AVRDC - The World Vegetable Center

Fact Sheet

Pepper Diseases

Potato Virus Y

Aphid-Transmitted Potyvirus

Found worldwide

Symptoms

Plants can be infected at any growth stage by virus-transmitting aphids.

Symptoms of potato virus Y (PVY) include plant stunting, systemic vein-clearing, leaf mosaic or mottling, and dark green vein-banding of the leaves. Necrosis in the veins and petioles often develops. This may be followed by stem necrosis and defoliation, death of the top bud and plant death.

Affected fruit may be smaller, deformed, and with a mosaic pattern.

PVY symptoms may be masked by symptoms of other viruses.

Conditions for Disease Development

Many species of aphid, including the green peach aphid, *Myzus persicae*, transmit the virus at different degrees of efficiency. The different aphid species can acquire the virus by feeding on an infected plant for less than a minute and can transmit it as quickly also. The aphids will retain the virus for periods of 1 day or longer if the aphids do not feed after acquiring the virus.

PVY infection in tomato and tobacco is an important source of the virus for pepper. Weeds may also act as a reservoir for the virus in tropical regions.

How to Identify Potato Virus Y

Mosaic and dark green vein banding are the most typical symptoms

Leaves crinkle and plants become stunted

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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>.

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