

# Cucumber mosaic virus on cucumber

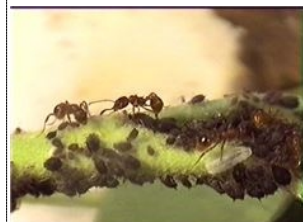
*Cucumber mosaic virus*



Interveinal chlorosis observed. Leaves will sometimes look puckered and distorted (David B. Langston, University of Georgia, Bugwood.org)



Cucumber fruits showing symptoms of infection with Cucumber Mosaic Virus (CMV) (William M. Brown Jr., Bugwood.org)



Ant cultivating aphids (Photo by Barbusse, via Wikimedia Commons)

Prevention	Monitoring	Direct Control
<ul style="list-style-type: none"> <li>• Cucumber mosaic virus is transmitted by over 80 species of aphids (the most common are <i>Myzus persicae</i> and <i>Aphis gossypii</i>) therefore the prevention and management of aphids is important</li> <li>• Plant resistant varieties if available</li> <li>• Do not take cuttings from an infected plant, even if it does not show symptoms since it is still likely to be infected</li> <li>• Remove only wild hosts of CMV such as <i>Amaranthus</i>, <i>Calendula</i>, <i>Chenopodium</i>, <i>Chrysanthemum</i>, <i>Datura</i>, black nightshade and clovers. Conserve other weeds to provide shelter and food to natural enemies, so they keep the aphid populations low in area where CMV occurs.</li> <li>• When possible, do not plant in previously infected areas</li> <li>• Try to plant in areas which do not have high populations of aphids</li> <li>• Sanitize tools and machinery. The virus is mostly aphid transmitted but can be transmitted between plant with tools</li> </ul>	<ul style="list-style-type: none"> <li>• Additional relevant crops: cucurbits (inc. watermelon). The host range for CMV is over 1200 species.</li> <li>• Check plants for aphids about 7 days after planting</li> <li>• Keep a close check on plants after they are about 6 weeks old, looking for virus symptoms which typically start to appear from this stage onwards</li> <li>• Check for ants as this may be sign that aphids are present. Ants eat the honeydew produced by aphids and protect them</li> <li>• Symptoms can vary depending on the environmental conditions</li> <li>• Symptoms include:                         <ul style="list-style-type: none"> <li>• Stunting of plants</li> <li>• Leaves: Mosaic pattern on growing points, yellow streaking and spotting, ring-spots or line patterns. Older leaves develop chlorotic and then necrotic areas along leaf margins which later spread over the entire leaf. Leaves may fall off</li> <li>• Fruit: Ring-spots or line patterns - pale green or white areas intermingled with dark green, bumpy areas. May be misshapen but with a smooth grey-white colour and irregular green areas. Not many fruits produced</li> <li>• Flowers: distorted colour, not many produced</li> <li>• Runners: not many produced</li> </ul> </li> <li>• Symptoms can also be caused by high temperatures, insect feeding, growth regulators, herbicides, mineral deficiencies, and mineral excesses. CMV cannot be diagnosed from symptoms alone. A plant sample can be sent to a lab for diagnosis.</li> <li>• Consider taking action as soon as virus symptoms are seen</li> <li>• Consider taking action when you see 7 or more aphids per plant only if the virus is known in the area</li> </ul>	<ul style="list-style-type: none"> <li>• Control aphids as they are the main vector for CMV:                         <ul style="list-style-type: none"> <li>• Spray plants with water, or a water-soap solution, to dislodge aphids (most dislodged aphids won't be able to return to the plant). Do this when the temperature is warm so that the plants are not wet for a long time</li> <li>• Spray plants with a petroleum-based horticultural oil or plant derived oil such as neem or canola oil, usually recommended as a 1 to 2 % oil solution in water. This will smother and kill the aphids</li> </ul> </li> <li>• Remove diseased plants from the field by placing in a bag and disposing of them (burn plant debris if you are allowed to in your area).</li> <li>• Leave bag in direct sunlight to kill aphids</li> </ul>

Note: Pesticides may be available to control this pest. Please check with the Ministry of Agriculture in your country to find out which pesticides are registered in your country and the local restrictions for their use.