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Flatwoods Citrus

Vol. 5, No. 11 November 2002

Dr. Mongi Zekri, Multi-County Citrus Agent | **Email: maz@mail.ifas.ufl.edu**

UPCOMING EVENTS

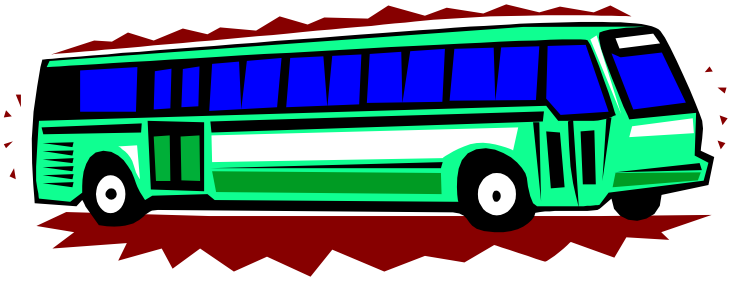
Seminars at the Hendry County Extension Office, LaBelle

Tuesday, November 19, 2002, 10:00 AM – 12:00 Noon
Hedging, topping, skirting and tree size management
Speakers: Drs. Jodie Whitney, Adair Wheaton, and Bill Castle
2 CEUs for Certified Crop Advisors
Sponsor: Robert M. Bancroft, Citrus Hedging, Inc.
Following the seminar, we are planning a free lunch (Compliments of Citrus Hedging) for only who call Sheila at 863 674 4092 no later than Friday, 15 November.

Tuesday, December 17, 2002, 10:00 AM – 12:00 Noon
Foliar nutrition (potassium, urea and phosphite), nitrogen rates and micronutrients vs. fruit production
Speakers: Drs. Brian Boman, Gene Albrigo, and Tom Obreza
2 CEUs for Certified Crop Advisors
Sponsor: Robert Murray, Florida Favorite Fertilizer

Please Find enclosed an evaluation form of the Flatwoods Citrus Newsletter and a questionnaire on Diaprepes. Please answer the questions and return both sheets as soon as possible in the enclosed postage-paid envelope. Thanks!!!

HENDRY COUNTY EXTENSION AG TOUR



Date: Saturday, 7 December 2002
For more information, call Inez at 863 674 4092

Tuesday, January 14, 2003, 8:30 AM – 4:30 PM
Workshop on scouting for pests and diseases
Speakers: John Taylor, and Drs. Pam Roberts, Stephen Rogers and Phil Stansly
6 CEUs for Pesticide License Renewal
6 CEUs for Certified Crop Advisors
Sponsor: Robert Gregg, Syngenta

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

Tuesday, January 21, 2003, 10:00 AM – 12:00 Noon
Citrus scab, alternaria, melanose, and fungicide update
Speakers: Dr. Pete Timmer and Pam Roberts
2 CEUs for Pesticide License Renewal
2 CEUs for Certified Crop Advisors
Sponsor: Shelby Hinrichs, Nufarm Agriculture USA

Please find enclosed detailed information on Gulf Citrus Growers Association Scholarships, requirements for scholarships, and a scholarship application form.

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

Citrus Blight is a wilt and decline disease of citrus whose cause has not been determined. The first symptoms are usually a mild wilt and grayish cast to the foliage often accompanied by zinc deficiency symptoms.

Trees rapidly decline with extensive twig dieback, off-season flowering, and small fruit. Blight trees reach a stage of chronic decline, but seldom die.

The disease affects only bearing trees and usually first appears when the grove is 6-8 years old. The first affected trees in a grove are usually randomly distributed, but groups of blighted trees may eventually occur, either as clusters or down the row. The disease has been transmitted by root grafts, but not by limb grafts or with budwood. The means of spread, other than by root grafts, is not known.

Blight symptoms can be confused with other decline diseases and accurate diagnosis is important in order to follow proper practices. Citrus blight is characterized by failure to absorb water injected into the trunk. The best procedure for diagnosis of individual trees in the field is to test water uptake into the trunk using a battery-powered drill and a plastic syringe without a needle. Healthy trees or trees declining from Phytophthora root rot, nematodes, water damage, or tristeza will usually take up about 10 ml of water in 30 sec. Trees affected by citrus blight take up no water regardless of the amount of pressure applied. For confirmation, an accurate serological test is available at the University of Florida.

Trees on all rootstocks are susceptible, but significant differences between stocks exist. The rootstocks which are the most severely affected by blight are rough lemon, Volkamer lemon, Rangpur lime, trifoliate orange, and Carrizo citrange. Those most tolerant to blight are sweet orange, sour orange, Cleopatra mandarin, and Swingle citrumelo. Sweet orange and sour orange are not recommended because of problems with Phytophthora root rot and tristeza, respectively.

