Coordinated psyllid control more important than ever

By Brandon M. Page and Michael E. Rogers

The Citrus Health Management Area (CHMA) program is entering its fourth year of operation. The goal of the program has been to slow the spread of Huanglongbing (HLB), or citrus greening disease, by controlling the Asian citrus psyllid (ACP). Over the past four years, ACP populations have been consistently reduced, year to year, as a result of the increased efforts by growers to manage ACP. By February 2014, psyllid populations statewide were at their lowest levels since the start of the ACP/CHMA monitoring program.

However, by the bloom period, a rapid increase in psyllid numbers was observed. Most growers would agree that the ACP populations steadily increased following petal fall (Figure 1) with a peak in the populations sometime during July. Such high populations in mid-summer are not typical in Florida and are most likely a result of the growing conditions experienced this season.

Much of the Florida citrus belt has experienced frequent rain events this summer, creating ideal growing conditions. Rainfall can reduce the residual effectiveness of insecticides, even when there is sufficient time for sprays to dry prior to a rain event. In recent studies, researchers have demonstrated that during the rainy season, regardless of the insecticide applied, the true residual control of ACP was reduced when rainfall occurred within 12 hours after the sprays were applied. Under these conditions, only 60 percent of the psyllids were controlled (died) when caged on trees sprayed the previous day. By eight days after application, only 10 percent of the psyllids were controlled by the remaining insecticide residues. Thus, it can be assumed that part of the difficulty in controlling ACP this season was due in part to the reduced residual effects of pesticide applications resulting from frequent rainfall events.

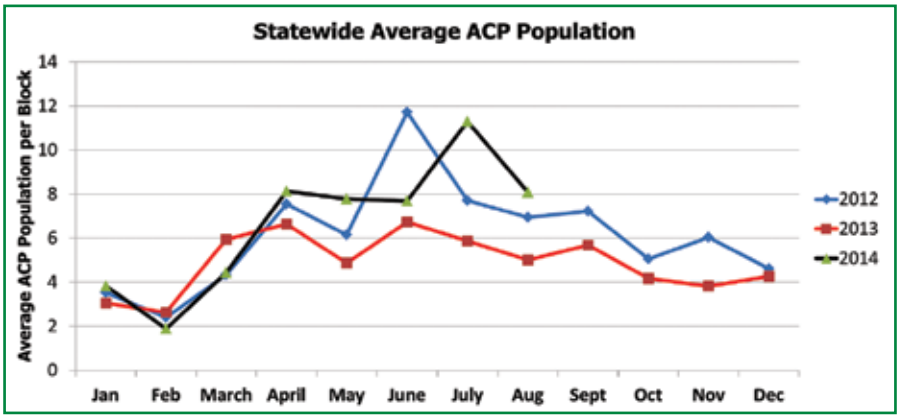

Figure 1. Statewide average ACP populations for 2012, 2013 and 2014.

As a result of the frequent rains, most citrus groves were constantly producing large amounts of leaf flush throughout the summer. The enhanced fertilization programs being used to improve the overall health of diseased trees also likely contributed to the abundance of flush. Such flushing patterns make controlling psyllids more difficult for two reasons: First, when new flush is produced following an insecticide spray, that untreated flush will not be protected and thus will remain suitable for psyllids to feed upon and lay eggs. Second, when new flush is present that is already infested with psyllid eggs and nymphs, spray coverage becomes more important to ensure that the spray contacts all psyllid lifestages. Given that most psyllid eggs and early nymphal stages are hidden within the partially expanded flush, getting even 80 percent control of these "partially protected" pests can be difficult, even with an airblast sprayer which provides the best chance for optimal coverage. Control of psyllid nymphs will usually be even less effective using aerial or low-volume applications due to the reduced coverage provided by these pesticide application methods.

So, with many growers opting to use aerial applications during the summer months, should growers switch to ground sprays during periods of constant flushing? The answer is probably no, particularly if there is a good coordination of sprays taking place in the area. While aerial sprays may not provide the same amount of coverage (compared to ground sprays) needed

An adult psyllid.

to control all psyllid lifestages, the amount of time it would take to treat an area using airblast sprayers makes aerial sprays more likely to be effective in reducing the overall psyllid population during times of constant flushing, at least in large acreage situations. Where smaller isolated acreage is present, ground sprays may be more effective, but this decision is best judged on a case-by-case situation.

Regardless which application method is chosen, the key to maintaining psyllid populations at the lowest level and for the longest duration possible is to coordinate the timing of psyllid sprays with all of the surrounding groves in the area. Coordination works!

