

Plant Disease Notes

Fusarium Wilt of Cucurbits

Fusarium wilt, caused by soil-borne fungi in the genus *Fusarium*, affects most cucurbits. Although several *Fusarium* species and physiological races on cucurbits have been identified, this publication will only discuss Fusarium wilt of watermelon and cantaloupe.

Fusarium Wilt of Watermelon

Fusarium wilt of watermelon is caused by the fungus *Fusarium oxysporum* f. sp. *niveum*. The fungus also attacks summer squash but not cantaloupe or cucumber.

Symptoms. Plants infected early in their development often damp off at the soil line. Older plants may first exhibit temporary wilting only during the heat of mid-day but will die within a few days. Wilt symptoms develop in one or more lateral vines, starting at the tip. In wet weather, a white to pink fungal growth may be visible on the surface of the dead stems.

On a section of the main stem, cut back the epidermis and cortical tissue (bark) slightly above the soil line. If Fusarium wilt is present, you will see a light brown discoloration of the vascular tissue (the food- and water-conducting vessels just beneath the epidermis).

Persistence And Transmission.

The causal fungus survives from season to season in old infected vines, on seed, and in soil. The fungus can live on dead plant material (saprophytically) or on the roots and stems of other plants such as tomatoes and several weeds. Infection occurs through the root tip, natural openings, or wounds (such as nematode feeding sites), and eventually the fungus invades the water-conducting vessels. Plugging of the vessels leads to reduced water movement followed by wilt and death. Disease incidence and severity are increased during warm, dry weather.

Control. The following are practical methods of control in Fusarium-infested soils:

- Plant Fusarium resistant varieties in the same field once every 5 to 7 years.
- Plant susceptible varieties no more than once every 15 years.
- Rotate to nonhost species.

Fusarium Wilt of Cantaloupe

Fusarium wilt of cantaloupe is caused by the fungus *Fusarium oxysporum* f. sp. *melonis*. The fungus infects only cantaloupe, crenshaw melon, and honeydew melon.

Symptoms. Fusarium wilt of cantaloupe causes symptoms similar to those described on watermelon. However, on cantaloupe, streaks may develop externally on the runner at the soil line and extend for some distance up the vine. Streaks are at first light brown, turning yellowish tan, then dark brown with age. This symptom is diagnostic for the disease.

As with watermelon, a white to pink fungal growth may develop on infected stems during wet weather.

Persistence and Transmission. Fusarium wilt of cantaloupe overwinters and spreads like Fusarium wilt of watermelon.

Control. Fusarium wilt of cantaloupe is most reliably controlled by the following practices:

- Plant resistant varieties.
- Rotate to nonhost species.



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

Trade names are used only to give specific information. The Alabama Cooperative Extension Service does not endorse or guarantee any product and does not recommend one product instead of another that might be similar.

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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