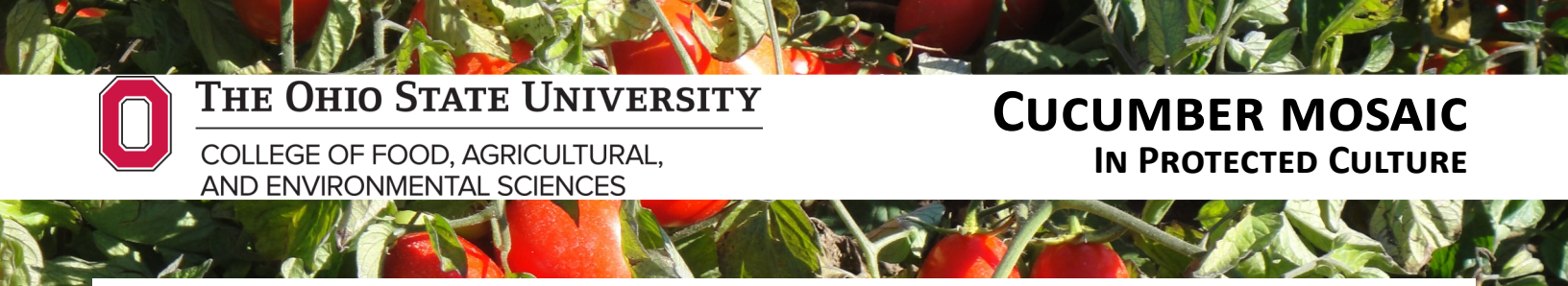

THE OHIO STATE UNIVERSITY
COLLEGE OF FOOD, AGRICULTURAL, AND ENVIRONMENTAL SCIENCES

CUCUMBER MOSAIC
IN PROTECTED CULTURE

Scientific Name
Cucumber mosaic virus (CMV)

Greenhouse/High Tunnel Host Crops
Tomato, cucurbits, lettuce, spinach, pepper

Identification
Leaves
- Light and dark green mosaic patterns on leaves
- Yellow spotting or streaking on leaves and veins
- A reduction of leaf blade area along the main vein (filiformity) of the leaf; symptomatic leaves are described as “rat-tail-” or “shoestring-” like
- Oak leaf pattern and necrotic spots surrounded by a yellow halo (pepper)
- Necrosis of stems (pepper)

Fruits
- Internal browning of fruit
- Poor yield and poor quality fruits with delayed fruit ripening
- Reduced fruit size and wall thickness (peppers)

Often Confused With
Tobacco mosaic, tomato mosaic, herbicide damage

Thresholds
Currently, there is no threshold information available.

Favorable Environmental Conditions
Conditions that support aphid movement and feeding promote spread of the disease. These conditions are temperatures between 70-85°F. Note that the stressful conditions for the plants also cause stress on the vectors.

Scouting Notes
Scout high tunnels for first occurrence of disease symptoms and where applicable, remove and destroy the infected plants. Monitor aphid populations early in the season.

Management Notes
Resistance Management—No tomato varieties with CMV resistance have been released or are available.

Sanitize all tools —Sanitation is the primary means controlling the disease. Any tools for pruning or cutting for tomato plants must be sanitized in order to reduce mechanical transmission of the pathogen. Many plant viruses are inactivated by dipping tools in a dilute chlorine bleach solution or in dilute milk.

Remove all infected plant materials—If infected plants are found, remove and destroy them. Removal of weed hosts may delay virus infection but is proven to be a difficult task because of the extensive host range of the virus.

Chemical management—Insecticides may be used to control aphid populations, but this does not necessarily result in effective CMV management. This is due to the almost immediate transmission of CMV by aphids visiting and probing plants and the rapidly increasing population of aphids throughout a season.