ACTIVE CHMAS ARE SUCCESSFUL CHMAS

Although on a statewide basis, the psyllid populations were higher than normal during the summer of 2014, there were plenty of CHMAs that maintained ACP populations far below the state average. For example, the Bereah/South Frostproof CHMA (Figure 2) has continued to keep psyllid populations at very low levels through the continued participation of the majority of growers in this CHMA.

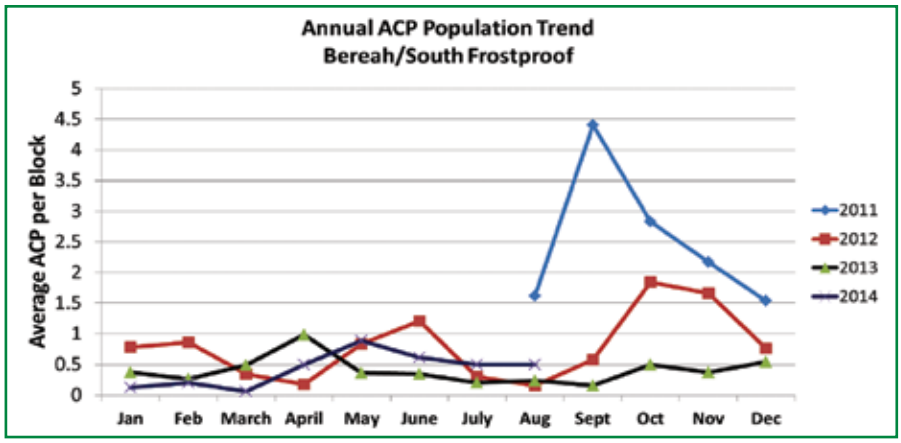

Figure 2. The average ACP population for the Bereah/South Frostproof CHMA for years 2012–2014.

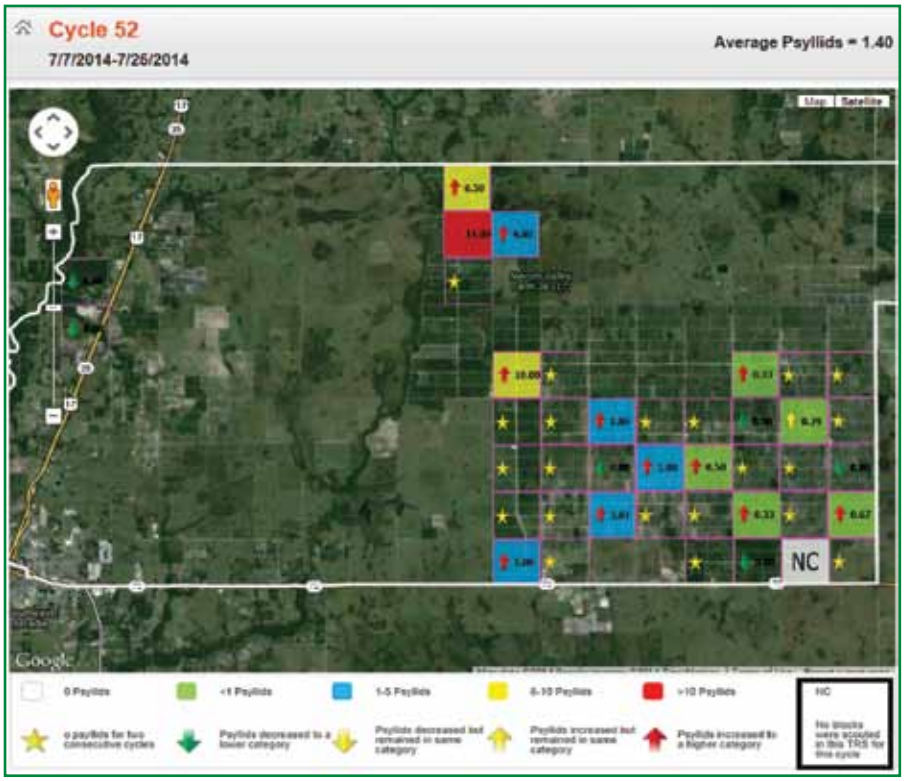

Figure 3. An image from the CHMA Sectional Mapping Program showing the Northeast DeSoto CHMA.

Except for three occasions, the Bereah/South Frostproof CHMA has maintained an average ACP population of less than one ACP per block for more than two years.

