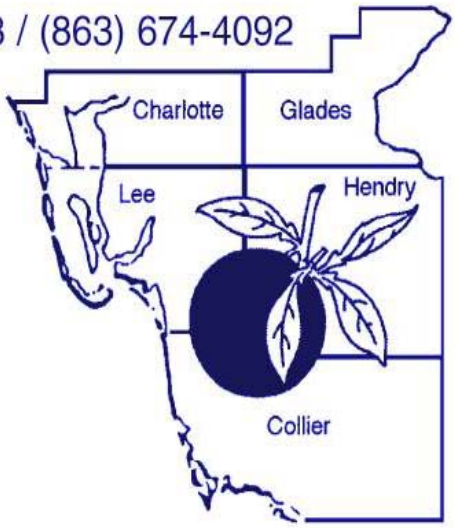
UNIVERSITY OF FLORIDA | IFAS EXTENSION

Hendry County Extension / P.O. Box 68 / LaBelle, Florida 33875-0068 / (863) 674-4092

Flatwoods Citrus



Vol. 7, No. 10 **October 2004**

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

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

OVERALL SW Florida BMPs Meeting

Hendry County Extension Office, LaBelle
October 7, 2004, 10:30 AM

Seminar at the Immokalee IFAS Center

Date & time: Tuesday, October 19, 2004, 9:30 AM – 12:00 Noon
Topics: Maximizing Efficiencies While Minimizing Production Costs
CEUs for Pesticide License Renewal and for Certified Crop Advisors will be offered.

Maximizing Efficiencies While Minimizing Production Costs

The citrus extension agents with the University of Florida's Cooperative Extension Service will be conducting a seminar program during the month of October in 6 locations. *For more information or to register, please read the enclosed sheet and contact the noted Extension Agent.*

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/
You can also find all you need and all links to the University of Florida Citrus Extension and the Florida Citrus Industry

The dates have been scheduled for the Agronomist candidates to interview at the Immokalee IFAS Center.

For seminar titles and additional information, please call Dr. Marty Main or Kris Sytsma at 239 658 3400.

Dates and seminar times

11:00 - Noon	Tuesday, October 5, 2004 - Dr. Paul Wiatrak
11:00 - Noon	Thursday, October 7, 2004 - Dr. Tim Lang
11:00 - Noon	Tuesday, October 12, 2004 - Dr. Rosa Muchovej
11:00 - Noon	Thursday, October 14, 2004 - Dr. Ike Ezenwa

Lunch will follow at Rib City for seminar attendees.

Seminar at the Hendry County Extension Office, LaBelle

Date & time: Thursday, October 21, 2004, 8:00 AM – 12:00 Noon

Topics: **Harvesting Safety and Compliance Seminar Presented by: GeoAg Solutions** featuring information regarding Harvesting Safety, Agricultural Worker Protection Act (AWPA), Compliance and much more.

Door prices: Several great prizes including a guided fishing trip.

2 CEUs for Certified Crop Advisors (CCAs)

Following the seminar, we are planning a free BBQ lunch for only who call 863 441 1200 or e-mail dsummers@geoagsolutions.com no later than Tuesday, 19 Oct. 2004.

Certified Crop Adviser Educational Seminar at Lake Alfred IFAS Center, October 13, 2004. **For details, see enclosed information**

50th Annual Meeting of the InterAmerican Society for Tropical Horticulture (ISTH)

Date: October 24-29, 2004

Location: Universidad EARTH, San Jose, Costa Rica, http://www.earth.ac.cr

For more information, contact Dr. Richard Campbell at rcampbell@fairchildgarden.org

Citrus canker decontamination training program for harvesting crew leaders and managers in English and Spanish.

This training is structured to meet the **DPI requirement** that ALL harvesting crew leaders will need to receive citrus canker decontamination training.

Date: November 4, 2004, 9:30 AM – 12:00 Noon

Location: Hendry County Extension Office, LaBelle.

