

# Citrus growers and beekeepers working together

By Michael Rogers

Florida's citrus and beekeeping industries have a long history of working together. For decades, citrus growers have allowed beekeepers to place hives in their groves during citrus bloom. While citrus may not directly benefit from the presence of bees because most citrus varieties are self-pollinating, the resources provided by citrus bloom are very important for beekeepers. Citrus groves serve as an important wintering location for beekeepers to rejuvenate and/or produce new bee colonies, which will later be moved to other areas in Florida and across the country to pollinate other agricultural crops. For beekeepers that produce honey, Florida is a major source of the highly prized orange blossom honey we all enjoy.

Prior to citrus bloom, which generally speaking occurs in late February and extends through March, beekeepers often position their hives either within or adjacent to citrus groves for their bees to forage on the plentiful supply of nectar produced during



Bee foraging on citrus bloom.

citrus flowering. In many cases, a beekeeper makes arrangements with the grove owner to place hives within the grove(s) during the citrus bloom

period. There are instances, however, where hives may be placed in a grove without the knowledge of the grove owner. In some situations, this may be a result of a grove changing ownership, and the beekeeper who has used that location for many years is unaware of the new ownership. There are also instances where bees are placed in or near groves without any previous contact made with the grove owner. In the past, such placement of hives has rarely raised objections from citrus growers so long as the hives do not interfere with the day-to-day grove operations.

This "relaxed" or "informal" cooperation that has existed between citrus grove owners and beekeepers has been "the norm" for decades. However, challenges faced by both the Florida citrus and beekeeping industries require changes to the way things have traditionally been done.

For citrus growers, citrus greening disease (huanglongbing or HLB) has spread throughout the state and continues to take a toll on the citrus crop, resulting in continued decline in fruit yields. Currently, the only effective means available for slowing the spread of greening is through the use of insecticides to manage the Asian citrus psyllid, the insect responsible for the spread of this disease.

Beekeepers face challenges related to declining hive health. Severe

**C**arden  
&  
**A**ssociates, Inc.  
We Keep You Growing

**Citrus Crop Insurance Specialists**

**25+ years experience**

**Florida's largest citrus crop insurance provider**

**Knowledgeable and Professional Service**

**Carden & Associates**  
Toll Free: 888-296-7533  
[info@cardeninsurance.com](mailto:info@cardeninsurance.com) Winter Haven, Florida

declines in managed bee colonies nationwide have been attributed to a combination of factors that may or may not include varroa mites, viruses, bacterial diseases, bee nutrition, bee genetics, foraging habitat and pesticides. Research is ongoing nationally to determine which factor(s), if any just listed, are responsible for the decline in bee colonies currently observed.

### STRAINED RELATIONSHIPS

While bee declines occur throughout the United States, the increased use of insecticides for managing citrus greening disease has been pointed to as a cause for bee declines by some beekeepers. Such claims, sometimes made without adequate communication with citrus growers, have strained some relationships and resulted in reluctance by grove owners to allow placement of hives in their groves. However, many Florida beekeepers have indicated that by staying in contact with the grove owners where hives are placed and moving hive locations when insecticide applications are planned, they have not observed any significant negative effects of citrus pest management programs on the health of their hives. The successful relationships that have been developed between beekeepers and citrus growers demonstrate that the needs of both industries can be met if the effort is made to communicate effectively.

### BRINGING STAKEHOLDERS TOGETHER

In the fall of 2013, a series of meetings was conducted by the Florida Department of Agriculture and Consumer Services (FDACS) to bring together stakeholders from the Florida citrus and beekeeping industries to discuss the challenges faced and how both groups can work together to enhance citrus production and bee health.

The first of three meetings took place September 18, 2013 at the University of Florida's Citrus Research and Education Center in Lake Alfred. The meeting began with a presentation given by Agriculture Commissioner Adam Putnam emphasizing the resilience and value of both industries to Florida agriculture and encouraging the two industries to solve problems together. Putnam's address was followed by brief overviews of the problems faced from the perspective of stakeholders and university researchers. The audience of more than 150 was then divided into groups for further discussion. A moderator from FDACS who was leading each group

