



AVRDC - The World Vegetable Center

Fact Sheet

Pepper Diseases

Pepper Mottle Virus

Aphid-Transmitted Potyvirus

Found in tropical and sub-tropical regions, notably in Central America, Florida, and India



Symptoms

Symptoms include mottle and puckering of leaves, and misshapen leaves and fruit. Symptomatic leaves are not as chlorotic as those infected with alfalfa mosaic virus (AMV). Heavily infected plants may be stunted and fruit yields reduced. Foliage and fruit symptoms are less severe in plants that are infected at a later stage of development.

The virus may occur in mixed infections with other related viruses such as potato virus Y (PVY), tobacco etch virus (TEV) or pepper veinal mottle virus (PVMV).

Conditions for Disease Development

Pepper mottle virus (PepMV) is transmitted by aphids such as green peach aphid (*Myzus persicae*), cotton melon aphid (*Aphis gossypii*), and cowpea aphid (*Aphis craccivora*) from infected host plants, which are often weeds such as *Datura* spp. and nightshade.

An aphid gets the virus by feeding on an infected plant for only a few seconds. The aphid can then transmit the virus immediately the next time it bites into a plant, then losing the virus. The virus is generally retained by the aphid for no more than one hour.

The virus also may be introduced into pepper crops

How to Identify Pepper Mottle Virus



Mosaic and dark green vein banding are the most typical symptoms



Leaves crinkle and plants become stunted

on infected transplants, and then spread by aphids to nearby weeds, which act as future reservoirs for the virus.

PepMV is mechanically-transmitted by plant sap but not by simple contact between plants. PepMV can be transmitted by grafting but not by pepper seed.

Control

Resistant varieties are available. Check with your extension agent for resistant cultivars that are available in your region.

Use of insecticides during the growing season is ineffective; however, control of aphids early in the season prior to seeding or planting the field, to reduce initial infection and spread, may be useful. Spray weeds bordering the field with an aphicide prior to seeding or planting the field. This will prevent the aphids from moving to other plants and infecting them when subsequent weed control is started. Destroy all annual weeds in the field, including those in ditches, hedge or fence-rows, and other locations.

Use a 32-mesh or finer mesh netting to exclude aphids from transplants before they are set into the field. Avoid planting peppers close to established tomato, tobacco, and pepper fields since these fields may harbor aphids. Plant earlier to avoid high aphid populations that occur later in the season.

Other control measures include scouting fields for the first occurrence of virus disease. Where feasible, infected plants should be pulled up and destroyed, but only after spraying them thoroughly with an insecticide to kill any insects they may be harboring.

Reflective mulches may be used to repel aphids, thereby reducing the rate of spread of aphid-borne viruses. Aphid populations should be monitored early in the season and mineral oil or other insecticide treatments applied when needed. The mineral oil sprays will reduce the frequency of transmission of the virus by the vector and thereby delay development of the disease in the pepper crop.

For more information on the production of pepper and other vegetables, go to <www.avrdc.org>.