

Citrus Health Management Areas (CHMA's): Developing a psyllid management plan

Michael E. Rogers, Philip A. Stansly and Lukasz L. Stelinski

Effective control of the Asian citrus psyllid (*Diaphorina citri* Kuwayama) is an important component of Huanglongbing (HLB) management programs. Over the past several years, experience in Florida has shown that the most efficient way to control psyllids is for citrus growers to work together on an area-wide basis. The need for area-wide control of psyllids is due to the dispersal behavior of this pest which has been shown to move repeatedly between commercial citrus groves. When differences in timing of psyllid control programs exist within an area, the back and forth movement of psyllids could result in rapid re-infestations, despite the repeated attempts of individual growers to maintain psyllid populations at low levels.

Successful psyllid management is a team effort with all citrus growers as participants.

Establishment of Citrus Health Management Areas (CHMAs) has been proposed as an important strategy for reducing the spread of HLB. The primary goal of the formation of CHMAs is to coordinate psyllid control efforts to reduce the effect of psyllid movement between commercial citrus operations and thus reduce the need for repeated back-to-back insecticides applications for maintaining psyllid populations at low levels. Due to the limited number of pesticide modes of action available for controlling psyllids, CHMAs could also serve an important function in slowing pesticide resistance development in psyllid populations by coordinating applications of pesticides with similar modes of action.

Below, an example template (Table 1) is provided to aid in the development of a CHMA psyllid control program. Two key time slots and two more possible time slots are identified where grower coordination of psyllid control efforts are likely to be most effective in reducing overall psyllid populations. The first coordinated spray identified is during the month of November, just after the fall flush period has ended. Use of an organophosphate insecticide is recommended which would be appropriate for growers who do not plan on harvesting fruit during this time of the year. Blocks that will be harvested within 7 days of the coordinated spray could be treated with a pyrethroid. The next coordinated spray in January would be made in

those blocks with an OP while the rest of the area would be rotated to a pyrethroid. For any additional coordinated sprays conducted, growers are encouraged to rotate between these two pesticide modes of action. Use of organophosphate and pyrethroid insecticides for coordinated sprays is suggested because of 1) their general effectiveness in controlling all life stages of psyllids present when applications are made 2) there are multiple product choices within each mode of action and 3) these products can be applied using various application methods. As a result, these products provide flexibility to growers with different financial constraints making widespread participation in the program more likely to occur. Between the two optimal and two additional times identified for coordinated sprays, guidance is given for selecting additional products for psyllid control where growers choose to incorporate additional products into their overall psyllid management program.

The purpose of this example template is to help guide growers in the development of a psyllid control plan for their CHMA. This template is intended to provide suggestions that growers can take into consideration. Ultimately, **growers must decide how many sprays they can realistically coordinate in their CHMA and the timing of those applications.** These decisions can be complicated by a number of factors that vary by region including citrus variety and harvest date, fresh fruit for export versus juice fruit, and other ongoing cultural practices.

In Table 2, additional information is provided for all insecticides that might be incorporated into a psyllid management program. Insecticides are grouped by chemical class (or mode of action) to aid in the rotation of products with different modes of action, the recommended rates of product that should be applied, the appropriate application methods for each product that have been demonstrated to be efficacious, restricted entry intervals (REIs) and pre-harvest intervals (PHIs), and additional comments for most effective use of a product.