EXTENSION CONNECTION

By Ajia Paolillo

Photo by Chris Oswalt, UF/IFAS

Scarlet morning glory is an annual vine that can be problematic in citrus groves.

Vine management in citrus groves

Weed management is essential for maintaining a healthy citrus grove. Weeds contribute to tree stress by competing with citrus trees for water, nutrients and light.

There are three types of weeds found in citrus groves: grass, broadleaf and sedge. Vines are broadleaf weeds, which require some different tactics for effective control. Most weeds grow well in areas with high amounts of sunlight. Therefore, higher populations of weeds are seen in rows around younger trees than older trees.

Vines are different, as they can germinate and grow in areas of low light. As they grow, they climb up into the canopies of citrus trees, using their stems or tendrils to wrap around branches to reach areas of sunlight. Once the vine is established in the tree canopy, it thrives in the sunlight and produces seed for reproduction.

VARIETY IDENTIFICATION

Depending on the variety of the vine, seeds can be dispersed by wind, animals, equipment and by simply falling to the ground. To determine the most effective control measures, proper identification of the vine variety is required. The physical characteristics of vines (such as stems, leaves, seed structures and their life cycle) are used to identify the variety.

Some varieties are annuals, which means they live for a year or one full growing season. Other vines are perennials, meaning they can live for more than two years. Some of the most common vines found in citrus groves are Virginia creeper, balsam apple vine, milkweed vine, morning glory and air potato.

CONTROL METHODS

Vines can completely take over a tree and reduce photosynthesis by shading out the leaves. Overgrowth of vines in the tree canopy can hinder harvesting operations because the fruit is difficult to locate and reach.

Methods used for vine control are prevention and the use of herbicides. Mechanical control through tillage is no longer widely used, because it damages the fibrous citrus roots that are close to the surface and can cause erosion to raised beds. Prevention is the best way to manage vines in the grove.

Locating problem areas in and along the perimeter of the grove will aid in vine control. Scouting and spot spraying of small seedlings and manual removal of large vines will help prevent growth and spread to other areas of the grove.

Chemical control can be achieved through pre- and post-emergent herbicides. Pre-emergent herbicides are used to prevent seed germination, while post-emergent herbicides are used to kill the seedling and later stages of the vine. However, once the vine becomes established in the tree canopy, chemical control becomes more difficult.

Post-emergent herbicides cannot provide adequate coverage of the foliage to kill the vine.

When vines do get into the tree, the best way to manage them is by manually removing the vine from the canopy. Once the vine is on the ground, pull out the roots or apply a post-emergent herbicide to kill the plant.

Good vine management is important to prevent the vine from producing seeds. Once seeds are dispersed, a seed bank is created in the soil, leading to volunteers and increased populations next season. It can be useful to combine both pre- and post-emergent herbicides in one application to control both seed and seedling stages.

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Growers must decide which management options work best in their grove. Management decisions are based on cost, season, growth stage and region. Complete removal of vines is not easily achieved, and vine populations should be kept low enough to avoid economic damage.

If chemical controls are chosen, remember to always read and follow the herbicide label. The label is the law. Some chemicals have regional restrictions that must be followed to prevent groundwater contamination.

More information on chemical controls used for vines in Florida groves can be found at crec.ifas.ufl.edu/resources/production-guide in the 2020–21 Florida Citrus Production Guide.

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An Optimistic Outlook

By Rick Dantzler, CRDF chief operating officer

Occasionally I use this column to highlight what specific growers are doing to produce citrus successfully in the HLB era. I haven't found a grower yet who isn't willing to share all he or she knows to help fellow growers, and so it is with Larry Black, general manager of Peace River Citrus. Based in Ft. Meade, this family-owned, fully integrated citrus services company is active in grove care, harvesting, fresh fruit packing and processed fruit sales on more than 3,200 acres.

"Are you bullish on the industry?" I asked Black.

"Absolutely," he replied without hesitation. "We are planting new acreage every year and rehabilitating low-producing groves using the latest technologies. We are big believers in high-density planting — 303 trees per acre in most cases. Building a new grove is so expensive you must get early yields to offset capital costs.

"Everything is grove specific. We take annual soil and leaf tests in each block, and test sentinel blocks quarterly. These test results then drive our nutrition program, which is a hybrid of conventional, controlled-release and liquid fertilizer.

"We've had the most success with Valencia but are impressed with Valquarius. We have 60 acres and plan to expand. The HLB tolerance appears similar to Valencia, and we begin harvesting in January, so it extends the Valencia harvest window."

Black leaves the Citrus Research and Development Foundation (CRDF) board this month, term-limited out after nine years, including two as president. "I have really enjoyed my time on the CRDF board, especially working with industry greats like Hugh Thompson, Tom Jerkins, Bobby Barben, John Updike, Joe Davis Jr., and the list goes on and on," he said. "I've gotten more out of CRDF than the time I've invested in it.

"Research is just so critically important. We must support the research efforts of our land-grant universities and the USDA."

"What will the industry look like in 20 years?" I asked.

"Acreage will have rebounded," Black answered. "With our unique location, which allows us to grow high-quality fruit and a lot of it, and our proximity to the brands' processing plants, the industry will recover."

"And what about HLB?" I inquired.

"I like the term I've heard you use: functionally irrelevant," Black replied. "That's what I think it will be. Better plant material, superior nutrition and other therapies will have allowed us to move on to other challenges."

Black's optimism comes through in everything he says: "This is such an exciting time in the industry, a great time of innovation. New varieties, CUPS … I'm so glad to be a part of it."

And a part of it he is. A fifth-generation grower currently serving on the boards of Florida's Natural Growers, Florida Citrus Mutual and Polk County Farm Bureau, Black gives freely of his time. "We have a relatively small industry, so we have to step up and work together," he concluded.

Author's Note: The CRDF thanks Larry for his steady hand of leadership during his time on the board.

CRDF Grower Dollars at work for you

Column sponsored by the Citrus Research and Development Foundation