Recommended Practices

There is no known cure for citrus blight. Once trees begin to decline, they never recover. Severe pruning of blighted trees will result in temporary vegetative recovery, but trees decline again once they come back into production. The only procedures recommended are: (1) Remove trees promptly once yield of affected trees has declined to uneconomic levels. (2) Plant or replace trees with trees on rootstocks such as Cleopatra mandarin or Swingle citrumelo which do not develop blight at an early age. (3) Plant trees on vigorous, productive rootstocks such as Carrizo citrange or Volkamer lemon which develop blight at an early age and replace trees that decline as soon as they become unproductive. Production can be maintained at relatively high levels in spite of blight with these rootstocks. **(Read more information on blight below).**

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

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CITRUS ROOTSTOCKS

Rootstock selection is of major importance to the success of a citrus planting because the rootstock chosen will become the root system of the budded tree. The root system is responsible for absorption of water and nutrients, adapting the scion to particular soil conditions, and providing tolerance to some diseases and disorders. Many horticultural characteristics are influenced by the rootstock including tree vigor and size, fruit yield, fruit size, maturity date, and fruit quality.

Since there is no perfect rootstock, choice of rootstocks should be mainly based on the most important limiting factor to production in a particular area. Volk is well adapted to a wide range of soil pHs and is tolerant to citrus tristeza, but is sensitive to cold weather, blight and Phytophthora. Since southwest Florida is not considered a cold-winter area, probably soil conditions is the first consideration in rootstock selection.

Cultivar and intended use of the crop (fresh or processing) are also important for rootstock selection. Cleopatra mandarin is well suited for use with tangerines, Temple, and tangerine hybrids. Cleo is not widely used for grapefruit and sweet oranges, particularly 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. After 15 years of age, trees on Cleo can decline significantly due to citrus blight. Scions on Cleo are as cold hardy as those on sour orange or Swingle citrumelo and are most productive on heavier soils. Cleo is relatively tolerant to salinity and moderately tolerant to high pH or calcareous soils. Sun Chu Sha mandarin seems to be better than Cleo. It appears to be tolerant to citrus tristeza, Phytophthora, blight, and calcareous soils. Smooth Flat Seville has some degree of citrus tristeza tolerance. Trees on Smooth Flat Seville are moderately tolerant to calcareous soils, but their yield and juice quality are lower than trees on sour orange.

Rootstocks that are drought tolerant such as rough lemon and Volk and planted on deep sandy soils impart high vigor to the scion, induce high yield, but produce fruit relatively poor in total soluble solids and acids. Tangerine fruit from trees grown on vigorous rootstocks tends to be puffy, hold poorly on the tree, and have high incidence of granulation. However, grapefruit and sweet orange on Carrizo citrange and Swingle citrumelo rootstocks typically produce high quality fruit. Trees on Carrizo grow well on sandy and sandy-loam soils, but grow poorly on calcareous or high pH soils. Carrizo is moderately sensitive to Phytophthora and tree losses due to blight have been high in Flatwoods areas. However, sweet oranges budded on Carrizo have been among the most profitable combinations over the long term in Florida.

Swingle citrumelo is the most widely propagated rootstock in Florida. Scion cultivars budded on Swingle grow well on sandy and loamy soils, but grow poorly on clays, high pH or calcareous soils and in poorly drained areas. Trees on Swingle are very productive at high densities. Swingle is tolerant to Phytophthora and blight. Swingle is potentially one of the good all-purpose rootstocks for grapefruit and sweet oranges. However, it is advisable not to bud ‘Roble’ and ‘Murcott’ on Swingle.

(Read more information on rootstocks below.

CITRUS RESET MANAGEMENT

Replacement of dead, diseased, and declining trees in Florida citrus groves has always been an important part of the total production program. Today, tree replacement is more important than ever since overhead and production costs are getting very high and a full stand of productive trees is essential to maximize production and profits. Freezes, blight, tristeza, Phytophthora, Diaprepes, and other pests and diseases have been particularly troublesome to Florida citrus growers for the last two decades. Extensive tree losses coupled with the economic necessity of regular resetting have caused many growers to investigate ways to achieve new efficiencies in reset management.

NOT AN EASY TASK

Caring for young citrus trees is always troublesome because they require far more attention than larger, established trees. Florida's sandy soils, high summer temperatures, possible low winter temperatures, and scattered rainfall patterns complicate young tree care by forcing growers to water, protect, fertilize, and weed young trees regularly or face extensive losses. Resets often present an even greater problem because trees are usually scattered throughout a block of larger trees, where they compete with large, full-grown trees for limited supplies of moisture, nutrients, and sometimes, sunlight. 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. Since resets are usually scattered throughout a block of much larger trees, they are often difficult to locate and may be accidentally overlooked, resulting in inadequate care.

