UF UNIVERSITY of FLORIDA | IFAS EXTENSION

Citrus Notes

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Inside this Issue:

Dear Growers,

Our March "Citrus Roundtable" in Hillsborough County is scheduled for Wednesday, March 3, 2010. The has also been some significant interest in setting up a "Coordinated Psyllid Control District" in Hillsborough County, additional information on the location of the district is included. We will also be holding a "Certified Pile Burner Training" in Polk County. Don't forget the 2010 Florida Citrus Growers' Institute to be held in Avon Park. We included some review information on the care of citrus trees that may have been damaged during our recent cold spells. There is an article on HLB positive psyllids that should be required reading of anyone considering management options for HLB. Lastly there are a number of articles in the "Pesticide News & Information" section.

Enjoy the issue,

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The Foundation for The Gator Nation
An Equal Opportunity Institution

March Citrus Roundtable in Hillsborough County

We will be back in Hillsborough County on Wednesday, March 3, 2010, for our Hillsborough County Citrus Roundtable. This month we will be holding our meeting at the Gulf Coast Research and Education Center located at 14625 CR 572 in Balm. The meeting will begin at 10:00 a.m. Dr. Michael Rogers, Extension Entomologist, from the Citrus Research and Education Center will be there to share some of his latest information on his work on the Asian citrus psyllid. Dr. Rogers will make some introductory comments, then we will open the floor for any questions you may have about psyllids and psyllid control. Since this is not a presentation "per se" we will not be authorized to offer CEU's for your Restricted Pesticide Use license. I will have a number of complimentary copies of the improved 2010 Citrus Pest Management Guides available at the meeting.

We will have our normal fare of OJ, Donuts and caffeine aka coffee. Plan to join us on Wednesday, March 3, 2010, at the Gulf Coast Research and Education Center.

Coordinated Psyllid Control District for South Hillsborough County

There is significant interest in coordinating efforts in south Hillsborough County to have a coordinated psyllid control district. The initial district is proposed to have the following boundaries: the area south of Sweat Loop Rd. between Carlton Lake Rd on the west and Owens Rd on the east, the southern boundary is SR 674 on the south. Growers who are near or within this area are encouraged to call me at the office for more information, details and contact information for the local coordinator. This effort is scheduled to begin over the next 2 weeks (March 1 - 15, 2010).

Certified Pile Burner Training

We have scheduled a Florida Department of Agriculture and Consumer Services, Division of Forestry, Certified Pile Burner Program on Tuesday, April 6, 2010, at the UF/IFAS Citrus Research and Education Center in Lake Alfred. You must preregister and pay the $50.00 registration fee to attend. Additional information on the program is included at the end of this newsletter or at the following website link: http://www.fl-dof.com/training_education/training_schedule.html .

2010 Florida Citrus Growers' Institute

Save Tuesday, April13, 2010 for the "2010 Florida Citrus Growers' Institute". The program will be held at the Avon Park Campus of South Florida Community College. The program details and brochure will be included in next month's "Citrus Notes".

Recommendations for Care of Citrus Freeze Damage

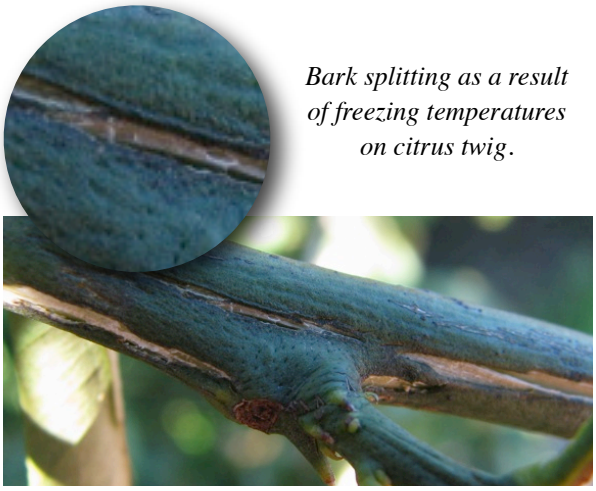
Even as I write this month's issue of "Citrus Notes" we are in the middle of another extended period of below normal temperatures. Fortunately, this time minimums temperatures are running a little warmer than the minimums from the first 2 weeks of January. The extended forecasts continue to predict that temperatures will be below average for the next couple of weeks. Thanks to global warming it could be a lot worse, I guess.

