

Citrus Canker and Black Spot After Hurricane Ian

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The story of citrus canker in Florida is unfortunately linked to hurricanes. As industry members remember, canker spreads far and wide with the aid of the storms. Not only can the heavy rains and high winds move the bacterium among locations, but the winds cause wounds in the canopy. Ragged leaves, scoring of leaf surfaces, thorn scratches on branches and more have been reported. Under normal conditions, the bacteria (*Xanthomonas citri* subsp. *citri*) ooze out of active lesions and are picked up by the wind-driven rain. Entry into young leaves, fruit, and stems through natural openings is aided by windspeeds greater than 18 mph. During Hurricane Ian, the conditions were perfect with the summer flush just hardening, warm weather, high winds, and heavy rainfall. Tissues that might not have been vulnerable were wounded, allowing the bacterium in more easily.

Fresh fruit producers had probably already a protective copper coating on their fruit but with the high winds of a hurricane, the bacteria can be forced into the fruit without being affected by copper. Fortunately, most cultivars, except grapefruit, have reached a developmental stage where they are immune to canker. The badly affected leaves from this season will likely drop in the spring and the trees will produce new flush. If you are very worried about defoliation from canker, a copper application may be worth the effort but not in processing fruit blocks. However, stem lesions will be forming, and they are the source of much of the bacteria responsible for early

season infections. This is particularly worrisome for young trees where stem lesions could cause infections for the following four years, contributing to high rates of fruit drop.

To keep stem lesions and leaf lesions as low as possible in young trees, consider a Blockade program (see Florida Citrus Production Guide for details) starting in early spring, prior to the first infection periods. Blockade is a plant immune system stimulator, so it needs to be applied prior to infection for the best results. We have had good canker suppression in our small tree trials with this product. Currently, we are predicted to have another La Niña winter and spring that is warm and dry. While this is good news for suppressing canker overall, it only takes one poorly timed rain to start an infection.

In Southwest Florida, citrus black spot was detected in many new groves after Hurricane Irma. What is not clear is whether the spread was due to the Hurricane Irma, at least in part, or to other factors. CHRP officials will be looking at the path of Hurricane Ian to consider the risks posed by this storm to DeSoto and southwestern Highlands Counties. Growers should continue to be vigilant in these areas for symptoms of citrus black spot in case there is long distance spread from the storm. Please contact your UF/IFAS Extension agent or citrus disease specialist for more information if desired.

Canker stem lesions are the primary source of inoculum in the early spring.

