

Plant Disease Notes

Bacterial Fruit Blotch

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Fruit blotch, caused by a bacterium that has yet to be classified, infects watermelon. Since 1989, the disease has occurred in several states on the eastern seaboard, including Alabama.

Symptoms. The fruit blotch bacterium can cause seedling blight, leaf spot, and a fruit disorder. Initial symptoms on seedlings consist of dark water-soaking of the lower surface of cotyledons (seed leaves) and leaves. Lesions develop and are often accompanied by a yellow halo. Lesions may form on the hypocotyl (the part of the seedling below the seed leaves), causing death of the plant.

Foliar symptoms can occur throughout the growing season but are difficult to detect. Leaf lesions, which act as a reservoir of bacteria for subsequent fruit infection, are tan to reddish brown and usually appear along the midrib. Defoliation is not common.

Fruit symptoms begin as small, greasy-looking, water-soaked areas a few millimeters in diameter. Spots enlarge rapidly to irregularly shaped, dark green, water-soaked lesions of several centimeters. In a few days these lesions may expand to cover the entire upper surface of the fruit. Fruit lesions do not extend into the flesh of the melon initially.

In time, the centers of the lesions turn brown and crack. A white bacterial ooze, or an effervescent exudate, can often be seen on the fruit. Fruit decay usually follows.

Persistence and Transmission.

The bacteria can be introduced into a field on infested seed, infected transplants, volunteer watermelons, or from natural spreading of alternate hosts. Seed harvested from infected fruit often harbor the pathogen. Undetected infestations can spread rapidly in transplant houses, resulting in high numbers of infected plants going into fields. Volunteer watermelons act as hosts in fields infested with blotch the previous year.

Bacterial fruit blotch is favored by warm, moist environmental conditions. Hot, sunny days accompanied by thundershowers appear to favor its development and spread. Under favorable conditions, the disease spreads rapidly; by harvest an entire field may be infected. Symptoms do not appear to develop under cool, rainy weather. The bacteria, once present in a field, can be spread by wind, rain, and equipment.

Young fruit (2 to 3 weeks old) are most susceptible with bacteria entering through stomata (small openings in the epidermis). Once

the wax layer forms, infection of mature fruit can occur only through wounds.

Control. Preventing the introduction of the pathogen into a field is the best method of control for fruit blotch. Other control strategies include the following:

- Buy seed and transplants only from a reliable company and inspect transplants for fruit blotch symptoms.

- Plow under crop debris, including watermelon culls, from a field previously infected with fruit blotch.

- Plant the current field as far away as possible from last year's site.

- Destroy volunteer watermelons and wild cucurbit weeds in and around the current season's crop.

- Plant less susceptible fruit. Those with light green colored rinds, such as 'Charleston Gray' are more susceptible; those with a solid dark green rind, such as 'Sugar Baby' are more tolerant. However, the level of tolerance currently available will not insure freedom from the disease when environmental conditions favor its development.

- Avoid working infested fields when they are wet.

- Apply copper fungicides prior to fruit set to reduce disease incidence. Two to three applications are necessary. Be aware, however, that copper can result in stunted watermelons.



Your Experts for Life

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Use chemicals **only** according to the directions on the label. Follow all directions, precautions, and restrictions that are listed.

For more information, call your county Extension office. Look in your telephone directory under your county's name to find the number.

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