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Causes of Wilting Cucumber Vines
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Surprise, surprise my beautiful cucumber plant is wilted! What happened? What can I do? The first step is to check soil conditions. If that is not the problem, then the plant may be infected by a disease called bacterial wilt.

Check the soil moisture first by feeling it. Soil saturated with water will cause a plant to wilt because of the lack of oxygen in the soil. If the cucumber plant wilts only during the day and recovers at night, then the soil may be too dry. If the soil is dry, add about 1 inch of water to encourage deeply rooted plants which helps them become more tolerant of droughty conditions. Check the moisture in the soil 2 to 4 inches deep before watering again.

When watering, it is best to avoid getting the leaves wet. Moisture on the leaves and the current night temperatures create a perfect environment for the development and spread of diseases. If you water in the evening, make sure to water early enough to allow time for the leaves to dry off before sunset to prevent diseases.

Wilting cucumber plants that do not recover at night may be infected by a disease called bacterial wilt. Bacterial wilt is a common, often destructive, disease of cucumber and muskmelon. Some squash and pumpkin varieties are also susceptible.

Cucumber plants infected with bacterial wilt have individual leaves that become dull green and wilt soon after infection. The first symptoms are often associated with insect feeding damage because the cucumber beetle transmits this disease to the plant. As the disease

progresses, more leaves wilt and eventually the entire vine is affected and dies. There is nothing you can do to save an infected plant.

How do you determine if the vines in your garden are wilting due to the bacterial wilt disease? This can be done by conducting a simple “bacterial ooze test.” With a sharp knife, cut through a wilted vine near the crown. Push the two cut edges of the vine together for a few seconds and then slowly pull the stems apart. If the bacterial wilt organism is present, a fine thread-like strand of sticky bacterial slime will be drawn out. If you do not see the ooze, then another disease or possibly an insect is causing the problem. The bacterial ooze test works well for cucumber and muskmelon but is less reliable for squash or pumpkin. For these crops, place pieces of stem into a glass of water. If this disease is present, bacterial ooze will flow into the water.

The bacterial wilt organism, *Erwinia tracheiphila*, overwinters in the bodies of both the striped and spotted cucumber beetles. The adult striped cucumber beetle is one-quarter inch long and is yellow-green with three black stripes down its back. Spotted cucumber beetle is one-quarter inch long and yellow-green with 12 black spots on its back.

The bacterium does not overwinter in infected plant debris but in beetles that hibernate through the winter in leaf litter found in protected sites such as near buildings, in fence rows, and wood lots. In the spring, the beetles emerge and are active for about six weeks. They feed on young leaves and tender shoots of the cucumber plant. While feeding, they deposit the bacterial wilt organism into the plant tissues. You may see feeding on the cucumber as well.

Once the bacteria invade the plant's conducting vessels, they can spread to other parts of the plant. The slime produced by the wilt bacterium stops water movement in the water conducting vessels. This causes the wilt symptoms.

To manage bacterial wilt, you need to start the cucumber beetle control program early. Start applying an insecticide approved for use on cucumbers against the cucumber beetle as soon as plants begin to crack the soil. Repeat applications at weekly intervals until the vines begin to run. When using insecticides, avoid injuring pollinators during bloom by spraying in the early evening after pollinators have quit for the day.

Other management techniques include planting resistant varieties and planting cucumber seeds several different times in the spring and early summer. By planting more seeds at different times, you will have plants to replace those lost to bacterial wilt disease or another disease.

For more information about bacterial wilt in cucumbers, contact the Daviess County Cooperative Extension Service at 270-685-8480.

Question and Answer:

What is the dull white, powdery film on the leaves of my tall phlox? The white fungal growth covering the entire leaf surface is called powdery mildew. Avoid crowding plants to reduce conditions favored by the fungus. In addition, plant powdery mildew resistant tall phlox such as 'David'.

When should I start seeds to grow my own cabbage and broccoli transplants for the fall? Seeds should be started around July 15 in order for plants to be ready to transplant into the garden around August 15.

Ongoing event:

Current produce available at the Owensboro Regional Farmers' Market includes green beans, sweet corn, eggplant, beets, tomatoes, potatoes, squash, cabbage, greens, cucumber, onion, peppers, blueberries, blackberries, and peaches. Baked goods, honey, jam, meat, and fresh cut flowers are also available. The market is located at 1205 Triplett Street, Owensboro on Tuesdays, Thursdays, and Saturdays from 6:30 a.m. until noon. In addition, on Wednesday afternoons the market is at the Owensboro Health Regional Hospital on 1201 Pleasant Valley Road, Owensboro from 1:30 – 5:30 p.m.

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