A3279

Vine crops disorder: Anthracnose

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Anthracnose is a destructive fungal disease of the foliage, stems, and fruit of cucumbers, gourds, muskmelons, and watermelons.

Symptoms and effects

Cucumber and gourds: Symptoms on leaves begin as small, yellowish or water-soaked lesions that rapidly enlarge and turn brown. New lesions may be circular or angular. The lesions enlarge and coalesce, killing large areas of leaves. On petioles and stems, the spots are elongated, tan, and slightly sunken. On fruit, the symptoms are circular, sunken, water-soaked lesions with a black center. Fruit infection usually doesn't appear until fruit are nearly mature. Although the lesions don't penetrate the edible flesh, they may serve as entry points for secondary rots.

Muskmelon: Symptoms on muskmelon are often more severe than those on cucumber. Petiole and stem lesions are larger, and tend to girdle the vascular tissue more quickly. Girdling by the lesions cuts off water movement to leaves and vines, and often damages vines extensively. Lesions on the fruit are large depressed areas with tan to black centers that exude pink spores. Lesions on the fruit rarely penetrate through the rindand into the flesh, but soft rot organisms can enter through the lesions and rapidly break down the fruit.

Watermelon: Lesions on watermelon leaves are black rather than tan and affected leaves quickly become blighted and scorched. If anthracnose lesions girdle the fruit stem

Anthracnose lesions on cucumbers, muskmelons, and watermelon.

Typical progression of anthracnose symptoms on leaves.

while the fruit is still developing, the plant will produce small, black, distorted fruit that often abort. Fruit lesions on watermelon are similar to those on muskmelon and typically occur on the underside of the fruit where it is in contact with the soil.

Disease cycle

The fungus that causes anthracnose, *Colletotrichum lagenarium*, overwinters in plant debris, in soil, or on seed. It may survive in the soil for up to 2 years. Moisture is required for the spread of the disease and warm, rainy weather favors infection. Temperatures between 70°–80°F increase the risk of infection to epidemic proportions. Running water, splashing rain, beetles, and tools can spread spores.

Fruit with anthracnose lesions pose a risk to long-distance shipping or holding for roadside market sales. Infected fruit are prone to infection by secondary organisms and do not ship or store well.

Control

The best way to control anthracnose is to plant resistant varieties (see chart below).

To reduce overwintering spores, clean up and destroy all plant debris from the previous year. Using certified seed and rotating fields out of vine crops for at least 3 years is also helpful. During periods of dry weather, irrigate early in the day to allow foliage to dry completely before nightfall.

If infection should occur, fungicides may be used to protect healthy plants from becoming infected. Begin spraying when plants have two leaves and continue every 7–10 days until harvest. During rainy periods, treat every 5–7 days.

To avoid problems with anthracnose in storage, take care to keep the fruit dry. Don't wash fruit, and keep the relative humidity low in fruit storage areas. Provide for adequate air circulation when fruit is shipped, stored, or on display.

Varieties resistant to anthracnose

Crop	Resistant varieties
Slicing cucumbers	Autograph, Cobra, Dasher II, Daytona, Fanfare, General Lee, Indy, Intimidator, Lynx, Orient Express, Panther, Slice More, Speedway, Stonewall, Thunderbird, Turbo
Pickling cucumbers	Calypso, Carolina, Eureka, Fancipak, Jackson Classic, Jackson Supreme, Lafayette Classic, Napoleon Classic, Patio Pickle, Patton Classic, Patton Supreme, Speedway, Vlasstar, Wellington, Zapata
Watermelons	Anthem, Celebration, Crimson Delight, Crimson Sweet, Crimson Tide, Fiesta, Gypsy, Jamboree, Mardi Gras, Millennium, Oasis, Paradise, Sangria, Starbright, Stargazer, Stars 'N Stripes

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