Researchers, growers, and production managers are continually developing and improving methods of dealing with reset care.

PLANNING THE RESET PROGRAM

Grove managers should include tree removal and resetting as a routine part of the production program and often assign special times and special crews to deal specifically with this task. Planning ahead is very important because there is often a lag between the time replacement trees are ordered and when they are received. The wait for the desired rootstock and scion combination may be as great as 1 to 2 years, so replacement tree needs should be anticipated (when possible) and orders placed so they can be obtained when needed.

PURCHASING TREES

High quality trees are essential for resets. These young trees will be placed in an intensely competitive situation and may sometimes receive less than ideal care, so there is no room for compromising tree quality. Only healthy and in good shape trees from registered sources should be purchased since the initial cost is only a fraction of the total cost of bringing such a tree into

production. The selection of bare-root or container-grown replacement trees is largely a matter of grower choice or availability. One can find proponents of either type of trees.

SITE PREPARATION

The planting site should be well prepared. Weeds and roots should be removed before planting. At the very least, a non-residual herbicide should be applied to the reset area to get weeds under control before the young tree is set. The use of most residual herbicides prior to planting is discouraged unless extremely low rates are used since young trees are particularly susceptible to herbicide injury.

Planting sites should be prepared well in advance of receipt of the trees. This is particularly important for bare-root trees, which should be planted as soon as possible after they are received. Ideally, trees should be planted on the same day they are received. Under no circumstances should bare-root trees be allowed to dry out. To minimize root desiccation and damage, they should be kept cool and moist until they are planted.

PLANTING THE TREES

Inspect bare-root trees for broken or damaged roots and remove them by clipping near the damaged area. Since the fibrous root system of bare-root trees is usually severely cut back when they are dug, it will be necessary to remove some of the leaves and branches in order to balance the top with the root system. Most often this is done about the time the trees are dug by removing from a third to a half of the top of the tree. This is best accomplished by partially cutting back individual branches, rather then removing entire ones.

Container-grown trees should be removed from the container and inspected for evidence of pot-binding. Make several vertical slashes about one inch deep through the root ball to encourage root branching. These slashes also allow the potting soil and roots to interface more closely with the soil in the planting site. It may be easier to cut some of the roots with pruning shears and pull them so they protrude from the ball.

A common problem with container-grown plants is that the potting mixture is often highly organic. Such materials form

areas, which are difficult to permeate with water after the young tree is planted in sandy soils and irrigated. The outer third or more of the organic ball should be removed by pulling or washing so that the roots can extend into the soil in which the tree is planted. Otherwise, the tree may not grow off satisfactorily.

WEED CONTROL

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 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. Most of the compounds will require reduced rates of materials with greater frequencies of application. Be sure to read labels carefully for restrictions on the use of herbicidal materials.

After the reset has been planted for a year or more, modifications of the weed control program can be considered. Labels of materials under consideration should be checked carefully for hazards or restrictions prior to use. Reduced rates of residual herbicides for young trees are required to assure that no harm will come to resets planted among older trees. Specially modified herbicide applicators are available which enable the equipment operator to deliver a half-rate of material at his discretion.

FERTILIZATION

Frequent reset fertilization requires extra effort beyond the needs of the bearing grove. Application of water-soluble fertilizers with irrigation water (fertigation) can increase fertilizer efficiency. 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. Highly organic or controlled-release fertilizers that release nutrients slowly may reduce application frequency.

IRRIGATION

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 soil moisture 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

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 fungus 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.

GROVE PLAT

Since resets are usually scattered throughout a block of much larger trees, they are often difficult to locate and may be accidentally overlooked, resulting in inadequate care.

An annually updated grove plat is probably the best method for assessing general grove condition and productivity. Plats can be prepared by hand or with the assistance of a computer. This can help determine the number of trees which will be needed and where they should be placed. Reset plats can be prepared to later help equipment operators locate newly-planted trees for periodic care.

OBSERVATIONS ON CITRUS BLIGHT

Dr. Ken Derrick, University of Florida, IFAS, Citrus Research & Education Center

1. The cause of citrus blight (CB) is not known. It has been transmitted through root grafting, which suggests an infectious agent.

2. How CB is introduced into groves and how it spreads from tree to tree are not known.

3. CB occurs in hot, humid areas, and is more severe in areas of high year around temperatures. In Venezuela and Northern Brazil trees are usually dead within six months of initial symptoms. In more temperate areas, trees with CB seldom die and will survive for many years.

4. CB has not been observed in Mediterranean climates.

5. Symptoms of CB are a general decline that are not diagnostic. Trees with CB have a xylem dysfunction that restricts water flow resulting in drought symptoms.

