

COMMON TOMATO DISEASES in Kentucky Gardens

Blossom End Rot



Blossom End Rot
*Photograph courtesy of
 University of Kentucky IPM Team*

Blossom End Rot (*environmental*) - It is a physiological disorder (non-parasitic disease). Black or brown leathery decay is found on the blossom end of fruit and is practically worthless. Blossom end rot is a deficiency of calcium usually brought on by moisture stress even though there is enough calcium in the soil. Mulch plants to conserve moisture; avoid deep cultivation and pruning of the roots. Irrigate plants to maintain uniform soil moisture levels as needed. Lime soil as needed according to soil test results.

Early Blight *Alternaria solani*



Early blight on tomato foliage
*Photograph courtesy of
 University of Kentucky
 IPM Team*



Severe early blight on tomato fruit
*Photograph courtesy of
 University of Kentucky
 IPM Team*



Severe early blight on
 tomato plant
*Photograph courtesy of
 University of Kentucky
 IPM Team*

Early Blight (*fungus*) - Leaves have dark brown spots with concentric rings or target board pattern in the spots; disease begins on lower foliage and works up with severely affected leaves shriveling and dying; similar spots can occur on stems and fruits; can be confused with other leaf spots, but this is most common. Maintain proper fertility. Spray foliage with fungicide at first sign of disease and as needed (weekly during hot, humid weather) thereafter; use chlorothalonil, mancozeb or fixed copper. Good coverage is needed. Make second planting in midsummer for fall crop. A few early blight tolerant varieties are now available.



Bacterial Spot

Xanthomonas campestris pv. *vesicatoria*



Bacterial spot on foliage
*Photograph courtesy of
University of Kentucky
IPM Team*



Bacterial Spot on fruit
*Photograph courtesy of Kenneth
Seebold, University of Kentucky*



Bacterial spot on foliage
*Photograph courtesy of
University of Kentucky
IPM Team*

Bacterial Spot (*bacteria*) - Begins as small, dark, water-soaked areas which become dark brown and slightly raised on the underside of the leaf. Spots often enlarge, and may be either dark colored or have tan colored centers with dark margins. The size and shape of leaf spots may vary under different conditions. Leaves with too many spots promptly turn yellow and drop, defoliating the plants. Fruit blemishes begin as small, water-soaked spots which enlarge, becoming blister-like, rough, and warty. The spots are brown and seldom exceed 1/4 inch in diameter. Often the disease extends into the seed cavity. Use certified, disease-free transplants. Rotate with unrelated crops from one year to another. Only handle plants when they are dry to avoid spreading the bacteria. Spray foliage with fixed copper at first sign of disease.

Septoria Leaf Spot

Septoria lycopersici

Septoria Leaf Spot (*fungus*) - Small, brown, circular spots form on leaves, usually first observed in lower foliage. Similar to early blight, but often develops earlier in the season. Circular lesions with darkened borders and tan-brown centers are characteristic of this disease. Spots can be numerous under favorable conditions, resulting in severe blighting. **See “Early Blight”** for management considerations.



Septoria leaf spot on tomato
*Photograph courtesy of University of Kentucky
IPM Team*

Late Blight

Phytophthora infestans



Late blight on tomato
*Photograph courtesy of
John Hartman
University of Kentucky*



Symptoms of late blight
*Photograph courtesy of Kenneth Seebold,
University of Kentucky*

Late Blight (*fungus*) - Nationally, the potential for late blight has increased greatly, but this disease is relatively rare in Kentucky. Dead areas on leaves, brown or dark purple color, variable in size with white or gray moldy growth on leaf undersides during cool, moist weather; fruits may develop dark brown or greenish blemishes, usually on stem and during cool, moist weather. **See “Tomato Early Blight”** for fungicides. Use disease-free transplants.

Powdery Mildew

Leveillula taurica

Powdery Mildew (*fungus*) - Powdery mildew is found mainly on tomatoes grown in greenhouses and high tunnels, but can be found on field-grown tomatoes during dry summers. The disease is characterized by a white, talc-like growth on upper and lower leaf surfaces. Over time, necrotic areas will form, resulting in blighting of affected leaves. Stems may be infected in severe outbreaks. Management includes proper plant spacing, adequate ventilation in greenhouses, and fungicide applications.



Powdery mildew on tomato foliage
*Photograph courtesy of University of Kentucky
IPM Team*

Additional Resources

The University of Kentucky publications listed below are available at County Extension offices, as well as on the Internet.

Home Vegetable Gardening in Kentucky,
ID-128 (2011)

[http://www.ca.uky.edu/agc/pubs/id/id128/
id128.pdf](http://www.ca.uky.edu/agc/pubs/id/id128/id128.pdf)

IPM Scouting Guide for Common Pests
of Solanaceous Crops in Kentucky, ID-172
(2008)

[http://www.ca.uky.edu/agc/pubs/id/id172/
id172.pdf](http://www.ca.uky.edu/agc/pubs/id/id172/id172.pdf)

Recognizing Late Blight on Tomato
Seedlings, PPFS-VG-14 (2011)

[http://www.ca.uky.edu/agcollege/
plantpathology/ext_files/PPFShtml/PPFSVG-
14.pdf](http://www.ca.uky.edu/agcollege/plantpathology/ext_files/PPFShtml/PPFSVG-14.pdf)

Late Blight of Tomato
PPFS-VG-13 (2011)

[http://www.ca.uky.edu/agcollege/
plantpathology/ext_files/PPFShtml/PPFSVG-
13.pdf](http://www.ca.uky.edu/agcollege/plantpathology/ext_files/PPFShtml/PPFSVG-13.pdf)

The information in this publication is adapted from *Home Vegetable Gardening in Kentucky* (ID-128), Dr. Richard Durham, Department of Horticulture, Editor, and *An IPM Scouting Guide for Common Pests of Solanaceous Crops in Kentucky* (ID-172), Dr. Timothy Coolong, Department of Horticulture, Editor, from the University of Kentucky Cooperative Extension Service.