

Spring citrus production practices

By Tim Gaver, Ryan Atwood, Gary England, Steve Futch, Tim Hurner, Chris Oswalt and Mongi Zekri

The advent of warmer weather in the spring signals the beginning of a new crop year for citrus growers. Much of the fruit from the previ-

ous year has been harvested, and with warm temperatures comes new foliage and bloom. The last several years have seen growers shift their production priorities from the classic insect, mite, disease and nutrition problems to Huanglongbing (citrus greening) disease and Asian citrus psyllid management. In spite of all the attention to HLB, there are still growers who are not aware of the threat that HLB poses

to their citrus operations or do not think that it is an immediate threat.

Now is the time that growers in any part of the citrus-producing area who are not convinced that HLB deserves their full attention should visit or at least talk to one of their grower friends in the southern half of the state. Infection rates of the disease are very high in many groves, and other groves have already been abandoned because their owners were not serious about HLB and psyllid management.

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CITRUS HEALTH MANAGEMENT AREAS (CHMAS)

A report in 2010 by the National Academy of Sciences identified the establishment of Citrus Health Management Areas (CHMAS) as a high priority for slowing the spread of HLB in Florida. While management of the Asian citrus psyllid will be a major focus of these CHMAS, coordination of other management strategies will also be a goal of these cooperative areas. Research and grower experience with wide-area spraying for Asian citrus psyllids over the past several years has shown that coordinated pesticide applications during the dormant season from October to February are a very effective tool in reducing psyllid populations to manageable levels. Becoming a member of one of these grower/neighbor groups could help you get a great start on improving your psyllid/HLB management efforts this season. A number of these groups have already been formed, so contact your local citrus Extension agent for more information about CHMAS in your area or go to the new statewide CHMA Web site (http://www.crec.ifas.ufl.edu/extension/chmas/chma_websites.htm).

SOIL-APPLIED AND FOLIAR NUTRITION

An efficient citrus nutrition program should be guided by soil and leaf-tissue testing that was accomplished in the late summer and fall of the previous year. Excessive application of fertilizer materials is expensive and may stimulate vegetative growth at the expense of yields and quality. Luxuriant growth is also very attractive to Asian citrus psyllids, which vector HLB. Research has shown that very few groves will benefit from nitrogen fertilizer rates higher than 200

lbs./acre, regardless of the production potential. Correspondingly, grapefruit groves rarely benefit from nitrogen rates above 160 lbs./acre, except those few groves that may produce more than 800 boxes/acre.

The first fertilizer application of the year should be made between early February and the initiation of flowering so that nutrients are readily available for the new crop. A second application should be made in the period after flowering and before the end of May. Applications during June risk leaching losses by early summer rains.

Foliar applications of selected nutrients offer a number of positive benefits, including time of application and faster uptake when compared with soil applications. Foliar applications of urea and phosphites prior to bloom have been shown to increase flower numbers, fruit yield and total soluble solids. Micronutrient deficiencies — including boron, manganese and zinc — can best be corrected with foliar applications of sulfate, nitrate or chelated micronutrient sources. Both liquid and dry formulations are available in varying ratios of the micronutrient elements. Foliar applications should be made to newly-expanded foliage for maximum uptake. Iron deficiencies are best corrected by soil applications of chelated iron products.

Many Florida growers have adopted a nutritional approach to HLB management, especially where high infection rates preclude removal of infected trees due to its economic impact on the cash flow of the grove. Some preliminary research on HLB-infected trees seems to have shown that foliar applications of micronutrients, in combination with a phosphite material applied several times per year, have visually improved the appearance, vigor and yield of symptomatic trees. Care should be taken when applying tank mixes, as phytotoxicity can result from the application of tank mixes with a pH less than 6.5 when combined with copper fungicides. Careful monitoring of the pH of tank mixes and the use of an inexpensive buffering compound such as potassium carbonate can help to avoid such problems.

INSECT AND MITE MANAGEMENT

Although psyllid management should have top priority, citrus leaf-miner, rust mites and other insects are still important. Aldicarb will no longer be labeled for use on citrus in Florida after April 30. Limited supplies may force growers who have used aldicarb in the past to choose another miticide

Citrus Research Trust Fund Work Continues

By Michael W. Sparks



I hope everyone had a great holiday season and Happy New Year. I know the recent cold weather has been hard on everyone but hang in there.

It is going to be a busy 2011 for all of us. With the 112th Congress beginning its first session in Washington, D.C. this month, I want to give you an update on our push to secure tariff dollars to fund citrus research. Sen. Bill Nelson (D-FL) recently told me he will renew his effort to establish a federal citrus trust fund dedicated to combating invasive pests and diseases. Last Congress, Nelson introduced the Citrus Disease Research and Development Trust Fund Act of 2010 (S. 3568), along with co-sponsors senators John Cornyn (R-TX), Dianne Feinstein (D-CA), and Barbara Boxer (D-CA). We anticipate Nelson will re-introduce that legislation soon in 2011. He has been our horse on this effort and his support is critical to getting it done.

In the next few weeks, Florida Citrus Mutual will also brief the new members of Florida's Congressional delegation on the measure.

