Florida Citrus Industry Research Coordinating Council

Imidacloprid & Thiamethoxam: Need for Label with Higher Rates of AI

Position Statement

Situation

Florida citrus growers are threatened with complete destruction of their industry by the systemic bacterial disease known as Huanglongbing (HLB) or more commonly called "greening". This disease has been found in every citrus producing county in the state, and many growers are removing infected trees to destroy the innoculum. Greening is transmitted by an insect vector, Asian citrus psyllid (*Diaphorrna citri*). Since there in no known cure for the bacteria, current management strategies call for intense psyllid management and removal of infected trees. This document addresses the area of vector management, specifically via the application of soil applied systemic insecticides. For the short term, psyllid control and the removal of inoculum is the most productive strategy growers have to slow down the spread of greening. Research has shown that it is relatively easy to kill psyllids, but impossible to eradicate them. The tiny insect feeds on tender new growth and are vulnerable to a variety of insecticides, be they foliar or systemic.

Growers must slow down the impact of the disease by controlling psyllids until scientists find more effective methods to deal with greening. Most feel the ultimate solution will be through the development of tolerant trees, but it takes time to develop and implement plants that can resist or tolerate the greening bacteria.

Short Term Strategy

If growers feel they can grow a young tree in the presence of the psyllid, and then have the ability to keep the tree productive for a period of time that will allow

them to be profitable, the citrus industry will have a means to survive until a long term solution is found. Many feel it is critical to be able to grow young trees into a productive grove. It appears that the chemical, imidacloprid/thiamethoxam, offers an excellent opportunity to keep young trees free from psyllids for several years. The key to this systemic material being effective is the amount that can be taken into the tree. Evidence shows that adequate levels of imidacloprid/thiamethoxam in the tree keep the psyllid from feeding and thus transmitting the disease. Using this systemic product in older trees will enhance the psyllid control, thus extending the time before infection occurs. The longer a tree remains productive the more likely a grower can survive economically. If growers can produce fruit, the processors and packers can then stay in business as well.

Current labeled rates for imidacloprid/thiamethoxam in Florida make it impossible to maintain adequate levels in trees until they are productive. This is especially true in higher density plantings where the number of trees per acre is in excess of 200. The South Africans are allowed to apply three (3) times the amount of imidacloprid/thiamethoxam per acre than a Florida grower. They have been able to maintain excellent psyllid control with two treatments per year and allowed to market their fruit in Europe and the US! If the Florida grower was able to used increased rates of imidacloprid/thiamethoxam per acre, it is hoped they could significantly improve psyllid control and while reducing foliar applications of traditional broad spectrum pesticides to control the vector. Trunk applications would be directly applied to the tree, therefore the chemical would not be on the soil surface, thus greatly reducing ground water issues. Careful placement of soil applied materials can be extremely effective as well.

Current Research in Florida

Scientists with the University of Florida have been conducting studies with imidacloprid/thiamethoxam; recently they have looked closely at the trunk applied method of application. The research is in the early stages, applications have been made and data collected. It is too early to reach any conclusions. Thus far the research is “promising”. Florida scientists are working closely with their

colleagues in South Africa. In the near future a better idea will be obtained relative to efficacy, phytoxicity, environmental issues, rates, etc. in Florida.

It should be noted that Bayer Crop Science (imidacloprid) and Syngenta Crop Protection (thiamethoxam) have expressed an interest in discussing a label change if the research work will support an increased rate of imidacloprid/thiamethoxam.

Actions Needed

Research needs to continue as quickly as possible to obtain answers regarding rates, level of control, application techniques, residue levels, worker exposure and environmental issues.

A preliminary study group, within the industry, needs to be assembled to determine how to best move this effort forward. Not only do growers and researchers need to be involved, but so does the Citrus R&D Foundation as they will need to be the organization to sponsor the effort to obtain a 24(c) label if this seems possible. It would be advisable to have representation from the FCPRAC and well as someone with FFVA familiar with the label registration process as well as issues that may be of concern to EPA.

As the process moves forward, the study group may need to expand into an action committee which would involve regulatory, IR-4, and the chemical manufacturers.

Review and Summary

The Florida citrus grower is literally fighting to survive. Greening is being spread from tree to tree and grove to grove by the Asian citrus psyllid. The primary short term management plan is to control this vector to the point that young trees can be grown into a productive and economically viable grove. It is absolutely critical that growers find a way to plant trees today with a high degree of confidence they can produce economic crops within a few years. Many feel that by having the ability to inject as well apply to the soil, the systemic pesticides, imidacloprid and

thiamethoxam, at adequate rates to control psyllids; will give the citrus industry enough time to find long term solutions to greening.

Time is not on the side of the grower, the following actions must be taken immediately

- Form a preliminary imidacloprid/thiamethoxam study group to develop a plan to explore the feasibility of using this product up to 3X the current rate of AI per acre.
- Solicit input from all sources that can provide assistance. Look at work in South Africa and residue issues within countries that import citrus produced with elevated rates of imidacloprid/thiamethoxam.
- Support research needed to determine impact of higher rates on psyllid control and explore environmental concerns.
- If the evidence indicates the need to move forward with an effort to obtain a 24(c) label at the 3X rate, then expand the study group to an action committee and move forward as quickly as possible.

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