

Problem: Tobacco Mosaic Virus of Tomato



Host Plants: Tomato, pepper, eggplant, tobacco, spinach, petunia, marigold.

Description: Several virus diseases to tomato occur in Kansas, although they generally are not as prevalent as the wilt and foliar diseases. Three of the more common virus diseases are tobacco mosaic, cucumber mosaic, and spotted wilt. The tobacco mosaic **virus** can attack a wide range of plants, including tomato, pepper, eggplant, tobacco, spinach, petunia and marigold. On tomato, virus infection causes light and dark green mottled areas on the leaves. The dark green areas tend to be somewhat thicker than the lighter portions of the leaf. The leaf mottling is seen more easily if the affected plant surface is partially shaded. Stunting of young plants is common and often is accompanied by a distortion and fern-like appearance of the leaves. Older leaves curl downward and may be slightly distorted. Certain strains of the virus can cause a mottling, streaking and necrosis of the fruits. Infected plants are not killed, but they produce poor quality fruit and low yields.

Tobacco mosaic, is incited by a virus. The tobacco mosaic virus is very stable and can persist in contaminated soil, in infected tomato debris, on or in the seed coat, and in manufactured tobacco products. The virus is transmitted readily from plant to plant by mechanical means. This may simply involve picking up the virus while working with infected plant material, then inoculating healthy plants by rubbing or brushing against them with contaminated tools, clothing, or hands. Aphids are not vectors of the virus, although certain chewing insects may transmit the pathogen.

Recommendations: Virus diseases cannot be controlled once the plant is infected. Therefore, every effort should be made to prevent introduction of virus diseases into the garden. Sanitation is the primary means of controlling virus diseases. Infected plants should be removed immediately to prevent spread of the pathogens. Perennial weeds, which may serve as alternate hosts, should be controlled in and adjacent to the garden. Avoid planting tomatoes next to cucurbits, spinach, or other vegetables and flowers susceptible to these diseases. The use of tobacco products during cultural practices should be avoided to prevent inoculation of plants with the tobacco mosaic virus. Those people using tobacco or working with infected plant material should wash their hands thoroughly in soapy water before handling tomato plants.

References:

1. [Wilt, Nematode, and Virus Diseases of Tomato](#). K-State Research and Extension, Publication L-723.

Last Update: 1/27/2022

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