The Nelson bill would create a board consisting of industry experts representing the five commercial citrus-producing states to manage the trust fund's research priorities and budgetary decisions, with oversight by the U.S. Agriculture Department (USDA). The research fund will be administered by the U.S. Treasury Department and will mirror tariff revenue collected on imports of citrus and citrus products. No grower assessments or new tariffs would be imposed. The fund could generate up to \$30 million per year for citrus research.

Nelson sits on the important Senate Finance Committee, which has jurisdiction over this legislation, as well as all matters affecting U.S. tariff policy. Support from this committee will be essential to pass the legislation. Cornyn also sits on the Senate Finance Committee, thus ensuring a bipartisan alliance in favor of the bill. Nelson also secured co-sponsorship from the California delegation to demonstrate the importance of the bill to all U.S. citrus producers. Feinstein is a member of the powerful Senate Appropriations Committee, while Boxer chairs the Senate Environment and Public Works Committee. These are tremendous legislators to have on our side.

Since the bill affects a key commodity, the support of the Senate and House agriculture committees is also important. It is our understanding that Nelson plans to reach out to the new leadership of the Senate Agriculture Committee soon, just as he did last year with the previous chair, Sen. Blanche Lincoln (D-AR). In addition, staff discussions are ongoing with officials from USDA. While USDA has no formal role in passage of the bill, substantive input from USDA experts is crucial to ensure a smooth process once a legislative opportunity is available.

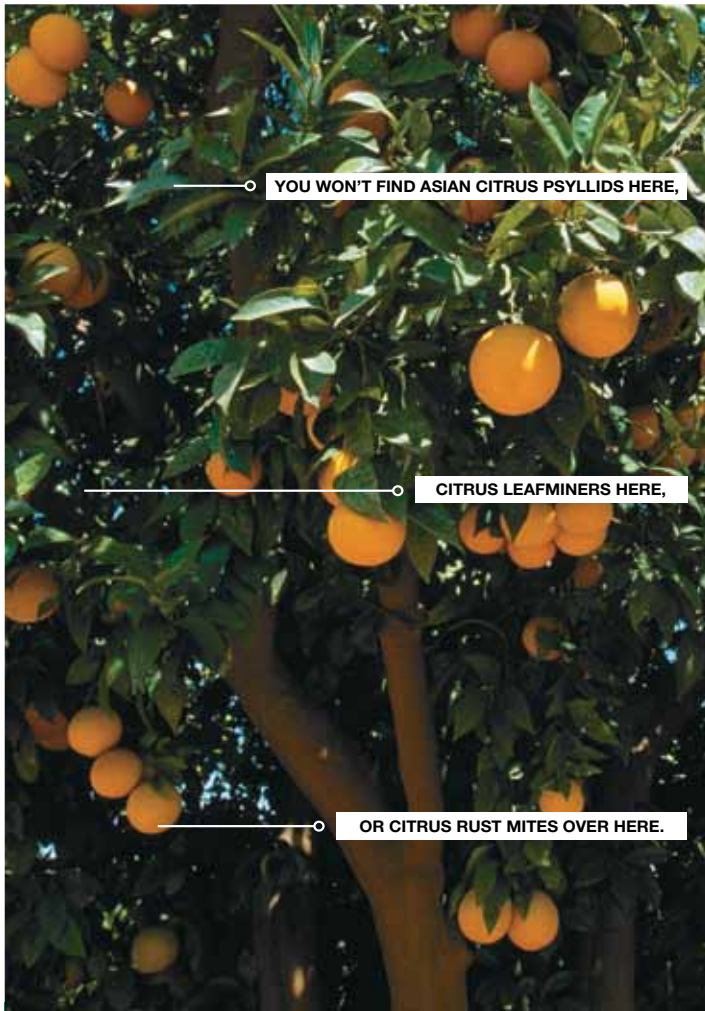
The Citrus Research and Development Trust Fund could serve as a recurring source of research funding well into the future. That could ensure that grower box tax dollars are used for marketing and not research as they have been for the past several years. Stronger, better financed marketing programs will help drive consumption, which benefits all of us. The trust fund could also result in grower tax relief.

We will keep you apprised of further developments as they occur.

Michael W. Sparks is the Executive Vice President/CEO of Florida Citrus Mutual, the state's largest citrus grower organization.



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for rust mite control this spring. Rust mite control is almost always necessary on fresh fruit varieties, starting in the postbloom period. Several miticides are labeled for use on Florida citrus, with residual control being generally better when applications are made while populations of adult mites and egg densities are low. Frequent scouting of mite populations in the spring period is necessary to avoid exterior damage to immature fresh fruit.

There are a number of insecticidal products labeled for psyllid control on bearing trees, with length of control and costs per acre varying widely. Several of these products are also labeled for control of rust mites or other insects, which adds to the value of the product. Most of the broad-spectrum insecticides labeled for psyllid control may not be applied when citrus trees are blooming, due to the considerable potential for bee mortality.