Looking back on the series of climatological events this winter, it generally fits the pattern expected during an El Nino Southern Oscillation (ENSO) winter. Average temperature are expected to be below normal as mentioned in the October 2009 issue of "Citrus Notes". This is in large part due to the increase in clouds and moisture associated with what we call a zonely flow across the southern United States. This increase in cloud cover reduces the overall average winter temperatures and to date this has been very consistent.

This forecast of below normal average temperatures does not necessarily describe specific minimum temperature events (freezes). Individual freeze events occur in all winters but, it is the probability of the number of freezes that will change based on the effect of ENSO and other large scale climatic factors. The only recent correlation is that many of our major freeze events have occurred when the ENSO is in a neutral phase (neither El Nino or La Nina). So much for making you feel better about the situation.

The following are few principles of citrus tree care after a freeze. These are based largely on the extent of tree damage sustained.

Young citrus trees or resets are generally more susceptible to freeze damage. This is due to the smaller tree size or mass and their vegetative growth habits. A visual inspection a few weeks after the freeze will reveal the extent of damage. Leaves that remain attached to stems indicate twig damage and you would want to closely inspect these twigs for signs of freeze damage (split bark). Defoliation after a freeze



Bark splitting as a result of freezing temperatures on citrus twig.

is generally a good sign indicating that the damage was predominately to the foliage. If the damage was extensive including the main

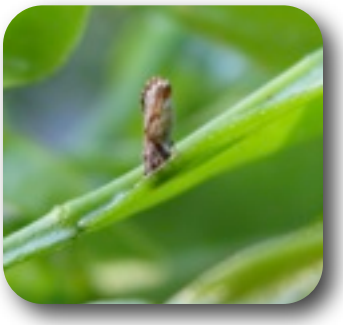
branches then it is wise to wait for regrowth to appear indicating the amount of damage. Pruning of young citrus trees should be delayed until the threat of freezing temperatures has passed. If young citrus trees are protected using soil banks or tree wraps and freeze damage extends down into the wrap or soil bank then it would be imperative to remove the wrap or lower the soil bank to expose the green tissue for subsequent regrowth.

In mature trees freeze damage can result in fruit, leaf and tree damage. Fruit damage is a result of ice formation within the fruit causing a loss of juice vesicle integrity. These ruptured juice vesicle will leak juice into the surrounding tissue. This juice will subsequently be lost to evaporation through the peel. In more severe freezes fruit drop can also occur.

Defoliation of citrus trees occurs in situations where the minimum temperatures reach the citrus leaf freezing point temperature. This is the temperature, determined in the lab, at which significant leaf cellular damage (causing defoliation) has occurred. In these cases it is best to follow the extent of defoliation to determine if the damaged leaves drop off shortly after the freeze. If leaves remain, it is and indication of stem and or twig damage and the tree should further be inspected to determine the extent of damage. In situations where defoliation has occurred then cultural practices should be adjusted with the goal of replacing lost foliage. Fertilization should continue as planned and it would also be beneficial to include a spring nutritional spray to these replacement leaves. Irrigation should also be closely monitored. Although the loss of leaves will initially reduce the amount of citrus tree transpiration the rapidly expanding new foliage will require adequate water to fully expand.

In situations where significant tree damage has occurred it is important to wait until growth has started in the spring to determine the extent of damage. This will help you better determine the extent of rehabilitation practices that need to be implemented. Fertilizer applications should be adjusted based on the remaining amount of vegetative regrowth. It would also be prudent to increase the frequency of fertilizer applications to encourage tree recovery. Irrigation practices should be scheduled to promote maximum vegetative growth to replace the structural tree damage caused by the freeze. Disease control with a special emphasis on melanose should be considered, although in these situations fruit production is greatly reduced and melanose control on foliage is rarely effective. A critical review of all fresh fruit related fungal diseases would be a good idea if there is very little fruit set due to the severity of the freeze damage. Greasy spot severity may be reduced if the defoliated leaves have had adequate time to decompose before early summer. Remain vigilant in controlling citrus canker if this disease is present in your grove. Canker does overwinter in stem lesions and these lesions can become a significant source of inoculum for the spring flush.