**Table 1. Recommendations for citrus growers<sup>1</sup>**

<b>Relationships, Communication and Information Exchange</b>
<ul style="list-style-type: none"> <li>• Consult the FDACS-DPI GIS tool to identify beekeepers in your area.</li> <li>• When allowing apiaries on your grove, develop a formal agreement with the beekeeper detailing the responsibilities and liabilities of each party and strive to include provisions that address:               <ul style="list-style-type: none"> <li>◦ circumstances under which the grower will be free of liability</li> <li>◦ the number of hives</li> <li>◦ how hives will be marked by the beekeeper as required by law and to include any contact information requested by the grower</li> <li>◦ where hives will be placed so that they will not interfere with grove management and to reduce the likelihood of exposure of hives to pesticides</li> <li>◦ the duration of stay for the hives; identify a window during bloom when pesticide exposure is least likely</li> <li>◦ how the grower will provide a list of pesticide products intended to be used while hives are in the grove, upon request</li> <li>◦ how the grower will communicate plans to apply pesticides that may involve relocation of bee hives, upon request</li> <li>◦ identification of temporary holding areas, if available, where hives may be relocated during pesticide applications</li> <li>◦ the beekeeper's liability insurance (\$1 million is common coverage)</li> <li>◦ the best means to quickly contact one another if urgent issues arise.</li> </ul> </li> </ul>
<b>Pesticide Application Practices</b>
<ul style="list-style-type: none"> <li>• Follow the label directions.</li> <li>• Consult the UF-IFAS citrus spray guide for products to use during bloom.</li> <li>• Consult with UF-IFAS Extension experts if there are questions as to interpretation of pollinator protection provisions on labels.</li> <li>• Develop a pest management plan that considers the likelihood of bees foraging during bloom.</li> <li>• Participate in your local CHMA program.</li> </ul>
<p><sup>1</sup> Excerpted from FDACS document, "<b>Recommendations to Improve Beekeeper and Citrus Grower Cooperation and to Enhance Bee Health and Citrus Production.</b>"</p>

recorded the comments and suggestions made. Those comments were then used as a starting point for developing a recommendations document that was discussed in two follow-up public meetings.

As an outcome of these meetings, FDACS has put together a document titled "*Recommendations to Improve Beekeeper and Citrus Grower Cooperation and to Enhance Bee Health and Citrus Production.*" The key recommendations listed for citrus growers and beekeepers are provided in tables 1 and 2. The entire recommendation document can be found on the FDACS website at [www.floridabee.protection.org](http://www.floridabee.protection.org) (Citrus growers and beekeepers should refer to the online document

because these recommendations will likely be updated over time.)

The primary goal of the recommendations is to increase communication between citrus growers and beekeepers with emphasis placed on developing written agreements at the individual grove owner/beekeeper level. Through these agreements, beekeepers will stay up to date regarding planned pesticide applications for the groves in which their bees will be foraging and have sufficient time to move those hives should an insecticide application be needed. Grove owners will also be kept up to date regarding the location of hives in the area and have the information needed to contact the appropriate beekeeper(s) prior to applications

**Table 2. Recommendations for beekeepers<sup>1</sup>**

**Relationships, Communication and Information Exchange**

- Develop and maintain one-on-one communications with citrus growers who have groves in which you would like to work your bees.
- Work with growers to reach written agreements providing permission to place hives in groves and including provisions that address:
  - circumstances under which the grower will be free of liability
  - the number of hives
  - how hives and bee yards will be marked by the beekeeper as required by law and to include any contact information requested by the grower
  - where hives will be placed so that they will not interfere with grove management and to reduce the likelihood of exposure of hives to pesticides
  - the duration of stay for the hives; identify a window during bloom when pesticide exposure is least likely
  - how the grower will provide a list of pesticide products intended to be used while hives are in the grove, if requested
  - how the grower will communicate plans to apply pesticides that may involve relocation of bee hives, if requested
  - identification of temporary holding areas, if available, where hives may be relocated during pesticide applications
  - the beekeeper's liability insurance (\$1 million is common coverage)
  - the best means to quickly contact one another if urgent issues arise.
- Stay in touch with the grower — clear and regular communication is the best way to avoid pesticide problems.
- Beekeepers should advise the grower immediately if they observe bee kills or any unusual bee conditions.
- Do not place bees in citrus without a written agreement to do so from the grower.
- When granted permission to keep hives in a grove, do not “sublet” and allow other beekeepers to bring in their hives.
- Do not assume that because you've worked with a grower before, you can bring your hives in again without written permission.
- Keep the grower informed of hive locations, status and concerns and be willing to remove hives promptly if the need arises.
- Follow regulations to register as a beekeeper with FDACS' Division of Plant Industry (DPI).
- Register hive locations with the FDACS-DPI “Bee Locator” website. Ensure that the information is accurate and kept current. Also, you can use the website to locate citrus and alternative bee forage.
- Contact Citrus Health Management Area captains to request updates on spray schedules and be sure to confirm application schedules with the individual grower/applicator where your bees will be working.
- Communicate with fellow beekeepers working in your area to share information, facilitate communication with grove operators, encourage adoption of recommendations, facilitate movement of hives, and identify holding locations for temporary foraging.
- Be a good partner with growers; be flexible and work to develop a long-standing relationship.
- Reward growers who work with you — consider financial remuneration or in-kind rewards.

**Hive Management**

- Adopt IPM practices to control hive pests and follow pesticide label directions for use.
- Follow management recommendations developed by FDACS-DPI and IFAS.
- Place hives no sooner than abundant early bloom and remove promptly when abundant bloom ends. It is important to avoid periods when grove pest management activities may be required.
- Keep hives ready to relocate quickly and have a plan of how and where to move them.
- Monitor hives frequently to assure bee needs are met.