Speakers: Holly Chamberlain, Cesar Asuaje, Gene McAvoy, and Mongi Zekri

Pre-registration is required, please call 863 674 4092.

More information is enclosed.

Special Thanks **to the sponsors of the Flatwoods Citrus newsletter for their generous contribution and support. If you would like to be among them, contact me at 863 674 4092.**

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Citrus canker decontamination training program for harvesting crew leaders and managers in English and Spanish.



Dear Citrus Harvester,

The Hendry County Extension Office in collaboration with UF/IFAS Citrus Canker Extension Education Program will be offering a citrus canker decontamination-training program for harvesting crew leaders and managers on November 4, 2004 at the Hendry County extension Office at 1085 Pratt Boulevard, LaBelle. An English language session will begin at 9:30 AM followed by a Spanish language session at 11 AM. Classes will take approximately 1 hour.

These classes are structured to meet the upcoming DPI requirement that ALL harvesting crew leaders will need to receive decontamination training. Attendees will be provided with the appropriate DPI – Citrus Canker Decontamination training materials. After completion of the program, attendees will receive a certificate of completion from DPI in the mail. The certificate is valid for one year and serves as proof that harvesting crew leaders and managers have received DPI mandated and approved citrus canker decontamination training.

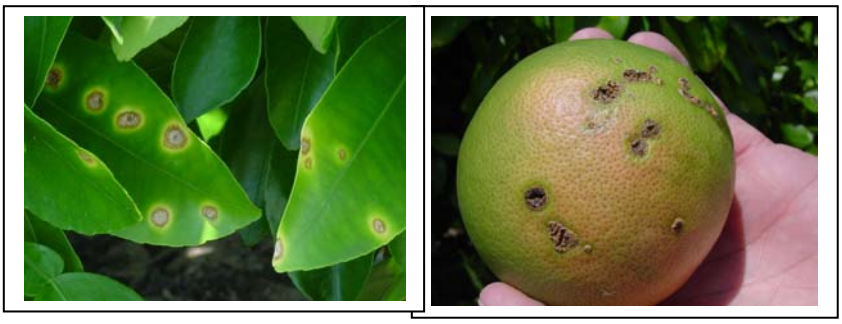
This program will be provided free of charge as a service to the citrus harvesting outfits in SW Florida. Please note that pre-registration is required. Call the Hendry County Extension Office at **863 674 4092**.

For your convenience, we will also consider requests for onsite training for groups of twenty or more at your operation, please call the Immokalee IFAS Center at **239 658 3400** to make arrangements.

We hope this service will be of value to you. Please feel free to pass this information on to crew leaders and others with an interest in citrus canker decontamination training.

Sincerely,
Holly L. Chamberlain
Citrus Canker Extension Coordinator, UF/IFAS - SWFREC

SAVE YOUR GROVE AND NURSERY FROM CITRUS CANKER



1. Whenever possible lock the gates of the property and restrict access at all times.

2. Before entering and leaving groves or nurseries, equipment should be first cleaned of all plant material, debris and soil and then disinfected with approved decontamination products.

3. Prior to entering and leaving groves, blocks and nurseries, all workers should disinfect hands and shoes with antimicrobial soap or other approved disinfectants.

4. All workers including fruit picking personnel should wear freshly laundered clothes each day.

5. All grove and nursery traffic including personal vehicles, equipment and visitors should be limited as much as possible.

6. Exchange of personnel, vehicles and equipment between groves, blocks and nurseries should be limited as much as possible.

7. It is very important to require grove service contractors to practice stringent decontamination and sanitation procedures.

8. Restrict access of all personnel, vehicles, and equipment and movement in groves or nurseries when foliage is wet with rain or dew. Do not harvest fruit before the trees dry.