6. Trees with CB have a significant loss of fibrous roots.

7. Symptoms of CB are not seen on young trees, but are seen on bearing trees approximately four or more years old.

8. The first trees to be seen with CB in a grove are randomly distributed.

9. Trees adjacent to trees with CB are at high risk for getting CB, resulting in clustering of diseased trees, but random single tree infections will continue to be observed throughout the grove, which suggest CB may be moved by an aerial vector.

10. Clonal propagation of scion and rootstock did not reduce the incidence of CB. This contradicts the suggestion of possible seed transmission, which is indicated by the initial random incidence of the disease.

11. Budded trees on all rootstocks are susceptible to CB. Seedling trees are also susceptible to CB.

12. The age at which trees develop CB varies greatly with rootstock: Rangpur lime, lemon types and Carrizo - 5 years; Swingle 5-12 years; Cleopatra - 15 years; sour orange - 25 years; and sweet orange - 30 years.

13. Prior to the 1960s CB was rare in Florida.

14. The increase in the incidence of CB, starting in the 1960s, correlates with the use of clonal budwood in Florida and Brazil. It also correlates with the use of herbicides, which resulted in higher soil temperatures; increases in the use of lime in some groves, and decreases in the use of sulfur.

15. There are blocks on rough lemon that are 50 to 75 years old that have lost very few trees. These trees were propagated using old-line budwood.

16. Any block in Florida that was propagated using clonal budwood on rough lemon will lose up to 10% of the trees per year, starting at an age of about five years.

17. Whenever a grove is essentially lost to CB there will often be a few surviving trees with no symptoms of CB randomly

distributed throughout the grove. Are these trees genetically different; do they contain cross-protecting, microorganisms, or did they just escape infection?

18. Trees with CB can be identified by zinc accumulation in the wood, reduced water uptake and serological assays.

19. Trees with CB express several pathogenesis related proteins. Serological detection of one of these, p12, can be used to distinguish trees with CB from those with other declines.

20. The gene for the blight associated protein p12 has been isolated and sequenced. This indicated p12 is a novel protein with some similarities to expansins, which are proteins that have been associated with cell wall expansion. Transgenic expression of the p12 antisense gene in tobacco resulted in stunting and small leaves. This indicates that p12 may be involved in plant growth and could be a response by citrus trees to resist the stunting associated with CB. Production of transgenic citrus with both sense and antisense genes for p12 is in progress. It will be interesting to evaluate these plants for resistance to CB and for any effects on horticultural characteristics. An additional blight associated protein, p35, was shown to be a beta 1-3 glucanase, which are well known pathogenesis related proteins.

21. Leaves from propagations using limbs from trees with blight by rooting or side grafting are p12 negative.

22. In assays of rootsprouts, around and attached to trees with CB, for p12 only about 5% will be positive.

23. Failure to transmit CB using bark patch inoculations or through limbs suggest that the pathogen that causes CB is restricted to the xylem of roots.

24. In some cases, CB appears to be associated with high pH soils.

25. The most vigorous trees in a grove will frequently be the first ones to have CB.

26. Treatment with tetracycline appeared to lesson the symptoms of CB.

27. Frequent spraying with insecticides was reported to decrease the incidence of CB.

28. In a replicated experiment, replacing the soil around healthy trees with soil, taken from under a tree with CB, did not induce CB on the healthy trees.

ROOTSTOCK SELECTION

Dr. Bill Castle, University of Florida, IFAS, Citrus Research & Education Center

Choosing a rootstock is an important decision. It should be carefully considered because such decisions are relatively permanent in their effect and, thus, in their long-term significance. The steps involved in choosing a rootstock may not always be obvious, but there are factors that traditionally have been important. Among these are the experiences and opinions of friends, neighbors, nurserymen, and the grower himself. The information can be conflicting and confusing, making the choice of a rootstock unnecessarily difficult. What follows is just one generalized approach that may be helpful in selecting the best rootstock for your conditions.

GATHER THE FACTS ABOUT YOUR SITE

There is no substitute for having available as much factual information as possible. A prominent grower once came to ask about rootstocks. I said "How do you choose a rootstock?" His reply was "First, I read everything I can find." I liked that answer then, and still do.

Information should be obtained regarding:

1. Soil - Texture, depth, hardpan, pH, chemical characteristics, water holding capacity, drainage, nutrient status, etc. There is no excuse for not studying your county Soil Survey (remembering that it has some limitations). Use the information in the Survey to guide your bedding procedures, and rootstock choices. Also, if you don't have old aerial photos of the site, see if you can obtain some. They are quite valuable in showing site variations especially those that existed before bedding. The "poor" spots tend to persist in their effects on a grove.

2. Topography – Changes in elevation are important to drainage. Images showing elevation changes are available on the internet.

3. Nematodes - The presence of the parasitic citrus and burrowing nematodes has the potential for simplifying a rootstock decision because of the ease with which many choices can be eliminated. Even if this information is not used in the decision-making process, it is still useful.

