# UF IFAS Extension Huanglongbing (HLB; citrus greening) Leaf and Fruit Symptom Identification

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#### **HLB FACTS**

- Official name is Huanglongbing (HLB); commonly known as citrus greening
- Bacterial disease
- Leaf and fruit symptoms are the outer expression of vascular damage inside the plant
- Spreads via insect vector or grafting
- All citrus varieties are susceptible

## **COMMON LEAF SYMPTOMS**

- Blotchy mottle pattern (no symmetry across the midvein) will be on upper and lower sides of the leaf
- Vein corking
- Yellow veins (other citrus diseases and tree damage also produce yellow veins)
- Symptoms can vary in intensity (see other side)

#### **COMMON FRUIT SYMPTOMS**

- EXTERNAL: lopsided, small or reduced fruit size, misshapen, color inversion (fruit colors opposite of healthy fruit; infected fruit begins to color from calyx button [where fruit is attached to stem]); whereas, healthy fruit begins to color from stem end (bottom of fruit)
- INTERNAL: aborted seeds (seeds not fully developed), curved central core, prominent yellow stain beneath the calyx button

### ALL OF THE SYMPTOMS OF HLB DO NOT HAVE TO BE PRESENT TO DIAGNOSE AN INFECTED TREE.









Blotchy mottle and yellow veins



**Blotchy mottle** 



**Blotchy mottle** 



Vein corking





Lopsided fruit (left side is larger than right), aborted seeds

Lopsided fruit (right side is larger than left). aborted seeds, and yellow staining beneath calyx button



Lopsided fruit



**Color** inversion

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**PP327** 



**Blotchy mottle** 

**Blotchy mottle** 



**Blotchy mottle** 



**Blotchy mottle** 



**Blotchy mottle and vein corking** 



**Blotchy mottle** 



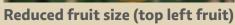
**Blotchy mottle** 



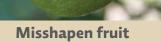
**Blotchy mottle** 



**Lopsided fruit** 







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