9. Restrict irrigation to nighttime hours to reduce worker exposure to wet foliage.

10. Before entering and leaving a grove, all harvesting equipment including trucks, trailers, tractors, “goats”, ladders, tubs, boxes, picking bags and gloves must be decontaminated.

11. Do not collect canker specimens. Flag adjacent trees, map the location and immediately contact the DPI at 1 800 282 5153 or 1 800 850 3781.

CITRUS COMMERCIAL CITRUS INVENTORY
PRELIMINARY REPORT September 17, 2004

ALL CITRUS ACREAGE DECREASED TO 748,555

Florida's citrus acreage, declining for most of the past decade, totals 748,555 acres as of January 2004. A net decrease of 48,748 acres, 6.1 percent, has occurred in the past two years. Plantings during 2002 and 2003 totaled 40,127 acres, but were outstripped by removals at a rate of over 2:1. This gross loss of 88,875 acres is the largest amount in a non-freeze survey period since the initial survey in 1966. Diseases such as tristeza, citrus canker, and the citrus root weevil have contributed to the loss. Total trees at 97.9 million are down 5.1 percent from the 103.2 million trees in 2002.

Polk County is the leader with 95,050 acres of citrus, followed by Hendry with 93,155 and St. Lucie with 82,987. These three counties comprise over one-third of the citrus acreage in the state. Hendry continues to lead in total trees with 14.3 million and averages 153 trees per acre, 17 percent above the state average of 131 trees per acre.

ORANGE ACREAGE DECREASED TO 622,821

For the third consecutive survey all orange acres decreased. As of January 2004, there were 622,821 acres compared to 648,806 acres in 2002, a 4.0 percent loss. Current orange trees number 83.0 million compared to 85.8 million trees in 2002, a 3.2 percent loss.

Acreage decreased for all orange categories except other early and other midseason oranges, which include the newer varieties. Hamlin acreage is 200,944, down 3.9 percent from the 209,009 acres reported in 2002. Navel acreage has decreased 17 percent to 16,340 from 19,752 in the previous census. Ambersweet acreage at 3,355 is down 37 percent from 2002 and 79 percent from the high of 15,704 in 1996. Valencias have a 1.2 percent decrease to 321,991 acres, compared with 325,758 in the previous census.

GRAPEFRUIT ACREAGE DECREASED TO 89,048

Nearly 40 percent of the grapefruit acreage has been lost since the record set in 1994. The 2004 total is 16 percent lower than in 2002. Colored varieties are down 12 percent from 62,328 acres in 2002 to 54,619 in 2004 while white seedless is 32,199 acres, down 20 percent from the 40,179 in 2002. Seedy grapefruit acreage, in a steady decline since the recorded high in 1968, is down 35 percent from 2002 at 1,236.

SPECIALTY ACREAGE DECREASED TO 36,686

Specialty citrus types decreased 15 percent to 36,686 in 2004 from 43,009 acres in 2002. Temple acreage continues to decline and is down 25 percent. Acreage declined for the fourth time for Fallglo and Sunburst early tangerine varieties. Honey tangerine acreage, down less than 1.0 percent, accounts for 45 percent of the total tangerine acreage. Tangelo acreage decreased 13 percent with the main variety (Orlando) down 23 percent; however, Minneola increased 1.2 percent.

CITRUS FRUITS 2004 SUMMARY

United States Department of Agriculture

National Agricultural Statistics Service

September 2004

Citrus Utilized Production Up 8%, Value Up 4%

Citrus production for the 2003-04 season totaled 16.4 million tons, 8% above the 2002-03 season, but 8% lower than the record high production of 17.8 million tons for the 1997-98 season. Florida accounted for 79% of total U.S. citrus production; California totaled 18%, while Texas and Arizona produced the remaining 3%.

Florida's orange production of 242 million boxes is up 19% from the previous season. Grapefruit utilization in Florida, at 40.9 million boxes, is up 6% from last season's utilization. Florida's total citrus utilization increased 16% from the previous season. Bearing acreage, at 679,000 acres, is the lowest since the 1993-94 season.