4. Historical - If a new site is being planted, learn about the successes and failures of your neighbors. If an area is being replanted, consider the reason for replanting.

KNOW YOUR OBJECTIVE

Many decisions are made within the framework of a well-defined goal. Therefore, consider:

1. Scion cultivar - Like choosing a rootstock, the cultivar selected represents a choice not often or easily changed after planting.

2. Market - Juice quality may be less important than yield if the fruit is for processing, and this would affect the choice of rootstock. If the fruit is for the fresh market, the influence of the rootstock on external quality may become more important.

3. Time - If you have a short-range goal, a tree on a vigorous, productive rootstock might be appropriate. For long-range objectives, another rootstock with different characteristics may be more suitable.

KNOW THE ROOTSTOCKS

There are two readily available sources of information on rootstocks. Each provides a different perspective. They are:

1. Experience - Growers usually feel reasonably comfortable planting trees on rootstocks for which they have had positive experiences. The performance boundaries of trees on a particular rootstock are established from years of commercial use. Practical experience also shows that it has limitations. Confidence (and less risk) is derived from knowledge.

2. Field experiments and research data - The major function of rootstock research is to determine the commercial potential of new rootstocks and also to ensure that the capabilities of currently used rootstocks are completely and clearly understood. The various field experiments established for this purpose, including those in commercial groves, represent essentially the only source of data regarding new rootstocks. As a result, they are likely to provide answers for today's important issues, such as tolerance to tristeza

virus. It wasn't too many years ago that Volkamer lemon and Swingle citrumelo rootstocks were unknown in Florida. Now, one of these, Swingle, is of considerable commercial interest.

CHOOSING THE ROOTSTOCK

The first four steps listed above are the relatively simple information gathering process, which provides a sound foundation for the final step - selecting a rootstock. There are several factors that combine to make the final step more difficult than the preceding ones. These include the lack of complete information about any rootstock as well as recognizing that no rootstock is perfect. Unfortunately, all the desirable attributes for a citrus rootstock have never been combined in one rootstock. Every rootstock has certain weaknesses as well as advantages. Perhaps more importantly, though, is that all rootstocks do not have the same disadvantages or strengths.

Another consideration affecting the choice of a rootstock is the relative importance given to individual rootstock effects. In Florida, the choice of a rootstock is generally based on a combination of concern for productivity and tree survival. The fundamental question with fruit produced for processing is how to produce the maximum quantity of soluble solids with the minimum number of risks. Therefore, priority is normally given to rootstock effects on yield, but sometimes other factors become limiting. Examples in Florida are susceptibility to foot rot or root rot, tristeza and blight, and salinity tolerance. In contrast, some rootstock characteristics are essentially non-limiting or can be controlled and are, therefore, less important. If trees on a cold tolerant, productive rootstock are susceptible to drought, they can be irrigated.

The final step in selecting a rootstock essentially involves developing a composite assessment of a rootstock based on its individual characteristics and then choosing the rootstock that best matches your interests and goals. As no one rootstock is likely to be entirely satisfactory in any set of circumstances, it is often wise to consider using two or three. If two or more are selected, setting a grove so that trees are planted on alternating rootstocks is not recommended. Rootstocks should be selected to match specific, local conditions especially when planting the highly variable soils found in the Flatwoods. Soil and drainage are critical factors and are often the basis for rootstock decisions. It is the author's opinion that soil and yield are priority determinants. Differences in juice quality usually do not exceed the larger differences in yield among rootstocks.

OR, just spin the wheel, i.e., Florida Citrus Rootstock Selection Guide, University of Florida Extension Publication SP 248.

Ranking of Citrus Rootstocks

Rootstock	**Vigor**	**Yield**	**Juice quality**	**Phytophthora**	**Calcareous soil**	**Blight**	**Tristeza**
Volk	1*	1	3	2.5	1	3	1
Swingle	2	2	1.5	1	4	1	1
Benton	1	1	1.5	2	3	2	1
Carrizo	1	1	1.5	2	3	2.5	1
Cleo	1	2	1.5	3	2	2.5	1
Sun C Sha	1	2	1.5	2.5	2	2	1
S F Seville	2	2	2	1	2.5	1	1-2
Gou Tou	2	2.5?	2.5	1	2.5	1?	1
Kinkoji	2	2?	2	1	2.5	1?	1

***The smaller the number, the better is the ranking.**

From the Florida Agricultural Statistics Service

The 2002-03 Florida orange forecast (excluding Temples) released in October 2002 by the USDA Agricultural Statistics Board is 197.0 million boxes. This is 14 percent less than the 230.0 million boxes recorded as final production last season and 19 percent below the record high utilization of 244.0 million boxes in the1997-98 season. The early-midseason orange forecast (including 5.5 million boxes of Navels) is 113.0 million boxes. It is 12 percent less than both last season's utilization and the 2000-01 crop, each of which had 128.0 million boxes as final recorded utilization. The 84.0 million box late type (Valencia) forecast is 18 percent less than last season and 19 percent less than the record high crop of 104.0 million boxes harvested in the 1997-98 season. For the numbers of grapefruit, Temples, tangelos and tangerines, see the following Table.

