

CUCUMBER BACTERIAL WILT

By: Kelly Feehan, Extension Educator

Release: August 2, 2021

Cucumbers are susceptible to a number of diseases. One of the most serious is bacterial wilt that leads to sudden wilting and death of vines.

Bacterial wilt is caused by a bacteria transmitted to plants by striped and spotted cucumber beetles. Once infected, the bacteria grows within the vines clogging the xylem to prevent water movement in the plant.

Vines may initially wilt during the heat of the day and then recover during cooler evenings. Eventually, entire vines die. Cut vines will produce a creamy white bacterial ooze when firmly pressed on.

Once a plant has bacterial wilt, there is no control. Promptly remove and destroy infected plants to reduce carryover in the garden. Next year, select varieties resistant and plant cucumbers in a new location.

Cucumber beetles begin feeding early and any control measure used need to be taken soon after planting. Controls include covering plants with floating row covers, applying labeled insecticides, using reflective mulch and the use of trap crops.

The first two can only be used up until plants bloom since cucurbits rely on insects for pollination. Cucumbers have separate male and female flowers on each vine and insects are required for pollen transfer. Researchers have found it takes at least nine honeybee visits per flower to adequately pollinate cucumbers. Keep this in mind when trying to control insects.

Floating row covers are spun-bonded or woven plastic, polyester or polypropylene material that is placed over plants shortly after planting to exclude insects. They allow in light, water and air but must be removed once plants begin to bloom.

When laying row covers directly over plants, leave enough slack for the row cover to expand as the crop grows. Bury the edges completely with soil and place a board along the edges to keep the cover from blowing away and to prevent insects crawling beneath.

For taller or sensitive crops, row covers may need to be supported. If not, leaf abrasions can occur that lead to fungal disease issues or lower quality. PVC pipes or hoops are often used to create a framework to drape the row cover over.

When using a pesticide, do not apply them to blooming plants. Select one that has low impact on beneficial insects. For example, Neem is a plant based pesticide that prevents insects from feeding. Pyrethrins have no residual and treatments need to come in contact with beetles to be effective.

Conventional insecticides are longer lasting and kill more types of insects so use them responsibly. Examples are permethrin, bifenthrin, lambda-cyhalothrin and carbaryl. Read and follow label directions for application.

Reflective mulches are placed on soil beneath plants to deter beetles, such as silver polyethylene mulch available from some gardening outlets. At planting, place this on moist, weed free soil and bury the edges to hold them down. After the mulch is in place, cut three to four inch diameter holes to plant seeds or transplants.

With this type of mulch, a drip irrigation system is needed beneath the mulch. Once temperatures get hot, reflective mulches are best removed to avoid overheating plants. An alternative to purchasing silver mulch is to cover pieces of cardboard with aluminum foil.

Trap crops are used to attract the beetles to try and reduce their feeding on cucumbers. In this case, green zucchini planted away from cucumbers about two weeks prior to planting cucumbers may help.