

Organic Management of Early Blight on Tomato

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Early blight is a common and difficult to control disease of tomatoes. Wet weather in the late spring and early summer favor development of early blight.

Symptoms can occur on the stems, leaves and fruit. Lesions have a target appearance with concentric rings surrounded by a yellow halo. Signs of the pathogen (spores) can be present in the center of lesions, giving them a dark fuzzy appearance.

Recognizing Early Blight on TOMATO

- Round brown lesions on leaves, stems or fruit
- Concentric brown rings resembling a target with a yellow halo
- Tissue on lesions dries up and cracks or disintegrates

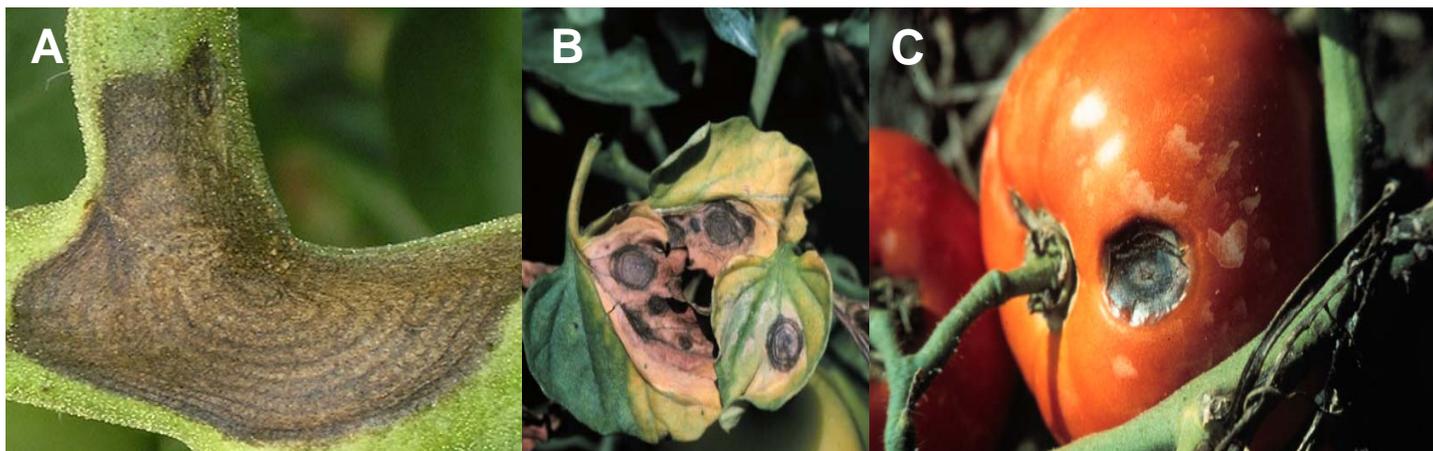
The causal agent of the symptoms, the fungus *Alternaria solani*, infects a variety of crops including potato, eggplant and pepper. Eggplant and pepper fruits, and potato leaves can become infected.

This pathogen can overwinter in plant debris and initiate the disease in subsequent years. Therefore, leaving crop debris in the field should be avoided and crop rotation away from tomato, potato, eggplant and pepper for 3 or more years is recommended to reduce the pathogen populations in the field.

Early blight develops readily at warmer (68-77°F) temperatures combined with long periods of high relative humidity. Prevention is key to adequate control; there are no curative therapies.

Management Strategies

- Use good sanitation and cultural practices. Start with disease-free material. Hot water treatments may help as the pathogen may be seedborne (122°F for 25 minutes). Avoid planting in low areas that remain wet in the early spring. Plant early in high tunnels or greenhouses to avoid periods of high disease pressure in early fall. Trellis indeterminate cultivars to improve airflow and reduce leaf wetness. Use drip or early morning overhead irrigation to minimize leaf wetness. Take preventive action during warm, wet weather. Scout carefully and rogue diseased plants and those surrounding them.
- Resistant cultivars include Defiant, Juliet, and Mountain Magic.
- The biopesticide *Trichoderma harzianum* (PlantShield HC, RootShield G) has shown fair results when used as a drench at planting. Copper and sulfur products may help improve control, but with mixed results.



Early blight lesions on tomato A) stem, B) leaves and C) fruit.