California decreased utilized citrus production by 17% from the 2002-03 season. California's all orange production, at 52.0 million boxes, is 16% lower than the previous season. Grapefruit production, at 5.40 million boxes, is down 4 % from the 2002-03 season. Utilized production of citrus in Texas is up 2% from the 2002-03 season. Orange production increased 5% from the previous season and grapefruit production is up 1%. Arizona's total citrus production is up 7% from last season. Grapefruit utilized production is up 8%, while oranges and lemons are unchanged from the 2002-03 season.

The value of the 2003-04 US citrus crop is up 4% from last season to $2.35 billion (packinghouse-door equivalent). Total value of production for 2003-04 is higher for all types of citrus, except lemons, tangelos, and temples. Orange value of production increased 5% from last season and grapefruit value increased 13%. Tangerine value of production increased 7 % from last season. Lemon, tangelo, and temple values are down 7%, 14%, and 14%, respectively.

Overall comparisons discussed above are based on like fruit types. Limes and K-Early citrus are not included in U.S. comparisons because estimates were discontinued in the 2002-03 season. The revised production and utilization estimates are based on all data available at the end of the marketing season, including information from marketing orders, shipments, and processor records. Allowances are made for recorded local utilization and home use. Estimates for the 2003-04 California Valencia oranges and grapefruit are preliminary, since the marketing season is not complete at publication time. Revisions to the utilized production estimates for all citrus for the 2003-04 season will be available in the April 2005 Crop Production release.

SOIL ACIDITY AND LIMING

With the exception of some native vegetation (e.g. pine trees) and a few acid-loving plants such as azaleas, blueberries, and gardenias, most plants and fruit trees including citrus do best in a slightly acid soil with a pH between 6.0 and 7.0.

Acid Soil Infertility

When the pH falls below 6.0, the availability of nutrients such as phosphorus, potassium, calcium, and magnesium decreases and the availability of the metallic micronutrients, like zinc, manganese, copper, and iron increases.

Problems in very acid soils

*Aluminum (Al) toxicity to plant roots
*Manganese toxicity to plants
*Calcium & magnesium deficiencies
*Molybdenum deficiency
*Phosphorus tied up by iron (Fe) & Al
*Poor bacterial growth
*Reduced nitrogen transformations

Problems in alkaline (high pH) soils

*Iron deficiency
*Manganese deficiency
*Zinc deficiency
*Excess salts (in some soils)
*Phosphorus tied up by calcium (Ca) and magnesium (Mg)
*Bacterial diseases and disorders

Factors Affecting Soil pH

Soils are not homogenous and the pH can vary considerably from one spot in the field to another. It also varies with depth. Soils in different geographic regions may have different pHs because of several factors including the parent material and the climate.

Rainfall/leaching. Rainfall affects soil pH. Water passing through the soil leaches basic cations such as calcium (Ca^{2+}), magnesium (Mg^{2+}), and potassium (K^{+}) into drainage water. These basic cations are replaced by acidic cations such as aluminum (Al_3^{+}) and hydrogen (H^{+}). For this reason, soils formed under high rainfall conditions are more acid than those formed under arid conditions.

Fertilizers. Both organic and non-organic fertilizers may eventually make the soil more acid. Hydrogen is added in the form of ammonia-based fertilizers (NH_4^{+}), urea-based fertilizers [$CO(NH_2)_2$], and as proteins (amino acids) in organic fertilizers. Transformations of these sources of N into nitrate (NO_3^{-}) releases H^{+} to create soil acidity. Therefore, fertilization with fertilizers containing ammonium or even adding large quantities of organic matter to a soil will ultimately increase the soil acidity and lower the pH.