Florida Citrus Production (Million Boxes)

	Production						Forecast	Difference in 2002-03 compared with 2001-02
Cultivar	**1996-97**	**1997-98**	**1998-99**	**1999-00**	**2000-01**	**2001-02**	**2002-03**	
Early/Mid orange	134.2	140.0	112.0	134.0	128.0	128.0	113.0	**-11.7%**
Valencia orange	92.0	104.0	73.7	99.0	95.3	102.0	84.0	**-17.7%**
All oranges	226.2	244.0	185.7	233.0	223.3	230.0	197.0	**-14.4%**
All grapefruit	55.8	49.55	47.05	53.4	46.0	46.7	42.0	**-10.1%**
Temples	2.40	2.25	1.80	1.95	1.25	1.55	1.40	**-9.7%**
Tangelos	3.95	2.85	2.55	2.2	2.1	2.15	2.40	**+11.6%**
All tangerines	6.3	5.2	4.95	7.0	5.6	6.6	5.2	**-21.2%**
Limes	0.32	0.44	0.50	0.60	0.25	0.15		
Lemons		0.12	0.235		0.265	0.085		
Total	**294.97**	**304.450**	**242.865**	**298.15**	**278.765**	**287.235**	**248.00**	

2001-2002 Southwest Florida Citrus Production (Boxes) & Florida Citrus Prices ($)

Cultivar	Charlotte	Collier	Glades	Hendry	Lee	Total		Avg. On-Tree Prices & Returns/Box		
								Fresh	Processing	All
Early/Mid orange	1,912,000	4,867,000	2,009,000	12,527,000	1,224,000	22,539,000		4.30	2.36	**2.46**
Valencia orange	3,320,000	5,291,000	1,319,000	15,950,000	1,739,000	27,619,000		4.90	3.96	**3.99**
White grapefruit	101,000	67,000	10,000	1,193,000	69,000	1,440,000		6.54	0.90	**1.95**
Colored grapefruit	1,469,000	464,000	105,000	1,653,000	374,000	4,065,000		4.89	-0.54	**2.17**
Early tangerines	179,000	79,000	39,000	139,000	40,000	476,000		11.20	-1.17	**6.76**
Honey tangerine	55,000	113,000	42,000	398,000	31,000	639,000		15.20	0.06	**9.57**
Temples	13,000	50,000	-------	174,000	2,000	239,000		5.30	1.19	**2.28**
Tangelos	42,000	17,000	7,000	131,000	18,000	215,000		6.20	0.53	**2.37**
TOTAL	**7,091,000**	**10,948,000**	**3,531,000**	**32,165,000**	**3,497,000**	**57,232,000**				

Southwest Florida Citrus Acreage and Tree Numbers

	1970	1986	1990	1992	1998		2000		2002	
	Acres	Acres	Acres	Acres	Acres	Trees (million)	Acres	Trees (million)	Acres	Trees (million)
Charlotte	6,734	8,759	11,718	15,981	21,522	3.172	21,756	3.201	20,493	3.032
Collier	5,052	10,063	23,565	34,167	35,655	5.251	35,302	5.209	33,567	4.948
Glades	1,572	6,076	7,523	9,136	10,776	1.684	10,506	1.692	10,384	1.665
Hendry	22,447	40,269	73,754	87,396	100,124	15.409	99,437	15.325	94,139	14.445
Lee	7,439	7,313	9,692	10,559	11,871	1.649	11,594	1.626	11,874	1.666
SW FL Total	**43,244**	**72,480**	**126,252**	**157,239**	**179,948**	**27.165**	**178,595**	**27.053**	**170,457**	**25.756**
State of Florida	941,471	624,492	732,767	791,290	845,260	107.110	832,275	106.679	797,303	103.172
SW FL (%)	4.6	11.6	17.2	19.9	21.3	25.4	21.5	25.4	21.4	25.0

In **1970**, the Southwest Florida Citrus Acreage was 43,244 (**less than 5%** of the State of Florida Total Citrus Acreage '941,471'). Since **1998**, in Southwest Florida, Citrus Acreage has been **over 21%** of the State of Florida Total Citrus Acreage and the Number of Citrus Trees is **over 25%** of all Citrus Trees in the State.

Gulf Citrus Growers Association Scholarship Foundation, Inc.

