

2006 Florida Plant Disease Management Guide: Eggplant¹

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Specific Common Diseases

Bacterial Wilt (*Ralstonia solanacearum*)

Symptoms: Plants wilt and die rapidly with slight or no leaf yellowing prior to death. Plants cut at the soil line will exhibit brown, slimy pith in cross-section. Bacterial streaming can be observed from the vascular tissue when the lower several inches of stem section are suspended in a jar of water.

Cultural Controls: No economical controls are available. Avoid land with a previous history of this disease. Rotate out of susceptible solanaceous crops into grass, legume or cucurbit crops.

Damping-Off (*Fusarium* spp., *Pythium* spp., *Rhizoctonia solani*)

Symptoms: Soil-borne pathogens such as *Fusarium*, *Pythium* and *Rhizoctonia* species will infect newly planted seed through the seedling stage. These pathogens will feed off lateral roots and may rot the hypocotyl above or below ground causing seedling death.

Cultural Controls: Plant in well-drained sites when soil moisture and temperature are conducive to rapid germination and emergence. Do not plant in soil with a high percentage of recently incorporated, undecomposed plant debris. Employ a seed treatment fungicide and consider soil fumigation of seedbeds.

Chemical Controls: See PPP-6.

Early Blight (*Alternaria solani*)

Symptoms: Small, light-colored lesions will occur on leaves, with minimal concentric ringing characteristics of early blight on potato or tomato. Very occasionally, leathery spots may be seen on fruit. The incidence of early blight is often greater in the presence of mites.

Cultural Controls: Plant as far from tomato and potato fields as possible.

Chemical Controls: See PPP-6.

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Phomopsis Blight (*Phomopsis vexans*)

Symptoms: Seedlings exhibit dark brown lesions that become gray in the center and form on the stem slightly above the soil line. The stem soon becomes girdled and the plant topples over and dies. On established plants, brown, round or oval spots may develop on the leaf and stem becoming irregular in shape as they enlarge. The center becomes gray and contains small black dots (pycnidia) while the margin is a narrow, dark brown zone. Foliar infection is minor compared to fruit infection. Fruit are infected while on the plant. The spots are pale, sunken areas and may finally cover the entire fruit. The small black pycnidia are present in abundance in the fruit spots.

Cultural Controls: Florida Market and Florida Beauty are resistant to the "tip over" stage of seedling blight, but the leaf and stem blight and fruit rot stages are still serious problems. Maintain a fungicide program in the transplant bed. Only disease-free plants should be set into the field.

Chemical Controls: See PPP-6.

Phytophthora Blight (*Phytophthora nicotianae* and other *Phytophthora* spp.)

Symptoms: Severe losses from this disease have been recorded in southern Florida during wet winter vegetable seasons. Symptoms include damping-off of young seedlings, spotting of lower leaves, and decay at the base of older stems. Advanced stem infection leads to wilting and collapse of plants. Fruits may become infected at any time in their development. Individual fruit spots enlarge rapidly and significant portions of the fruit may become decayed and soft. Premature fruit drop often results.

Cultural Controls: Plastic mulch substantially reduces infection caused by spores of the pathogen splashed up onto fruit surfaces. Avoid planting eggplant behind pepper, especially if the pepper crop has had a confirmed outbreak or a history of Phytophthora blight.

Chemical Controls: Use a pre-plant soil fumigant.

Pythium Fruit Rot (*Pythium* spp.)

Symptoms: The blossom end bleaches white, and then turns tan and wrinkled. The flesh becomes watery and light brown in color. The white, cottony mycelium of the pathogen eventually covers the surface of the fruit-especially during moist periods.

Cultural Controls: Discard all fruits that show brown discoloration at harvest. The causal agent can spread by fruit-to-fruit contact and can contaminate harvesting containers.

Southern Blight (*Sclerotium rolfsii*)

Symptoms: This disease occurs during hot, moist weather. Plants exhibit a progressive wilt with leaf chlorosis and necrosis beginning with the lower foliage. The causal fungus infects the root system and stem at the soil line until the plant is killed. Fruit borne low on the plant may become infected.

The causal fungus becomes obvious as a coarse web of white mycelium on the stem at the soil line during humid and wet weather. Small mustard-seed-sized fruiting structures (sclerotia) form on the mycelium. These are initially white, maturing to a tan color. These overseasoning structures fall to the soil and can survive for years under Florida conditions.

Cultural Controls: No economical control exists for this disease under Florida conditions. Deep plowing infested land will reduce disease severity by burying sclerotia. Crop rotation with a non-host such as a grass crop is advised.

Verticillium Wilt (*Verticillium albo-atrum*)

Symptoms: This wilt disease progresses slowly on eggplant. Plant vigor is affected to the point of stunting. Lower foliage will exhibit slight yellowing while plants exhibit progressive daily wilt until death. Slight vascular discoloration will be evident when lower stems are slit lengthwise. The degree of browning is slight compared to bacterial wilt while the pith is not affected.

Cultural Controls: Do not crop land with a history of this soilborne fungal disease. Choose non-susceptible rotation crops such as cucurbits,

beans or grasses. The plants of the Solanaceae are quite susceptible to this fungus.