$$\mathbf{NH_4^{+} + 2O_2 \ (bacteria) \rightarrow NO_3^{-} + 2H^{+} + H_2O}$$

Common Fertilizers and their Equivalent Acidity or Basicity

Material	% Nutrient in Material	Amount to supply one unit (20 lbs) of nutrient	$CaCO_3$ equivalent per unit (20 lbs) of nutrient*
Nitrogen fertilizers			
Ammonium nitrate	34	60	-36
Ammonium sulfate	21	98	-107
Anhydrous ammonia	82	24	-36
Diammonium phosphate	18	111	-71
Monoammonium phosphate	11	182	-107
Nitrogen solutions	28-32	71-63	-36
Calcium nitrate	15.5	129	+26
Potassium nitrate	14	143	+36
Sodium nitrate	16	125	+36
Urea	45	44	-36
Phosphorus fertilizers			
Diammonium phosphate	46	43	-21
Monoammonium phosphate	55	36	-28
Ordinary superphosphate	20	100	Neutral
Triple superphosphate	46	43	Neutral
Potassium fertilizers			
Potassium chloride	60-62	33-32	Neutral
Potassium nitrate	44	45	+11
Potassium magnesium sulfate	22	91	Neutral
Potassium sulfate	48-52	42-38	Neutral

***A minus sign indicates the number of pounds of pure $CaCO_3$ needed to neutralize the acidity created by 20 lbs of N, P_2O_5, or K_2O. A plus sign indicates that the material is basic and is equivalent to the number of pounds of pure $CaCO_3$ indicated.**

Plant uptake. Plants take up basic cations such as K^+, Ca^{++}, and Mg^{++}. When these are removed from the soil, they are replaced with H^+ in order to maintain electrical neutrality and the soil pH is reduced.

Raising Soil pH (Liming Acid Soils)

Soils are limed to reduce the harmful effects of low pH (aluminum or manganese toxicity) and to add calcium and magnesium to the soil. The amount of lime needed to achieve a certain pH depends on the pH of the soil and its buffering capacity. The buffering capacity is related to the cation exchange capacity (CEC). The higher the CEC, the more exchangeable acidity (hydrogen and aluminum) is held by the soil colloids. As with CEC, buffering capacity increases with the amounts of clay and organic matter in the soil. Soils with a high buffering capacity require larger amounts of lime to increase the pH than soils with a lower buffering capacity.

Most soil testing laboratories use a special buffered solution to measure the exchangeable acidity. This is the form of soil acidity that must be neutralized for a change in soil pH. By calibrating pH changes in the buffered solution with known amounts of acid, the amount of lime required to bring the soil to a particular pH can be determined.

Lime reduces soil acidity (increases pH) by changing some of the hydrogen ions (H^+) into water (H_2O) and carbon dioxide (CO_2). A Ca^{++} ion from the lime replaces two H^+ ions on the cation exchange complex. The carbonate (CO_3^-) reacts with water to form bicarbonate (HCO_3^-). These react with H^+ to form H_2O and CO_2. The pH increases because the H+ concentration has been reduced.

$$\text{Soil Colloid} + CaCO_3 \xrightarrow{H^+} \text{Soil Colloid-}Ca^{++} + H_2O + CO_2$$

*Dissolution of lime: $CaCO_3 + H_2O \rightarrow Ca^{2+} + HCO_3^- + OH^-$

*Neutralization:

H^+ (soil solution) + $OH^- \rightarrow H_2O$

H^+ (soil solution) + $HCO_3^- \rightarrow H_2O + CO_2$

(Neutralization is caused by the <u>carbonate</u> in lime, not the calcium)

An acid soil can become more acid as basic cations such as Ca^{2+}, Mg^{2+}, and K^+ are removed, usually by crop uptake or leaching, and replaced by H^+.