Citrus canker lesions on stem



HLB Positive Psyllids

Last month I had the opportunity to hear a presentation at our OJ Break by Dr. Michael Rogers, Extension Entomologist, from CREC in Lake Alfred. I have received some new and what I consider to be compelling information suggesting the importance of psyllid control.

In areas where psyllid control and tree removal were practiced the overall percentage of HLB positive psyllids from January 2008 to September 2009 ranged from a little below 1% to a high of a little over 5%. The range for large areas under wide area psyllid control and tree removal were a little less than 1% to about 1.5% over the study period.

In another block located in an area without wide area psyllid control, tree removal and psyllid control was done only in the study block and the percentage of HLB positive psyllids was just over 5%. The block was not large and there appears to be more of a neighbor effect due to the varying commitment of neighboring growers to managing citrus greening.

The final test block was located in an area with significant citrus greening pressure from within and outside the block. Data collection from this block was done only in 2009. The block was also located in south Florida and there was no effort to control psyllids or remove any symptomatic trees. In this situation the majority of citrus trees in this block were symptomatic. The average percentage of HLB positive psyllids for the study period was just under 64%. In the majority of months in which psyllid data was collected the percentage of HLB positive psyllids remained 60% or higher and was 100% one month.

In conclusion, in situations where symptomatic trees remain and inoculum levels are allowed to build, a higher the percentage of psyllids will test HLB positive.

Now for the disclaimer, this does not imply that disease severity and spread due to HLB or citrus greening is enhanced or lessened. It serves only to demonstrated that in these locations under these study conditions the percentage of HLB positive psyllids.

Pesticide News and Information

Latest on NPDES Permitting

On January 20 and 21, the second National Pollutant Discharge Elimination System (NPDES) face-to-face meeting was held by the EPA in Dallas. The purpose of the meeting was for the EPA to present their second draft of their general NPDES permit and to solicit input from state regulators. The federal permit will be applicable to four NPDES un-authorized states, Alaska, and tribal lands. However, it will likely serve as a template for the remaining 45 states to develop a permit through the regional EPA offices. The format of the meeting was very similar to that of the Kansas City meeting, in that the EPA went section by section discussing the elements of the permit and what is required under the CWA.

According to a Florida Department of Agriculture and Consumer Services representative at the meeting, it went very well and the per-

mit approach taken by the Agency appears to be something which with most states were amenable. The EPA is seeking data/ information that demonstrates that the technology-based effluent limits (TBEL) actively employed today (i.e., FIFRA labels) are sufficient to protect surface water quality and meet many state requirements of "no toxics in toxic amounts." Further, the EPA hopes to be able to demonstrate, if needed, that the TBELs proposed in the draft permit (FIFRA-approved labels combined with IPM and various BMP requirements) will be increasingly sufficient to protect waters of the US. The EPA is proposing to use TBEL, rather than water quality-based limits.
EPA is specifically interested in receiving any surface water monitoring data on pesticide active ingredients. Although, data from more controlled studies, where application rates, dates, etc. are known, are preferred, the EPA would be interested in any ambient monitoring data demonstrating protection of water resources. They did not specify whether they only want data from pesticide use scenarios covered under the permit (aquatic weed control). Please provide the data to: Jordan Page at page.jordan@epa.gov. (FDACS email, 1/27/10).

Insecticide Resistance in Action

In mid-January, the University of Kentucky released research results that confirm that knockdown resistance mutations conferring resistance to synthetic pyrethroids are widely prevalent in U.S. bed bug populations. Of 110 bed bug populations from across the nation, 88 percent were found to have one or two mutations which confer pyrethroid resistance. (newyorkvsbedbugs.org, 1/26/10).

Intrepid® Insecticide

On January 19, the FDACS has registered the special local needs (SLN) registration for the use of the insecticide methoxyfenozide (Intrepid®) in citrus to control lepidoptera larvae (SLN FL-100001). (FDACS PREC Agenda, 2/4/10).