Membership:

Membership in the Scholarship Foundation is open to all Gulf Citrus Growers Association (GCGA) members for just $25 per year. Members are able to vote for and serve on the Board of Directors for the Foundation.

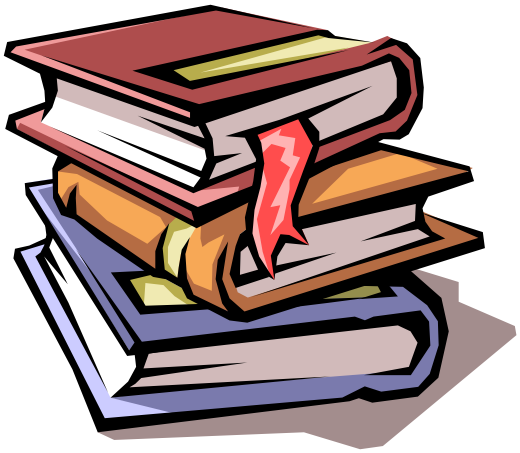
Donations:

Donations are a crucial source of funding for scholarship awards and may be made to the Foundation at any time during the year in any denomination, regardless of membership status. Checks should be made payable to the Foundation.

The GCGA Scholarship Foundation is a non-profit corporation operating under Section 501 © (3) of the Internal Revenue Code. Contributions are tax deductible as allowed by law.

Scholarship applications

Scholarship applications are distributed through the Scholarship Selection Committee by request or through the offices, which are responsible for citrus programs such as the Immokalee IFAS Center, Edison Community College, and the Citrus Institute at Florida Southern College. Applications may also be requested by calling the GCGA office at 863 675 2180 or by contacting Dr. Mongi Zekri at the Hendry County Extension office at 863 674 4092. Applications deadlines are December 1 for the spring semester and July 1 for the fall semester. Applicants who are not selected may reapply for the next cycle. Previous award recipients may also reapply.



Gulf Citrus Growers Association Scholarship Foundation, Inc.

P. O. Box 1319, LaBelle, Florida 33975 (863) 675-2180 / Fax: (863) 675-8087 / Email: gulfcitrus@aol.com

About the Gulf Citrus Growers Association

The citrus growers of southwest Florida are committed to supporting education as a long-term investment in the future of our industry. The first Gulf Citrus scholarship was awarded in 1992 through the Gulf Citrus Growers Association, a trade organization representing growers in Charlotte, Collier, Glades, Hendry and Lee Counties. These scholarships were created specifically to assist students pursuing degrees in citrus-related programs.

The Gulf Citrus Growers Association Scholarship Foundation was established in 2000 as a non-profit entity to oversee the distribution of these awards. Scholarship applications are accepted throughout the year and are reviewed semi-annually by a Scholarship Selection Committee comprised of academic and industry members. The number and amount of awards vary depending upon the number of applications received and available funds.

Applicants who are not selected may submit a new application for consideration in the next selection cycle. Previous award winners may also reapply.

Scholarship Criteria

Preferred requirements for scholarships are as follows:

Edison Community College / AA Degree:

- Completion of all placement testing.
- Completion of **12 credit hours** with continuous enrollment.
- Minimum overall grade point average of **2.5.**
- A demonstrated **commitment** to complete the AA degree with citrus courses.

BS, MS and **PhD Degrees:**

- Completion of all placement testing and a **declared major** in citrus or a citrus-related major.
- Completion of **12 credit hours** towards a citrus degree.
- Minimum overall grade point average of **2.5** for a BS degree; **3.0** for MS and PhD degrees.
- A demonstrated **commitment** to complete the degree at a state college or university.

Applicants must complete the attached application, which includes a statement of release giving the selection committee permission to verify information submitted.

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Scholarship Application

Personal Data

Name: _____ SS #:_____

Address: _____

City/State: _____ Zip: _____ Phone: _____

Employer: _____

Address: _____

City/State: _____ Zip: _____ Phone: _____

Does your employer reimburse you for tuition or other expenses incurred toward your degree? Yes _____ No _____

Educational Information

College or University in which you are enrolled: _____

Department / Degree Program: _____

I am working toward the following: AA ____ BS _____ MS _____ PhD _____ Other _____

Courses Taken in Major *(both completed and those in which you are currently enrolled)*:

_____

_____

_____

_____

Total Credit Hours Toward Degree: _____ Cumulative Grade Point Average (GPA): _____

Expected Date of Graduation: _____

Please answer the following questions in complete sentences with as much detail as possible.

What are your career goals? _____

_____

_____

_____

_____

What is the potential value of your education to the citrus industry *in southwest Florida*?

_____

_____

_____

_____

_____

I authorize the release of this application and any relevant supporting information to persons involved in the selection of recipients for Gulf Citrus Growers Association scholarships.

