

2011 Florida Citrus Pest Management Guide: Blight¹

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Citrus blight is a wilt and decline disease of citrus whose cause has not been determined. The first symptoms are usually a mild wilt and grayish cast to the foliage, often accompanied by zinc deficiency symptoms. Trees rapidly decline with extensive twig dieback, off-season flowering, and small fruit. Blight trees reach a stage of chronic decline, but seldom die. The disease affects only bearing trees and usually first appears when the grove is 6-8 years old. The first affected trees in a grove are usually randomly distributed, but groups of blighted trees may eventually occur, either as clusters or down the row. The disease has been transmitted by root grafts, but not by limb grafts or with budwood. The means of spread, other than by root grafts, is not known.

Blight symptoms can be confused with other decline diseases and accurate diagnosis is important in order to follow proper practices. Citrus blight is characterized by: 1) high Zn content in trunk bark and wood, 2) presence of amorphous plugs in the xylem, 3) failure to absorb water injected into the trunk, and 4) presence of blight-associated proteins in roots and leaves. The best procedure for diagnosis of individual trees in the field is to test water uptake into the trunk

using a battery-powered drill and a plastic syringe without a needle. Healthy trees or trees declining from Phytophthora root rot, nematodes, water damage, or tristeza will usually take up about 10 ml of water in 30 sec. Trees affected by citrus blight take up no water regardless of the amount of pressure applied. A serological test is available which is accurate and, with proper equipment, many samples can be processed in a short time. For confirmation of blight using the serological test, small numbers of samples of mature leaves may be collected and sent to the diagnostic lab at SWFREC, Immokalee (<http://www.imok.ufl.edu/>).

All scion varieties of citrus, as well as ungrafted seedlings, may be affected by citrus blight. Trees on all rootstocks are susceptible, but significant differences between stocks exist. The rootstocks that are the most severely affected by blight are rough lemon, Rangpur lime, trifoliolate orange, Carrizo citrange, and some others. Those most tolerant to blight are sweet orange, sour orange, and Cleopatra mandarin. Swingle citrumelo was listed as tolerant; however, there appears to be an increase in blight incidence on that rootstock. Sweet orange and sour

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orange are not recommended because of problems with *Phytophthora* root rot and tristeza, respectively.

Recommended Practices

There is no known cure for citrus blight. Once trees begin to decline, they never recover. Severe pruning of blighted trees will result in temporary vegetative recovery, but trees decline again once they come back into production. The only procedures recommended are:

1. Remove trees promptly once yield of affected trees has declined to uneconomic levels.
2. Plant or replace trees with trees on rootstocks such as Cleopatra mandarin or Swingle citrumelo that do not develop blight at an early age.
3. Plant trees on vigorous, productive rootstocks such as Carrizo citrange or rough lemon which develop blight at an early age and replace trees that decline as soon as they become unproductive. Production can be maintained at relatively high levels in spite of blight with these stocks.