Another CHMA that has been successful in maintaining low psyllid populations is the Northeast DeSoto CHMA. Figure 3 shows the psyllid scouting data from this CHMA during Cycle 52 (July 2014) was significantly lower than the statewide average of approximately 10 psyllids per block during this same time period.

While there are variations in success among the 48 CHMAs, those CHMAs which are successful have several things in common: strong grower leadership, effective communication, a grower-developed and agreed-upon spray plan and, most importantly, grower participation in the coordinated sprays!

UPCOMING CHMA ACTIVITIES

The next important coordinated spray that should be planned is the first dormant application. Typically this spray takes place in either November or December. The main objective with this spray is to reduce the ACP population to as low a level as possible, as we move into the overwintering period.

Following the first dormant spray in November is the second dormant spray. This spray is normally conducted in January or the very early part of February. This spray will likely be the last opportunity to control overwintering ACP populations prior to the spring flush, and perhaps more importantly, prior to the bloom period when most of the effective psyllid control products cannot be applied due to pollinator restrictions. It is important to monitor weather and the potential timeframe for bloom if the second dormant spray is

Baythroid XL: new insecticide for psyllid management

Recently, The Florida Department of Agriculture and Consumer Services issued a 24(c) Special local need label for Baythroid XL (SLN No. FL-140009). A pyrethroid insecticide, Baythroid XL (cyfluthrin) has the same mode of action (MOA) — Group 3 — as Danitol 2.4 EC and Mustang Insecticide. Applied at up to 6.4 fl. oz./acre, Baythroid XL has a 0 (zero)-day pre-harvest interval with minimum spray volumes as low as 2 gallons per acre by air or low-volume application. Effective against all lifestages of psyllids, Baythroid XL is another option for growers to utilize in their coordinated spray programs. Please remember to rotate pesticide MOAs with every application. Always read and follow label instructions.

to be applied in mid- to late-February. In the past there have been examples of the CHMAs having to change the scheduled spray date in anticipation of an early bloom.

The petal fall spray in the spring of 2015 will be the next possible coordinated spray following bloom. This spray will be important because ACP populations typically increase rapidly on the new flush produced during the bloom period. As petal fall progresses and 90 percent petal drop is reached — the point when sprays can resume — it is important that growers ensure removal of bees from groves so coordinated sprays can resume. Please maintain communication with beekeepers in and around the groves to ensure no problems arise due to lack of communication!

COORDINATED SPRAYS: MORE IMPORTANT NOW THAN EVER

ACP management is critical for the survival of our industry. The existing bearing trees in the field today are maintaining the industry for now, but the ability to bring new plantings into production will shape the future of the Florida citrus industry. While soil-applied neonicotinoids are crucial for young tree protection from HLB, they cannot prevent HLB 100 percent of the time. Thus, their use is only part of what's needed for success. In addition, the overall psyllid population must be maintained as low as possible in order to maximize the likelihood that the soil-applied systemic insecticides can protect young trees until they reach bearing age. Likewise, throughout the state, it has been noted that the success of growers keeping young tree HLB infection rates low is closely related to the ACP population levels within that CHMA. Therefore, use of soil-applied systemic insecticides and effective coordinated spray programs (CHMAs) are what is needed for ensuring future generations of fruit-bearing trees.

With budgets becoming tighter, coordinated sprays, particularly when aerial or low-volume sprays are used, are a more cost-effective manner for managing psyllid populations. If you have not been involved with your CHMA in the past, it's not too late to start. Visit www.flchma.org for more information on getting involved in your local CHMA.

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CHMA online resources

The CHMA website (www.flchma.org) was created to help aid in communication between growers and to serve as the go-to source of information for the CHMA program. Cumulative results of the statewide scouting program being conducted by the United States Department of Agriculture and the Florida Department of Agriculture and Consumer Services can be accessed via the CHMA website. To access this information, go the CHMA webpage, click on the active CHMA websites, find and click on your CHMA, click on psyllid scouting reports and click on the "block specific spreadsheet" link. This will open a Microsoft Excel document with all the data for every scouted block since August 2011. Show your "location ID number" to reference the scouting results from a specific block. The scouting spreadsheet data shows total number of Asian citrus psyllids found for each block during each scouting cycle. The scouting results are the product of tap sampling the selected blocks. Each block is tap sampled 50 times — 10 samples on each corner of the block (northeast, northwest, southeast and southwest for a total of 40 samples) and 10 samples in the middle of the block. If you have questions about the scouting program and/or the results, contact your local Citrus Health Response Program office.