_____ _____

Applicant's Signature Date

*****APPLICATION DEADLINES ARE DECEMBER 1 AND JULY 1*****

Please return this application to:

Gulf Citrus Growers Association Scholarship Foundation, Inc.
Dr. Mongi Zekri, Application Coordinator
Hendry County Extension Office
P. O. Box 68
LaBelle, Florida 33975
(863) 674-4092 / Fax: (863) 674-4636

This bud's for YOU

The Southwest Florida Research & Education Foundation has quality budwood available for commercial propagation by citrus nurseries and growers. Here are the advantages:

- **Canker-free and DPI inspected**
- **Security: controlled access**
- **Trees grown in screen house**
- **Registered virus and viroid free**
- **Varieties: Valencia, Rohde Red, Hamlin, Midsweet, Earlygold, Westin, Vernia, W Murcott, Marsh, and Ruby Red**
- **Supports grower run Foundation for the Florida citrus industry**
- **UF/IFAS and DPI managed**

Requests for Budwood are accepted through the DPI Citrus Budwood Office in Winter Haven at 863-298-7712.

FLATWOODS CITRUS NEWSLETTER EVALUATION FORM

Please take a moment to rate the quality and usefulness of the information presented in the Flatwoods Citrus newsletter, and how improvements might be made. Then <u>return this form as soon as you can in the enclosed postage-paid envelope</u>. Thank you for your input.

<u>Please circle your answer</u>

1	Did the information seem up to date and accurate?	Yes	No	Uncertain
2	Was the information delivered on time to be useful?	Yes	No	Uncertain
3	Was the information relevant to your situation?	Yes	No	Uncertain
4	Was the information easy to understand?	Yes	No	Uncertain
5	Have you had an opportunity to use the information?	Yes	No	Uncertain
	If YES, did it solve a problem or answer your question?	Yes	No	Uncertain
6	Have you shared the information with someone else?	Yes	No	Uncertain

7 Overall, how do you feel about the Flatwoods Citrus Newsletter?

Satisfied Neither Satisfied Nor Dissatisfied Dissatisfied

8 **<u>Do you have any suggestions that might improve the newsletter?</u>**

<u>(Please write in any comments)</u>

<u>Finally, we would like to ask some questions about yourself to help us interpret the results.</u>

9. How many years have you been using the Extension Service? _____ Years

10. Where do you live?
___ A Farm ___ Rural area, not on a farm ___Town or city under 50,000 persons
___ City over 50,000 person

11. What is your employment status?
_____ Grower ____ Chemical Industry ____ Service Provider
_____ Production Manager ____ Regulator ____ University
_____ Consultant ____ Association Other _____

12. What is your racial-ethnic background?
___ White, non-Hispanic
___ Black, non-Hispanic
___ Hispanic
___ Asian American
___ American Indian or native Alaskan

We appreciate your reactions and the time you have given us. Thank you, and please contact us when we may be of service to you in the future.

13. What is your Gender? ___ Male ___ Female

Questionnaire (Diaprepes)

Please take a few minutes to help us assess your needs, set up relevant research projects and develop extension educational materials to reduce the negative impacts of Diaprepes on the Florida citrus industry. Please return this sheet with the evaluation form of the Flatwoods Citrus Newsletter in the enclosed postage-paid envelope. Thank you for your help.

1. Do you have Diaprepes in any of your groves? Yes___ No___ Do not know___ N/A___
2. Do you believe we have all the needed options to effectively combat Diaprepes?
   Yes___ No___ Do not know___

3. Which areas or information in combating Diaprepes is deficient, lacking or not provided adequately?

- ☐ Cultural control
- ☐ Survey and monitoring
- ☐ Sanitation
- ☐ Biopesticides or Biological control
- ☐ New Management Techniques
- ☐ Others (Please list them)

_____

_____

4. Is the available information to combat Diaprepes current, efficient, and useful?
   Yes___ No___ Do not know___

5. Are the current strategies
   Economical? Yes___ No___ Do not know___
   Not difficult to implement? Yes___ No___ Do not know___
   Effective? Yes___ No___ Do not know___

6. Are you aware of the Diaprepes website at

http://www.lal.ufl.edu/diaprepes/diaprepesemergence.htm Yes___ No___

7. Are you aware of the information on many citrus topics including Pest Control, which includes information on Diaprepes at **http://flcitrus.ifas.ufl.edu/citrustopicsframes.htm** Yes___ No___

8. Have you been kept up to date with the Diaprepes situation through IFAS Extension ?
   Yes___ No___ N/A___

9. What needs to be done in Research and Extension to minimize the impact of Diaprepes on citrus production?_____

10. What educational materials or programs need to be developed
    Fact sheets? Yearly reports? Seminars? Workshops? Others (please list)?

_____

Please write down in the back any other suggestions or comments.