

Problem: Cucumber Mosaic Virus



Host Plants: Tomato, pepper, cucumber, melons, squash, spinach, celery, beets, and petunia.

Description: The **cucumber mosaic virus** has one of the broadest host ranges of any of the tomato viruses. The disease affects a number of important vegetables and ornamentals including tomato, pepper, cucumber, melons, squash, spinach, celery, beets, and petunia. Tomatoes infected with the cucumber mosaic virus develop a slight yellowing and mottling of the older leaves. Expanding leaves typically become twisted, curl downward, and develop a "shoestring" appearance as a result of a restriction of the leaf surface to a narrow band around the midrib of the leaf. Diseased plants are stunted and produce small quantities of fruit.

The leaf distortion associated with some of these viral diseases often is confused with injury resulting from phenoxy herbicide exposure. Generally, a phenoxy herbicide (2,4-D) will uniformly affect all tomato plants in a garden or greenhouse. The herbicide also will cause leaf distortions on a number of other broadleaf plants in the area. Plants exposed to low levels of the herbicide may recover. In contrast, virus diseases normally will not affect all plants at the same time or cause injury to other types of plants in the area. Once the plant is infected it will not recover.

The cucumber mosaic virus overwinters in perennial weeds and may be transmitted to healthy plants by aphid vectors (although tomatoes are not the preferred host of aphids) or by mechanical means. The cucumber mosaic virus cannot withstand drying or persist in the soil. It also is more difficult than tobacco mosaic to transmit mechanically. Thus, cucumber mosaic tends to progress more slowly than tobacco mosaic in a field or garden.

Recommendations: Virus diseases cannot be controlled once the plant is infected. Therefore, every effort should be made to prevent introduction of virus diseases into the garden. Sanitation is the primary means of controlling virus diseases. Infected plants should be removed immediately to prevent spread of the pathogens. Perennial weeds, which may serve as alternate hosts, should be controlled in and adjacent to the garden. Avoid planting tomatoes next to cucurbits, spinach, or other vegetables and flowers susceptible to these diseases. Control of aphids will help reduce the likelihood of cucumber mosaic.

References:

1. [Wilt, Nematode, and Virus Diseases of Tomato](#). K-State Research and Extension, Publication L-723.

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