

Plant Disease Notes

Cucumber Mosaic Virus

Cucumber mosaic virus (CMV) can occur wherever tomatoes are grown. The host range of the virus consists of more than 750 plant species, including many vegetables (such as tomato, pepper, cucurbits, and legumes), weeds, and ornamentals. Some strains are specific to tomatoes.

Symptoms. Tomatoes infected with CMV are often stunted and bushy (with shortened internodes) and may have distorted and malformed leaves. Leaves may appear mottled (an intermingling of dark green, light green, and yellow tissue), a symptom similar to those caused by other viruses. The most characteristic symptom of CMV is extreme filiformity, or shoestringing, of leaf blades. CMV symptoms can be transitory; that is, the lower or upper leaves show symptoms while those in the midsection of the plant appear normal. Effect of CMV on yield depends on a number of factors, including plant age when infected and environmental conditions. Severely affected plants produce few fruit, which are usually small.

Persistence and Transmission. The extensive host range of CMV includes many weeds, which can serve as sources of CMV and contribute to spread of the virus to

crops. CMV is usually introduced to cultivated tomatoes by aphids after they have fed and acquired the virus from a wild reservoir host. More than 75 aphid species are capable of transmitting the virus in the nonpersistent manner.

Generally, the virus is acquired by aphids within 1 minute of feeding on an infected plant, but the aphids' ability to transmit the virus quickly declines and is lost within several hours. Transmission efficiency varies with the aphid species, virus strain, host plant species, environmental conditions, and time of year. CMV does not persist in crop debris or soil, and unlike tobacco mosaic virus, it is not readily transmitted by handling infected plants. The virus is not seedborne in tomato but can be carried in the seed of 19 other plant species.

Control. CMV can be controlled by the following strategies:

- Eradicate all biennial and perennial weeds and wild reservoir hosts in and around fields. Maintain a distance of at least 10 yards between susceptible crops and weeds or other susceptible plants, including those in ditch banks, hedge or fence rows, and other locations.

- Plant earlier to avoid high aphid populations that occur later in the season.

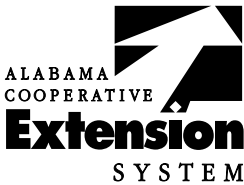
- Plant late settings as far as possible from fields used to produce early tomatoes and peppers. These areas can act as sources of viruses and aphids for subsequent crops.

- Scout fields for the first occurrence of virus disease. Where feasible, pull up and destroy infected plants but only after spraying them thoroughly with an

insecticide to kill any insects they may be harboring.

- Use reflective mulches to repel aphids, thereby reducing the rate of spread of aphid-borne viruses.

- Monitor aphid populations early in the season and apply insecticide treatments when needed.



Your Experts for Life

ANR-868

Edward J. Sikora, *Extension Plant Pathologist*, Professor, Entomology and Plant Pathology, Auburn University

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.

Issued in furtherance of Cooperative Extension work in agriculture and home economics, Acts of May 8 and June 30, 1914, and other related acts, in cooperation with the U.S. Department of Agriculture. The Alabama Cooperative Extension System (Alabama A&M University and Auburn University) offers educational programs, materials, and equal opportunity employment to all people without regard to race, color, national origin, religion, sex, age, veteran status, or disability.

Web Only, **Revised July 2004**, ANR-868