Movento™ Registration Issues

Spirotetramat is a member of the tetronic acid (IRAC Group 23) insecticides that is sold under the trade names Movento®, Ultor®, (Bayer CropScience) and Kontos® (OHP). Each product manages insects in different settings, both food use and ornamental. These materials have been available for approximately two years in the U.S. and have been rapidly adopted by managers that must contend with whiteflies, aphids, and psyllids. On January 26, the EPA issued a notice of intent to cancel the registrations associated with spirotetramat because on December, 23, 2009, the U.S. District Court for the Southern District of New York vacated all registrations issued by the EPA for pesticide products containing the active ingredient spirotetramat. The basis for the Court's decision was EPA's failure to provide an opportunity for comment on the applications for those registrations before the Agency granted them. The vacatur is currently stayed until February 16, 2010; when the stay is lifted, the spirotetramat registrations will cease to be valid under FIFRA. Bayer CropScience is appealing the case.

Such an action is completely without precedent. The first step of EPA's 4-part process is that of announcing a petition. This announcement period historically closes with no comments because at that point in the process, no substantive materials are posted on the docket. However, activist groups and some associated small groups of beekeepers prevailed as the plaintiffs of the case. The EPA will allow sale of the insecticide until February 16, and are asking for comments on how to handle existing stocks.

The ironic outcome of this case is that bees may well be impacted to a greater degree than before the ruling. Spirotetramat is considered "non-toxic" to adult honey bees according to standards determined by EPA. In 2008, at the time when EPA was reviewing Bayer's application for registration, there were questions about whether residues in pollen could affect the development of bee larvae. While additional field studies were being conducted to address this, Bayer and EPA agreed to avoid any potential risk to bee larvae by prohibiting applications to blooming crops frequently visited by honey bees. All spirotetramat-based products sold in the U.S. carry this precautionary restriction.

Over the past several years, Bayer initiated additional research to confirm the safety to honey bees if spirotetramat applications were allowed during bloom. Several key pests, most notably the Asian citrus psyllid which is a vector for citrus greening disease and a serious threat to the citrus industry, are best controlled by spirotetramat when applications can be made during bloom. If applications during bloom were found to be safe to bees, it would be a significant "win-win" for beekeepers and citrus growers by ensuring an effective control alternative for pests could be used without causing harm to honey bee colonies. Bayer reports no harm to bee colonies even when spirotetramat was applied at the maximum label rate during full bloom.

For vegetable and ornamental production, the whitefly issue is extremely important. The National Whitefly Management Task Force (a group of scientists and regulators representing the vegetable, cotton and ornamental industries) were ready to add spirotetramat to the Whitefly Management Plan when the judgement occurred. The ability to manage the various biotypes of whitefly (*Bemisia tabaci*) is very tenuous because of resistance to all but a couple active ingredients. Products that contain spirotetramat are critical. If just one of the management tools is lost, the rest could become ineffective very quickly due to resistance. This would result in the type of economic losses experienced in the early 1990's when resistant whitefly populations caused losses estimated to be around 500 million dollars annually. (Various sources, EPA, IFAS, Bayer CropScience).

Institute of Food and Agricultural Sciences
Polk County Cooperative Extension Service
1710 Hwy 17 S., P.O. Box 9005, Drawer HS03
Bartow, FL 33831

Information for the next Certified Pile Burners Course:

The Florida Division of Forestry and University of Florida Cooperative Extension Service will be conducting a Certified Pile Burners Course on 6th April, 2010. This course will show you how to burn piles **legally, safely and efficiently**. Most importantly, it could save a life. If you burn piles regularly, don't put off registering for this training. When the weather is dry, certified pile burners will receive priority for authorization to burn. Also, certified pile burners are allowed to burn up to two hours longer per day and get multiple day authorizations. Don't wait. The number of trainings offered and attendance at each training is LIMITED. This training will be held from 8:30 am till 4:30 pm at the Citrus Research and Education Center, Ben Hill Griffin, Jr. Citrus Hall, Room 3, located in Lake Alfred, Florida. Included are a registration form and program agenda. See **http://www.crec.ifas.ufl.edu/about/map/map.htm** for directions to facility.

Registration is required to attend and class size is limited. To attend please send the following information (see form on next page):

1. Your full name (as wanted on your pile burning certificate).
2. Your mailing address (where you want the certificate mailed).
3. You're Division of Forestry Customer Number (It is the number that you are required to give the DOF when you call in for your burn permits. If you do not know it please call the local DOF office and ask them to create one for you).
4. Your email address (if you have one) and/or contact phone number.
5. A check made out to Polk County Citrus Advisory Committee for $50.00.

