



## DISEASE MANAGEMENT: Tomato Little Leaf



### SIGNS & SYMPTOMS:

- Interveinal chlorosis seen on young leaves.
- Leaves along midrib do not expand properly.
- Flattened fruit with radial cracks from calyx to the blossom scar.
- Almost no seed set in affected fruit.
- Blooms fail to set in more severely affected plant.

### DISEASE CYCLE & EPIDEMIOLOGY:

- The causative agent is unknown, but symptoms are similar to frenching of tobacco where, under certain conditions, a nonparasitic soil microorganism disturbs the protein metabolism of the plant.
- Little Leaf (frenching) in tobacco is favored by moderate temperatures (70-95°F).
- Symptoms are more severe on neutral or alkaline soils, rarely in soil with a pH of 6.3 or less.
- Symptoms are more prevalent in wet areas.
- The problem does not carryover, and drying the field will result in normal growth of the plant.

### FIELD SIGNATURE:

- Plants with improperly developed leaves will be found in wet parts of the field, and may be adjacent to normal plants.
- Leaf veins are dark green.
- Fruit is distorted and cracked.
- Later symptoms can be confused with cucumber mosaic virus.

### PHOTOS:

**Figure 1.** Early foliar symptoms of Little Leaf. Photograph by: Steve Olson.

**Figure 2.** More severe Little Leaf plant symptoms. Photograph by: Steve Olson.

**Figure 3.** Fruit symptoms from Little Leaf. Photograph by: Steve Olson.

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### CULTURAL CONTROLS:

- Dry out wet areas of the field.
- Reduce soil pH to 6.3 or less or use ammonium sulfate as the nitrogen source to lower pH around the roots.
- Because the causative agent has not been defined, there are no suggestions for radical changes in tomato culture for disease avoidance.

### CHEMICAL CONTROL:

none

### RESISTANCE MANAGEMENT:

none



**Figure 4.** Severe foliar damage due to Little Leaf.  
Photograph by: Steve Olson.



**Figure 5.** Affected plant next to normal plant.  
Photograph by: Steve Olson.

### RESISTANT CULTIVARS:

- No known resistance to Little Leaf is currently available in commercial cultivars.

### CONTACT INFORMATION:

Dr. Stephen M. Olson  
Horticultural Sciences Dept.  
UF/IFAS NFREC  
155 Research Road  
Quincy, FL 32351-5677  
smolson@ufl.edu  
850-875-714

### References:

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