

# LOUISIANA PLANT PATHOLOGY

DISEASE IDENTIFICATION AND MANAGEMENT SERIES

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## Citrus Scab

*Elsinoë fawcettii* Bitancourt and Jenkins

Two scab diseases routinely affect citrus in Louisiana. **Citrus scab** (also called common citrus scab or sour orange scab) is caused by the fungus *Elsinoë fawcettii* and has been present in the state for many years. In contrast, **sweet orange scab**, which is caused by the closely related fungus *Elsinoë australis*, was identified in Louisiana and Texas for the first time during the summer of 2010.

Since the initial reports, sweet orange scab has been found to be widespread throughout the citrus-producing regions of Louisiana and Texas – suggesting it has been present for a number of years. In the case of both diseases, symptoms on the fruit are largely cosmetic, but disease presence reduces marketability as fresh fruit.

## Sweet Orange Scab

*Elsinoë australis* Bitancourt and Jenkins

Sweet orange scab differs from citrus scab primarily with respect to host range. **Citrus scab** rarely occurs on sweet oranges or limes and occurs primarily on sour orange (used primarily as rootstocks), grapefruit, lemons, mandarins, satsumas, tangerines and tangerine hybrids. In contrast, **sweet orange scab** occurs on sweet oranges, limes, lemons, mandarins, satsumas, kumquat, grapefruit, tangerines and tangerine hybrids.

Symptoms of these two diseases will vary with citrus variety and the age at which the fruit are affected. **Citrus scab** causes irregularly shaped, raised pustules that become warty, cracked and deeply fissured with age. These change from pink to light brown when young



Citrus scab caused by *Elsinoë fawcettii*



to yellowish brown and eventually dark gray as they age. The pustules tend to be more raised on lemons and mandarins and flatter on grapefruit and sweet oranges, but, in general, the pustules tend to be more raised the younger the fruit is when it's affected. Pustules due to **sweet orange scab** tend to be more circular, smoother and flatter than those caused by citrus scab, and sweet orange scab pustules give the fruit a corky or scurfy appearance.

**Citrus scab** attacks leaves and twigs more commonly than **sweet orange scab**. Scab lesions usually are found on the undersides of the leaves near the midvein or the leaf margin. Lesions that form on young leaves tend to be raised with a depression on the underside of the leaf, while those that form on older leaves usually are flatter. Small, scabby lesions also can be found on young twigs and stems.

Both citrus and sweet orange scabs require moist conditions to reproduce and are spread primarily by splashing water. In some cases, however, the spores may be windborne, especially in wind-driven rain. The patho-

gens also may be spread with infected fruit and leaves.

The pathogen survives between crops in pustules on infected leaves, twigs and fruit left on the tree. Disease develops over a range of temperatures as long as there is sufficient moisture, and disease can develop quite rapidly (in less than four hours) under optimum conditions (68-75 F for **citrus scab** and 75-80 F for **sweet orange scab**).

Both citrus and sweet orange scabs can be controlled with a series of well-timed fungicide applications since the fruit are only susceptible for the first six to eight weeks of its development. The first fungicide application should be made prior to bloom to protect the foliage of the spring growth flush. Applications to protect the developing fruit should be made at petal fall and three to four weeks later. Several fungicides are available to commercial growers for scab control (See the LSU AgCenter's Louisiana Plant Disease Management Guide.), but only copper-based fungicides are readily available for use on residential citrus. These copper-based fungicides should not be applied during bloom.



Sweet orange scab caused by *Elsinoë australis*.

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