<sup>1</sup> Excerpted from FDACS document, “**Recommendations to Improve Beekeeper and Citrus Grower Cooperation and to Enhance Bee Health and Citrus Production.**”

or if spray plans change.

While the concept of increased communication between citrus growers and beekeepers may be new for some, there are many cases where beekeepers and growers already have established lines of effective communication and cooperation. To help facilitate such future cooperation, FDACS' Division of Plant Industry has created a "Bee Locator" website; a link can be found on the FDACS website ([www.floridabee.com](http://www.floridabee.com)). For citrus growers, this website can be used to identify the approximate

location of hives within an area and obtain the contact information for the beekeepers owning those hives. If bees are found in the vicinity of a citrus grove, but the owner of those hives cannot be located, citrus growers can contact the FDACS Apiary Inspection Office Headquarters at (352) 395-4636 and request assistance in locating the owner of the hives. If the bees were placed on the property without permission, FDACS can remove those hives, but only at the request of the property owner (or the property owner's agent) where the bees are located.

## VOLUNTARY PROGRAM OFFERS BENEFITS

Similar to the Citrus Health Management Area program for coordinated psyllid sprays, these recommendations are not mandatory, but are guidelines that will provide benefit to those who participate. Development of a written agreement based on these recommendations will provide beekeepers access to citrus groves during bloom while reducing the likelihood that their foraging bees or hives will be exposed to pesticide applications. For citrus growers, entering into such an agreement can reduce liability in the event that a beekeeper experiences hive losses. However, the grower must still follow the pesticide label directions.

Additional information regarding the FDACS recommendations for citrus growers/beekeepers is located at the FDACS website ([www.floridabee.com](http://www.floridabee.com)).

*Michael E. Rogers is a University of Florida-IFAS associate professor of entomology at the Citrus Research and Education Center in Lake Alfred. 🍊*



**Over 30 years in the citrus industry**

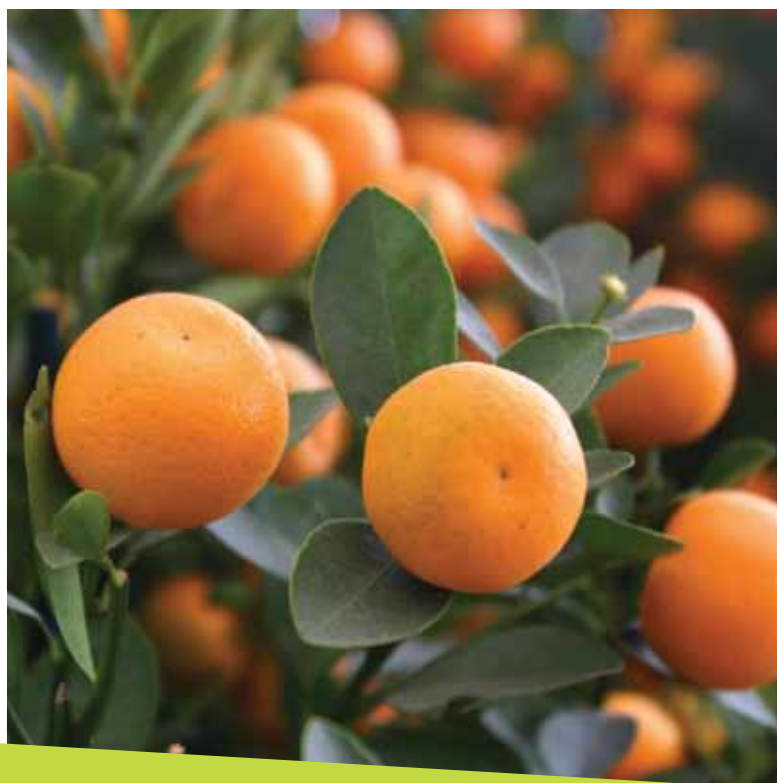
**Brian Bartholomew**

Mobile (863) 990-0800 • Office (239) 368-2128  
P.O. Box 1289 Fort Myers, Florida 33902

## For The Best Crop Start With The Roots

Actinovate® AG is a powerful biofungicide for soil-borne diseases in orange, tangerine, grapefruit and other citrus trees. As a soil treatment, Actinovate® AG colonizes the root system utilizing several anti-fungal modes of action. Actinovate® AG is the perfect tool for resistance management and works effectively as a rotational or tank-mix partner. Actinovate® AG is labeled for *Phytophthora*, *Rhizoctonia*, *Pythium*, *Fusarium* and other diseases.

Contact your distributor today and see what Actinovate® AG can do for your trees.



# Actinovate® AG

Novozymes is the world leader in bioinnovation. Together with customers across a broad array of industries we create tomorrow's industrial biosolutions, improving our customers' business and the use of our planet's resources. Read more at [www.novozymes.com](http://www.novozymes.com).



Actinovate® AG is a registered trademark of Natural Industries, Inc. 2013. All rights reserved.