not translocate readily to successive growth flushes. Foliage injury can be reduced by adding 2 to 3 lbs of hydrated lime to the spray. 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. Treatment on the spring flush is preferable. Soil application of Zn in the fertilizer is neither an economical nor an effective way to correct Zn deficiency. One of the symptoms of citrus greening or HLB includes Zn deficiency pattern in the leaves. Correction of micronutrient deficiency symptoms may slow down tree decline and alleviate problems caused by those micronutrient deficiencies.

# Florida Gulf Citrus Growers Association



The Gulf Citrus Growers Association is a trade association representing the citrus growers of Southwest Florida. Its geographical service area includes Charlotte, Collier, Glades, Hendry and Lee Counties. "Gulf Citrus" addresses key issues of economic

importance to the sustainable growth and development of the citrus industry in the region. These issues include land and water use, environmental regulation, farm worker relations, transportation, marketing, domestic and international trade programs. The association also serves as the "Gulf" citrus industry voice on other issues impacting the area's agricultural industry. Go to <http://www.gulfcitrus.org> and become a member or an associate member.

---

## **The 2010-2011 Gulf Citrus Growers Association new directors and officers**

### **Directors:**

Emmett Evans III, Evans Properties Inc., Charlotte County  
John Hoffman, Barron Collier Partnership, Collier County  
Paul Meador, Gulf Citrus Partners LP, Collier County  
Tom Kirschner, Ranch One Cooperative, Collier County  
David Wheeler, Wheeler Farms Inc. Glades County;  
Mark Colbert, Duda Ranches, Hendry County  
Joe Hilliard II, Hilliard Brothers of Florida LTD, Hendry County  
Wayne Simmons, LaBelle Fruit Co. LLC, Hendry County  
John R. Alexander, Alico Inc., Hendry County  
Carey Soud, Soud Family Partnership, Hendry County  
Wade Timpner, George Austin Inc., Lee County.

### **At-large directors:**

Don Barwick, Heller Bros. Packing Corp.  
Callie Walker, English Brothers

### **Officers:**

Carey Soud, Soud Family Partnership, President;  
Wayne Simmons, LaBelle Fruit Co. LLC, Vice President;  
Wade Timpner, George Austin Inc., Secretary,  
Callie Walker, English Brothers, Treasurer.

# MARKET NEWS BULLETIN 2009-10 Season

Melanie Burns

June 14, 2010

Vol. 61, No. 36

## FINAL MARKET NEWS BULLETIN FOR THE 2009-2010 SEASON

PRICES AS REPORTED FOR FRUIT DELIVERED AT PROCESSING PLANTS

Reported prices from processors are based on the following box equivalents: Oranges: 90 pounds; Grapefruit: 85 pounds; Tangerines: 95 pounds. Unless otherwise noted, most plants require the following minimum test: round oranges 13.00 to 1 ratio; grapefruit 9.00 BRIX and 8.00 to 1 ratio.

CONTRACT means by agreement for later delivery. MOSTLY represents majority of sales or volume for each variety of fruit as reported by a large cross section of active buyers.

GROSS means prices are reported before the deduction for Department of Citrus

Advertising Tax, whereas NET means prices are being reported after the deduction.

All prices are subject to applicable charges at the plant and these charges may differ by plant. Prices are not a weighted average. NA means no price reported or insufficient volume to report. PHE means packinghouse eliminations and FR means field run. PPS means per pound solids.

**FCM's Valencia Mostly Final Season Average is \$1.721053.**

**VALENCIAS: (FR) Contract: Mostly \$1.75 to \$1.80 pps gross.**

**FDOC Cannery Average Prices (\$/ps) - Week Ending May 29, 2010**

| Spot/Contract Comb. | Week       | Season     | Final Price, Comb. | Week       | Season     | Grapefruit | Week | Season     |
|---------------------|------------|------------|--------------------|------------|------------|------------|------|------------|
| E&M's - FINAL       |            | \$1.330633 | E&M's - FINAL      |            | \$1.318011 | White -    |      | \$1.161954 |
| Valencias           | \$1.625531 | \$1.570985 | Valencias          | \$1.600866 | \$1.542617 | Colored -  |      | \$1.118271 |
|                     |            |            |                    |            |            | FINAL      |      |            |
|                     |            |            |                    |            |            | FINAL      |      |            |

**FDOC Post Estimate Fruit Price Report (\$/ps) - Fourth Report - from Oct. 10, 2009 to April 17, 2010**

| Fruit with Fixed Final Prices            | Avg. Price Season |  | Grapefruit | Avg. Price Season |
|--|-------------------|--|------------|-------------------|
| E&M's - FINAL                            | \$1.40488         |  | White      | \$1.33328         |
| Valencias - 1 <sup>st</sup> of 3 reports | 1.57108           |  | Colored    | \$1.29600         |

### WEEKLY FRUIT ANALYSIS REPORT FROM PROCESSING PLANTS - Week Ending June 6, 2010

|                            | ORANGES*    |             |  | GRAPEFRUIT  |             |
|----------------------------|-------------|-------------|--|-------------|-------------|
|                            | This Season | Last Season |  | This Season | Last Season |
| %ACID                      | 0.64        | 0.68        |  | 0.00        | 1.06        |
| DEGREES BRX                | 13.07       | 13.02       |  | 0.00        | 12.45       |
| RATIO                      | 20.42       | 19.15       |  | 0.00        | 11.75       |
| JUICE CONTENT (lbs box)    | 50.69       | 52.83       |  | 0.00        | 37.77       |
| AVG. LBS. SOLIDS (per box) | 6.63        | 6.88        |  | 0.00        | 4.70        |
| GALLONS PER BOX            | 5.79        | 6.03        |  | 0.00        | 4.32        |
| APP. BOXES                 | 3,371,741   | 4,571,253   |  | 0.00        | 603         |
| WEIGHTED BRX               | 12.45       | 12.54       |  | 11.02       | 11.13       |
| JUICE CONTENT TO DATE      | 50.62       | 52.11       |  | 44.63       | 43.09       |

\*Includes oranges, mandarins and citrus reticulata (tangerines), which may be used in orange products.

Source: Division of Fruit and Vegetables, Winter Haven.

# 2011 International Research Conference On Huanglongbing (HLB)

Please mark your calendars and plan to attend the 2<sup>nd</sup> International Research Conference on HLB in Orlando, Florida USA – January 10-14, 2011

Please share the attached file or this email with any colleague that you think would be interested. We want to reach the largest possible group of HLB researchers.

## International Attendees

To our International Attendees: If you need a letter of invitation for this conference please send your request to: [invitation@crec.ifas.ufl.edu](mailto:invitation@crec.ifas.ufl.edu). Please include your full name and mailing address in the email as well as the title of your abstract and full author list.

## Registration Information

Registration will open September 1, 2010 and will extend through November 15, 2010. The registration fee for the conference is \$350. A grove tour will also be offered on Monday, January 10<sup>th</sup>, for an additional \$75.

## Abstracts

Abstract submission will open September 1, 2010 and will extend through October 15, 2010.

## Hotel Information

Hotel reservations are now being accepted at the beautiful Caribe Royale Hotel. Please register at [Caribe Royale Hotel Citrus HLB Group Reservations](#).

## Website

Please visit [www.irchlb.org](http://www.irchlb.org) for more information.

---

## Organizers



# 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