

ALTERNARIA LEAF BLIGHT

Alternaria leaf blight, caused by the fungus *Alternaria cucumerina*, is a foliar disease that occurs on all cucurbits, but main hosts are cantaloupe and watermelon. Foliar defoliation, caused by this disease, may result in reduction in yield and quality. Alternaria leaf blight occurs worldwide. In Illinois, this disease develops after wet conditions.

Symptoms

Plants usually develop circular spots on the oldest crown leaves (Figure 1). The number of spots increases rapidly in warm, humid weather, later spreading to the younger leaves toward the tips of the vines (Figure 2). At first, the spots are small, circular, and water-soaked or transparent. They enlarge rapidly until they are ½ inch or more in diameter, turning light brown on muskmelons (Figure 2), cucumber, and squash, and dark brown or black on watermelon when mature. Definite concentric rings may often be seen in the older, round to irregular spots, giving them a target-like appearance (Figure 3). Spots may merge, blighting large areas of the leaf. Muskmelons and cantaloupes are more susceptible than other cucurbits. The leaves commonly curl, wither, and fall prematurely. Vines may be partly or completely defoliated by harvest time. Often



Figure 1. Alternaria leaf blight on older leaves of muskmelon plants.

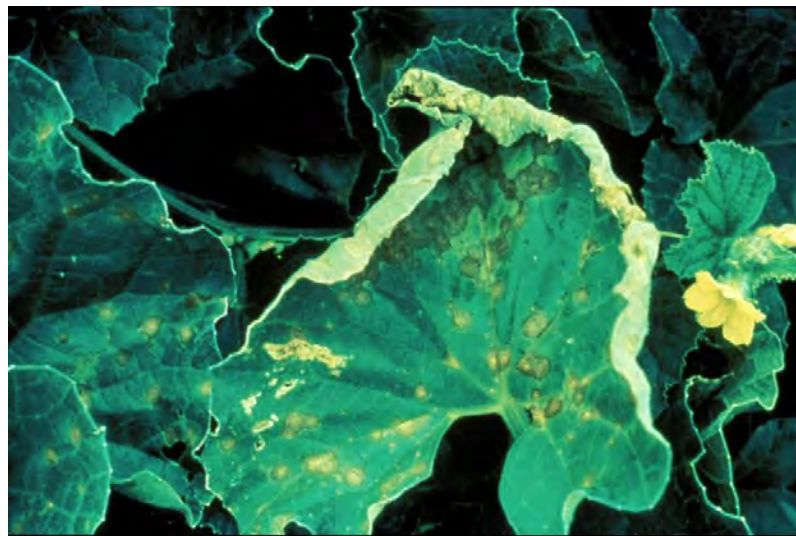


Figure 2. Alternaria leaf blight of melon (Courtesy A.A. MacNab).

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the spots become covered with a dark olive to black mold, the spores (conidia) of the *Alternaria* fungus (Figure 4). Affected fruit may rot. On summer squash, rot starts at the blossom end. Fruit turn brown and shrink, later becoming black and mummified. The rot on muskmelon and cucumber fruit is often associated with sunscald injury or over-ripeness.



Figure 3. Close-up of Alternaria leaf spot, target-like spots (Purdue University photograph).

Disease Cycle

Mycelium of the pathogen can survive for 1-2 years in diseased plant debris. The sources of primary inoculum are conidia (spores) produced by dormant mycelium in cucurbit fields with a recent history of the disease and air-borne conidia can spread over long distances. Air-borne and rain-splashed conidia serve as secondary inoculum, spreading disease within a field. Disease severity increases with the duration of leaf wetness periods from 2 to 24 hours over a range of temperatures for 54 to 86°F (12 to 30°C). Disease development is favored by frequent rainfall, which increases the relative humidity within the canopy, causes splash-dispersal of conidia, and increases the duration and frequency of leaf wetness periods.

Control

No cucurbit cultivar resistant to *Alternaria* leaf blight has been reported. Pathogen-free seed produced in semiarid areas should be planted. Proper seed treatment can control seed-born *Alternaria* inoculum and seed-born inoculi of other pathogens. Crop rotation with noncucurbit crops for at least two years should be considered. Crop debris should be plowed under to reduce survival of the pathogen. Overhead irrigation late in the day, which lengthens the duration of leaf wetness periods, should be avoided. Fungicide application is needed to limit disease development and spread. For the update information on fungicide applications to control *Alternaria* leaf blight of cucurbits, refer to the current edition of the “Midwest Vegetable Production Guide for Commercial Growers,” publication.

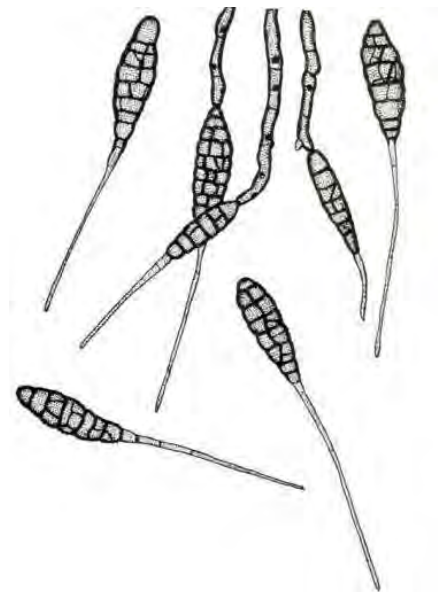


Figure 4. Spores (conidia) of the Alternaria leaf spot or blight fungus, Alternaria cucumerina (drawing K.A. Golasyn-Wright).