<u>Liming Materials</u>

The most common liming materials are calcitic or dolomitic agricultural limestone. These are natural products made by finely grinding natural limestone. Since natural limestone is relatively insoluble in water, agricultural limestone must be very finely ground so it can be thoroughly mixed with the soil and allowed to react with the soil's acidity. Calcitic limestone is mostly calcium carbonate ($CaCO_3$). Dolomitic limestone is made from rocks containing a mixture of calcium and magnesium carbonates. Either will neutralize soil acidity. Dolomitic limestone also provides magnesium. Not all materials containing calcium and magnesium are capable of reducing soil acidity. Gypsum ($CaSO_4$) does not reduce soil acidity.

$CaSO_4 + 2H_2O \rightarrow Ca(OH)_2 + H_2SO_4$

These 2 products neutralize each other.

Application and Placement of Lime

<u>Time of year</u>. Lime may be applied at any time during the year. Application in early fall and spring or prior to soil preparation is recommended. Caustic liming materials such as burned lime, hydrated lime, or wood ashes to actively growing plants are not recommended.

Lime placement. Since ground limestone is relatively insoluble in water, maximum contact with the soil is necessary to neutralize the soil acidity. Lime will not move into the soil like water-soluble fertilizers. The recommended amount of lime should be thoroughly mixed with the topsoil. As soon as moisture is present, the lime will begin to react. Coarse lime particles react more slowly than very fine particles. Therefore, using very finely ground limestone and thoroughly mixing it are necessary to achieve the desired soil pH change within a few months.

Overliming

While a correct liming program is beneficial for plant growth, excessive liming can be detrimental because deficiencies and imbalances of certain plant nutrients may result. The practice of estimating lime requirement without a soil test is risky because it can lead to overliming.

Overliming causes the soil pH to increase beyond the range of optimum plant performance. Reduced plant growth is usually associated with deficiencies of micronutrients such as Mn, Fe, zinc (Zn) or copper (Cu), which become less available as soil pH increases. Overliming is costly -- it costs to buy and apply the lime, and it costs in terms of reduced plant performance.

The principal factors contributing to overliming are: (1) application of lime to soil without testing or determining if lime is needed, (2) liming to soil pH levels much higher than those necessary to achieve the desired plant response, (3) liming to supply calcium (Ca) and/or magnesium (Mg) as nutrient elements without sufficient regard to the effect of lime in raising the soil pH.

If there is a need for Ca or Mg as nutrients and an increase in soil pH is not desired, another source of Ca or Mg should be used. Gypsum (calcium sulfate) and magnesium sulfate or oxide can supply Ca and Mg without affecting soil pH.

Calcium sources

Source	Chemical formula	Calcium carbonate equiv. (pure form)
Burned lime (Quicklime)	CaO	179
Hydrated lime (Builder's lime)	$Ca(OH)_2$	135
Dolomitic lime	$CaCO_3 \bullet MgCO_3$	109
Calcitic lime	$CaCO_3$	100
Basic slag (by-product)	$CaSiO_3$	80
Marl (soft carbonates)	$CaCO_3$	70 to 90
Gypsum	$CaSO_4$	0
Calcium nitrate	$Ca(NO_3)_2$	20
Ordinary superphosphate	$Ca(H_2PO_4)_2 + CaSO_4$	0
Concentrated superphosphate	$Ca(H_2PO_4)_2$	0

CITRUS RESET MANAGEMENT

For maximum efficiency of a production unit or grove, it is essential that every tree location is occupied by a tree and that every tree be healthy. The average annual tree loss across the Florida citrus industry is around 4%. However, the extent of tree loss among individual groves can vary from zero to 10% or more. Prompt replacement of dead and declining trees means higher average long-term returns from the grove. If the declining trees remain in the grove, they keep getting weaker and yield less fruit each year and therefore the potential production capacity for the grove keeps declining even though production costs remain the same. It is very important to remove and replace such trees once it is clear that they are declining and they are not profitable. However, the reason for the decline should be found and the condition should be corrected so that the replacement tree does not suffer the same fate. If the evaluation shows that it will be practically impossible or very costly to correct the situation such as changing the height of the water table, then it is wise not to replant the site.

