



AVRDC - The World Vegetable Center

Fact Sheet

Tomato Diseases

Gray Leaf Spot

Stemphylium solani, S. lycopersici

Found worldwide in warm climates



Symptoms

Foliage of plants from seedlings to mature plant stage is affected. Brown to black specks appear on both the young and older leaves. The lesions expand slowly into 1- to 2-mm-diameter round spots that remain brown or develop a gray center surrounded by a yellow area. Sometimes the center of the spot dries and falls out, forming a shothole in the leaf.

Lesions may be numerous, causing entire leaves to turn yellow, then brown and drop. Lesions rarely coalesce. Defoliation can be severe, leading to sunburn damage of the fruit.

Similar lesions may occur, infrequently, on the younger stems and petioles. Fruit are not affected.

Conditions for Disease Development

The pathogen can persist on dead or dying plant material or on alternate hosts (pepper, eggplant and other solanaceous crops or weeds). The disease often begins on young seedlings. The fungus spores are disseminated by wind or rain.

The disease is favored by extended periods of leaf wetness from rains or dew and by moderate to warm temperatures (20–30 °C). Leaf wetness is required for the fungus spores to germinate and is more important than temperature in establishment of infection. Sporulation is favored by alternating periods of leaf wetness and dryness. Overhead sprinkler irrigation is more favorable for disease development than furrow irrigation.

Control

Many resistant varieties are available. Check plants carefully for first signs of the disease. Protectant fungicides applied at early onset of disease symptoms in susceptible varieties will provide control. Consult your local extension agent for a listing of recommended varieties and fungicides.

When growing transplants, avoid establishing seedbeds near tomato or pepper production fields. Use raised seedbeds, avoid shading, and ventilate seedlings to promote rapid drying of foliage. Plan overhead watering to allow for leaf drying before a new dew period begins in the evening. Check seedlings/transplants carefully before setting them in the production field.

In the production field, rotate with non-solanaceous crops. If possible, remove diseased plants or destroy them immediately after harvest. Remove volunteer tomatoes and solanaceous weeds or vegetable crops that may harbor the fungus. Alternatively, bury diseased tomato crop debris by deep-plowing to reduce spore levels available for infection of new plants. Avoid planting overlapping tomato crops in adjacent areas. Avoid overhead irrigation.

For more information on the production of tomato and other vegetables, go to <www.avrdc.org>.

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