The first fifty individuals to provide these five requirements will be registered; there will be a 7-day non refundable fee limit. If you do not make the training and did not contact our office at least one week before the class, you will not receive a refund. There will be a test at the end of the session. You must receive a grade of 70% or higher on the exam and demonstrate a proper pile burn with your local DOF office to become certified. Once you are certified it will be noted with your customer number, thus it is important for us to have the proper number. If you do not have a customer number the DOF office will set one up for you. Fill out the registration form on the next page and return as directed.

Sincerely,

Chris Oswalt

For Questions Contact: Chris Oswalt at wcoswalt@ufl.edu or 863-519-8677

Registration Form

Florida's Certified Pile Burner Program
April 6, 2010
UF-IFAS Citrus Research and Education Center
Ben Hill Griffin, Jr. Citrus Hall, Room 3
700 Experiment Station Rd
Lake Alfred, FL 33850

Please send this form and a check for $50.00, payable to Polk County Citrus Advisory Committee, c/o Gail Crawford, University of Florida IFAS, Polk County Cooperative Extension Service, P.O. Box 9005, Drawer HS03, Bartow, FL 33831-9005

Name

Mailing address

Email address

Phone Number

DOF Customer Number

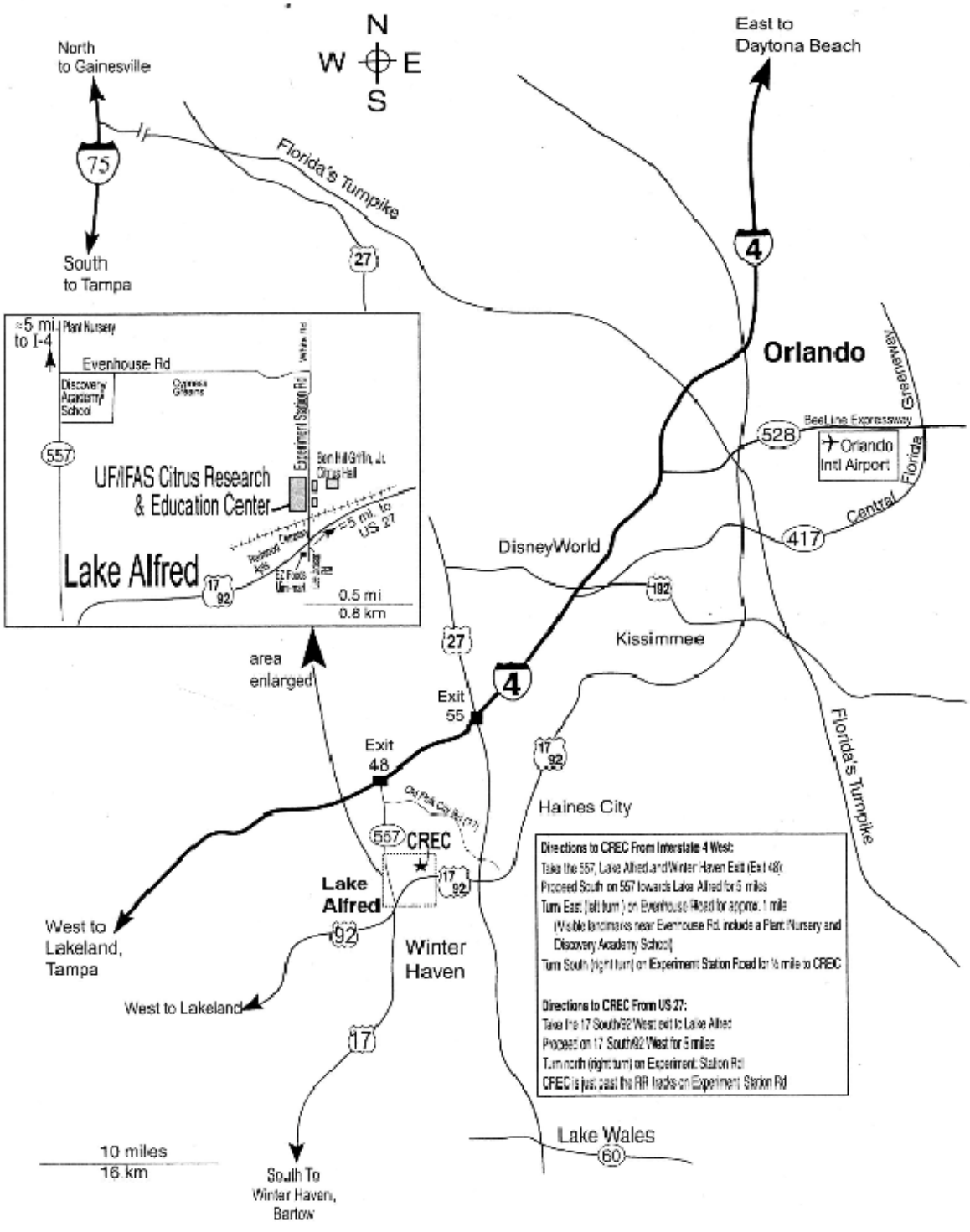
Florida's Certified Pile Burner Training
April 6, 2010
UF-IFAS Citrus Research and Education Center
Ben Hill Griffin, Jr. Citrus Hall, Room 3
700 Experiment Station Rd, Lake Alfred, FL
See: http://www.crec.ifas.ufl.edu/about/map/map.htm