The resetting program should be conducted regularly rather than being delayed until serious losses in production have occurred. Resets should be planted in the spring or fall with the same cultivar already in the block. Usually, it is more economical to keep resetting and not to push the entire block unless the cultivar already in the block and/or the tree spacing between rows is an undesirable one. Replanting in a mature grove seems justified only when a minimum of 8 ft between canopy driplines, not from trunk-to-trunk, is available for canopy development of the new trees.

Replacement of dead, diseased, and declining trees in Florida citrus groves should always be an important part of the total production program.

Caring for young citrus trees is not an easy task. Resets should be watered, protected, fertilized, and weeded regularly. Because of their frequent flushing cycles, young trees are more sensitive and more attractive to pests than mature trees. Therefore, special care is needed to have pests under control. Resets often present an even greater problem because trees are usually scattered throughout the grove. Scattered resets frequently have serious weed problems since removal of the previous tree allows the area to receive more sunlight and provides more favorable conditions for weed growth.

Keeping weeds under control during the established period of the reset is very important. Weeds compete with young citrus trees for moisture and nutrients and they must be controlled. Weed control around a reset site should be considered at pre-plant, early post-plant, and after the tree is established. Control of weeds prior to planting should be provided. If residual herbicides are used, they should be used in greatly reduced rates and well in advance of planting so that harmful residues do not remain which might damage the reset. Contact or growth regulating herbicides are usually preferred since they do not leave residual effects.

WEED CONTROL

Weed control during the establishment period or approximately the first year is frequently quite difficult. Hand labor is scarce and expensive. Trunk damage by hoes or other cultivation equipment further compounds the problem. Chemical weed control provides at least a partial solution to the problem during this establishment period. There is now a fairly wide selection of residual herbicides available, which can be used on young trees. These materials should be applied frequently but at reduced rates. Be sure to read labels carefully for restrictions on the use of herbicidal materials.

FERTILIZATION

Reset fertilization requires an extra effort beyond the needs of the bearing grove. Frequent application of water-soluble fertilizers with irrigation water (fertigation) can increase fertilizer efficiency. If the grove is under a fertigation program, there is no need for special care in terms of nutrition for resets. Great care must be taken to ensure that proper rates of fertilizer materials are dispensed to prevent nutritional deficiencies or toxicities. Frequent light applications usually produce best results and lessen the danger of leaching but these practices need to be evaluated for cost effectiveness. The use of controlled-release fertilizers for resets may be a better option rather than making several trips to scattered resets throughout large blocks.

IRRIGATION & DRAINAGE

Young citrus trees require frequent but moderate water application for survival and proper growth. Competition for water is accentuated by nearby older trees or if weeds are allowed to grow close to the young trees. Anything that can be done to discourage competition for available water should be beneficial to the young tree. Irrigation systems should be in place before planting trees. Special modifications can sometimes be made to supply water for resets. However, the irrigation frequency necessary to sustain a mature grove is rarely adequate for good growth of newly-set trees, and young trees should be checked frequently to be certain they are receiving sufficient water.

Drainage is as important as irrigation. Excess water must be removed from the rootzone. 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. In southwest Florida, both surface and subsoil drainage is necessary to obtain adequate root systems for the trees.

SPROUTING

Resets require periodic sprout removal. The use of insulating tree wraps usually eliminates the need for sprouting. Wraps often stay in place for up to 3 years. They should, however, be checked periodically for the presence of ants or fungal diseases. Freedom from sprouts may be enough to justify their use. Wraps will also provide protection from errant herbicide applications. There are no simple answers to the use of wraps. Each situation is different and requires careful horticultural and economic consideration to arrive at the best procedure.