Applications during the dormant period prior to bloom have been shown to be very effective in reducing psyllid populations until late in the spring. Hedging and topping operations are usually followed by large flushes of attractive new growth. Pesticide applications just prior to or just after these mechanical pruning operations will keep psyllid populations from rapidly increasing on the new foliage. Pesticide resistance is a serious concern, and growers are advised to avoid using pesticides with the same mode-of-action (MOA) in consecutive applications. MOA information is available on the pesticide label and in other publications.

Two systemic insecticides for soil application are available for psyllid control on non-bearing trees, but they have the same MOA and should be alternated with foliar applications of pesticides with different MOAs. A soil application in the spring should provide about eight weeks of control. Frequent flushes on young trees are very attractive to adult psyllids, and frequent scouting is necessary to ensure that psyllids are being effectively controlled. Much more detailed pest management information can be found in the 2011 Florida Citrus Pest Management Guide (<http://www.crec.ifas.ufl.edu/extension/pest/index.htm>).

DISEASE MANAGEMENT

In addition to greasy spot and melanose concerns, more growers are finding themselves dealing with citrus canker as the disease continues to spread throughout the state. If left uncontrolled, infected areas may experience considerable leaf loss and

fruit drop. Current recommendations for canker control in endemic areas for processing fruit involve five copper sprays at 21-day intervals for early oranges, starting in early April. Three applications at a 21-day interval, starting in mid-April should be adequate for Valencias and midseason varieties. For fresh grapefruit and early oranges, the copper spray program for melanose control should be effective for controlling canker through June. However, because the summer rains create ideal conditions for canker spread, applications for fresh fruit varieties should continue at 21-day intervals through October. Young trees, depending on variety, may require sprays throughout the entire growing season because of frequent growth flushes. Leafminer control is important, especially during the summer when canker invasion of leafminer galleries can greatly increase the inoculum levels of the disease.

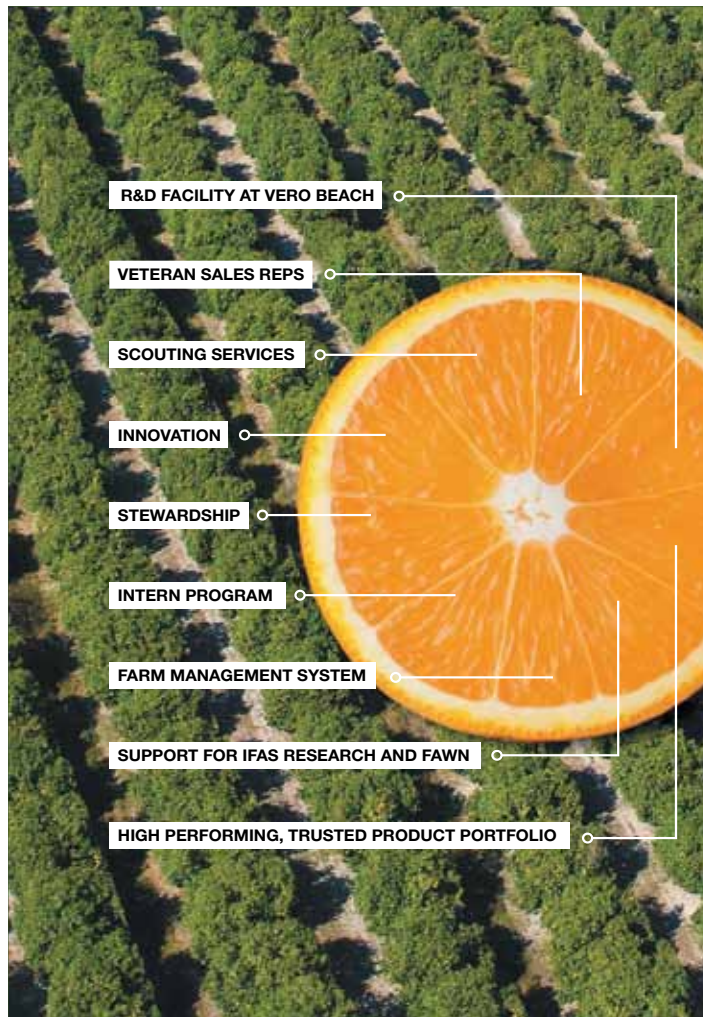
Citrus black spot was found in the Immokalee area in March of 2010, the first time this serious fungal disease had been detected in Florida. A quarantine area has been established since the initial finds and measures have been in effect to contain the disease. These efforts include tarping of harvested fruit loads from the quarantine area to contain leaf litter, and disinfecting trailers and bins at processing plants and packinghouses. Lesions on infected fruit begin to show up as the fruit nears maturity, and field personnel should be trained to recognize the symptoms, which may take several different forms.

Tim Gaver, Ryan Atwood, Gary England, Steve Futch, Tim Hurner, Chris Oswalt and Mongi Zekri are multi-county citrus Extension agents. 🍊



A new Web site (www.chemturaagrosolutions.com) has been launched by Chemtura AgroSolutions. There are several places where viewers can specify their geographic locations and crops in order to view information about products and treatment options to fit their specific growing conditions.

Growth Products, Ltd. recently launched its redesigned Web site (www.growthproducts.com). The site offers more than 100 pages of searchable information. 🍊



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