

2007 Florida Plant Disease Management Guide: Cantaloupe¹

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Alternaria Leaf Spot (*Alternaria cucumerina*)

Symptoms: Small circular spots (may appear water-soaked) develop on leaves and enlarge to 1/2 inch or more across. Concentric rings appear in the spots as they enlarge, giving a "target spot" appearance. Fruit is seldom attacked unless plants are nutrient deficient. The pathogen over-seasons on infected plant debris and spores are wind-borne and rain-splash dispersed. See Plant Pathology Fact Sheet PP-32.

Chemical Controls: See PPP-6.

Angular Leaf Spot (*Pseudomonas syringae* pv. *lachrymans*)

Symptoms: Symptoms occur on the leaves, stems, and fruit. Spots on the leaves are irregular in shape, angular, and water-soaked. Free moisture allows the bacteria to ooze from the spots, which, upon drying, leave a white residue. These spots of dead tissue will occasionally drop away from the

healthy tissue leaving irregular holes in the leaves. Bacterium is seedborne and rain-splash dispersed. This bacterial disease occurs during cool weather.

Cultural Controls: Use pathogen-free seed. Rotate land. Avoid handling plants when wet.

Chemical Controls: See PPP-6.

Anthracnose (*Colletotrichum lagenarium*)

Symptoms: This disease has not been a common disease in Florida. The disease symptoms first appear on the foliage as small, yellow, water-spots that enlarge rapidly and turn brown. The dead tissue dries and may crack and fall out. On the stems, the lesions are elongated. On the fruits, dark, circular, sunken lesions appear, varying in size with the age. During wet weather the center of the spots often show a pinkish color due to production of spores.

Cultural Controls: Choose resistant varieties. Deep plow plant residue and practice crop rotation.

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Chemical Controls: See PPP-6.

Bacterial Fruit Blotch (*Acidovorax avenae subsp. citrulli*)

Symptoms: Angular, water-soaked leaf spots that are restricted by leaf veins occur in an aggregated pattern on leaves. Lesions may appear as pin-stripping aside of veins. During dry conditions these spots become light brown and have a papery thin consistency. Sunken spots that are slightly water-soaked, and green occur in fruit. These sunken spots can be 1" or greater in diameter and may occur anywhere on the fruit, but they are most common on the top and sides of the fruit.

Cultural Controls: Purchase seed that are indexed to be free of bacterium. Purchase transplants that are disease-free. Use crop rotation with non-cucurbit crops. Destroy cucurbit weeds and cucurbit crop volunteers.

Chemical Controls: See PPP-6. Use copper-containing fungicides if necessary.

Cercospora Leaf Spot (*Cercospora citrullina*.)

Symptoms: Leaf spots are small (ranging from 1/8"-1/4" in diameter), circular and often are surrounded by a slight yellow halo. The lesion centers typically develop a white color. Spores are air-borne and rain-splash dispersed. Fungus over-seasons on plant debris and weed hosts

Cultural Controls: Destroy infected plant material.

Chemical Controls: See PPP-6.

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

Symptoms: This disease on seedling cantaloupes is caused by several soil-inhabiting fungi that are almost universal in occurrence. These fungi infect portions of the plant at or below the soil level, resulting in collapse and death of the seedling. Conditions unfavorable for rapid emergence of cantaloupes (cool, wet weather) are usually most

favorable for this disease. Plant in well-tilled soil where old crop and weed debris has been plowed down 30 days previously. See Plant Pathology Fact Sheets PP-1 and PP-53.

Chemical Controls: Plant only fungicide-treated seed (most seed is purchased pre-treated). See PPP-6.

Downy Mildew (*Pseudoperonospora cubensis*)

Symptoms: This disease first appears on the foliage as pale areas separated by islands of darker green tissue. These spots develop into an angular, yellowish lesion. Older lesions become brown and necrotic. Severely affected leaves may become chlorotic, brown and shrivel. During moist periods, a grayish spore mass may be observed on the lower leaf surface under these spots. Spores are dispersed by wind. See Plant Pathology Fact Sheet PP-2.

Cultural Controls: Choose resistant varieties.

Chemical Controls: See PPP-6.

Gummy Stem Blight (*Didymella bryoniae/Phoma cucurbitacearum*)

Symptoms: On young seedlings, lesions on the cotyledons and true leaves are round or irregular, brown, with faint concentric rings. Lesions on the crown and stem are brown and usually turn white with age. The causal fungus can often be observed to reproduce on the crowns or stem lesions and will produce small black specks (pycnidia) in the plant tissue. The fungus over-seasons on old plant debris and can be seedborne. The pathogen is spread by splashing rain from plant to plant, or be carried long distances on wind currents. See Plant Pathology Fact Sheet PP-27.

Cultural Controls: Avoid planting in fields with residual cucurbit crop debris still present. Purchase disease-free transplants.

Chemical Controls: Use treated seed. See PPP-6, for foliar fungicides.

Powdery Mildew (*Erysiphe* spp./*Sphaerotheca fulginea*)

Symptoms: The fungus affects the leaves and stems. Symptoms first appear as round whitish spots on the under side of the older leaves. The spots increase in number and size and coalesce. These appear on the upper surface with a white powdery growth. Severely affected leaves lose their normal dark color, become pale yellow green, then brown, and shrivel. The young stems may also be killed. Fruits of infected vines ripen prematurely, are of poor quality and often become sunburn. Spores are readily wind-dispersed.

Cultural Controls: Purchase disease-free transplants.

Chemical Controls: See PPP-6.

Viruses (*Cucumber mosaic virus*, *Papaya ringspot virus*, *Watermelon mosaic virus 2*, *Zucchini Yellow mosaic virus*)

Symptoms: Leaves show varying degrees of mottling, distortion and stunting. Growth habit may altered as infected vine tips appear more erect. Fruits may occasionally be mottled and deformed. These are the most common viruses in cantaloupe in Florida. They may also occur naturally on many weed hosts throughout the state and is moved into cantaloupes by aphid feeding.

Cultural Controls: Control weeds in and around plantings. This will aid in virus control. Treating fields repeatedly for aphid control is not recommended because of the short time period needed by aphids to transmit the virus while feeding. JMS Stylet Oil can be sprayed in a rigorous program to delay the onset of the epidemic.