Maximizing Efficiencies While Minimizing Production Costs

The citrus extension agents with the University of Florida Extension Service will be conducting a program series during October aimed at maximizing efficiencies while minimizing production costs. As fruit prices have decreased, growers need to consider every opportunity to reduce production costs while maintaining good production in an effort to achieve a profit. Reducing costs is not an easy production decision as it may reduce fruit yields, thereby making profitability increasingly difficult. Topics discussed at each location will include:

- Citrus economics, why we are where we are?
- Controlling major citrus pest on a minimum production program
- Increasing efficiency and reducing cost of nutritional programs
- Strategies to consider in minimizing grove floor management costs
- Utilization of FAWN for scheduling cold protection
- Utilization of FAWN for irrigation scheduling
- Cost share options for specific BMP programs
- Cost of minimum production programs

Program speakers include Ron Muraro, Chris Oswalt, Mongi Zekri, Steve Futch, John Jackson, Greg Hartt, and Jack Hebb. Continuing education units (CEUs) will be offered for restricted use pesticide license as well as certified crop advisors. Each program session will begin at 9:30 AM and conclude at 12:00 Noon. **To register for any one of the below listed classes, please contact the noted Extension Agent.**

Maximizing Production Efficiencies While Minimizing Citrus Production Costs					
Date	**Location**	**Address**	**City**	**Contact name**	**Phone #**
Oct.19	Southwest Fla. Res. & Education Center	2686 SR 29 N.	Immokalee	Mongi Zekri	863-674-4092
Oct. 20	Highlands County Agri-Civic Center	4509 W. George Blvd.	Sebring	Greg Hartt	863-402-6540
Oct. 21	Polk County Extension Stuart Center	1710 US Hwy. 17 S.	Bartow	Chris Oswalt	863-519-8677
Oct. 26	Allman Plantation Restaurant	4135 SW Hwy 17 (just north of Nocatee)	Arcadia	Steve Futch	863-993-4846 or 863-956-1151
Oct. 27	Indian River Research & Education Center	2199 S. Rock Road	Ft. Pierce	Jack Hebb	772-462-1660
Oct. 28	Lake County Extension Service Office	30205 SR 19	Tavares	John Jackson	352-343-4101

Certified Crop Adviser Educational Seminar

Date: October 13, 2004
Location: UF/IFAS Citrus Research and Education Center, Lake Alfred

Directions to CREC:
http://www.crec.ifas.ufl.edu/CRECHOME/maps.htm

5 CEUs in crop management
5 CEUs in soil and water management

A certified crop adviser education seminar at the University of Florida/IFAS Citrus Research and Education Center in Lake Alfred on October 13, 2004, will offer 5 CEUs in crop management and 5 CEUs in soil and water management. Speakers from the University of Florida/IFAS, USDA and industry will address current topics such as hurricane recovery for citrus groves, precision agriculture, methyl bromide alternatives, soil surveys, soil identification, agribusiness consolidation, alternative crops and genetically-engineered crops, wetlands function in the landscape, irrigation, and the role of CCAs in BMP programs.

Link to program:
http://www.crec.ifas.ufl.edu/cca%5Ftraining/programwebsite.htm

Registration is $100 postmark deadline Oct. 6; $120 Oct. 7-13

Registration form:
http://www.crec.ifas.ufl.edu/cca%5Ftraining/registration_form.htm

For questions regarding the Certified Crop Adviser Educational Seminar:

Program coordinator: Tom Obreza, UF/IFAS Soil & Water Science Department, PO Box 110510, Gainesville, FL 32611.
Tel. (352) 392-1951, ext. 243; e-mail: taob@ifas.ufl.edu

Registration: Monica Lewandowski, UF/IFAS Citrus Research and Education Center, 700 Experiment Station Rd., Lake Alfred, FL 33850. Tel. (863) 956-1151; Ext. 1233; e-mail: mmlew@crec.ifas.ufl.edu

FLATWOODS CITRUS NEWSLETTER

☐ 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