1.	Opening Comments and Introduction	08:30 – 09:10
2.	Fire Weather	09:10 – 09:50
3.	BREAK	09:50 – 10:00
4.	Smoke Management	10:00 – 11:20
5.	Planning and Implementation	11:20 – 12:15
6.	LUNCH (provided)	12:15 – 01:15
7.	Open Burning Regulations	01:15 – 02:30
8.	Safety	02:30 – 03:10
9.	BREAK	03:10 – 03:20
10.	Public Relations	03:20 – 04:00
11.	Wrap Up & Test	04:00 – 04:30

Please bring a Pencil for the Exam!

Location & Contact Information

Address: Ben Hill Griffin, Jr. Citrus Hall Room 3,
700 Experiment Station Rd, Lake Alfred, FL 33850
Contact: Linda Murphy, 863-956-1151



Florida's Certified Pile Burner Training
Frequently Asked Question

Q: Why should I be a certified pile burner?

A: Certified pile burners are trained to burn piles ***legally, safely and efficiently***. Most importantly, it could save a life. Also, when the weather is dry, certified pile burners will receive priority for authorization to burn by the Florida Division of Forestry (DOF). Also, certified pile burners are allowed to burn up to two hours longer per day and get multiple day authorizations.

Q: What is a Pile Burner Customer Number?

A: When you call the DOF for an authorization to burn, you will be assigned a personal customer number. This number references your information so it doesn't need to be gathered each time you call for an authorization. You must have your individual DOF customer number in order to be certified.

Q: Is there a test?

A: Yes, the test is 20 questions and open-book. You must receive a score of at least 70% to pass.

Q: What if I don't pass?

A: Very few people fail the test but if you do, you will be provided another opportunity to take the test at a later date. If you fail the second time, you must re-register and take the training again.

Q: Why do you ask for my email on the application form?

A: Email is the fastest and most convenient method to inform registrants of their registration status. If no email address is provided then all correspondence will be sent through the federal mail. This can take several days to relay messages and this may not be practical if changes are made to the course schedule or for last minute registrations.

Q: How much does it cost to register for the training?

A: Registration for the training is $50 per person and includes lunch, training materials and testing.

Q: How long does my certification last?

A: As long as the person with the certification uses their number at least 5 times in a period of 5 years their certification will not expire under the current program.

Q: Will certified burners be notified if their certification expires?

A: Yes, notification will be sent out to them to let them know of their upcoming certification expiration date.

Q: Will I be certified at the end of the one day training?

A: No, you will need to follow the written instructions that you will receive from the Division to become certified. You will need to complete a simple burn plan, have it reviewed and approved locally by the DOF and also have the burn itself reviewed and approved by the DOF. From that point, the local DOF office will send the expected documentation to Tallahassee to recommend certification for you.

Q: Is there a minimum age to be a certified pile burner?

A: Yes, you must be at least 18 years old to take the test and be a certified pile burner.