

PLPA-CUC002-2008

VIRUS DISEASES OF CUCUMBER: TOBACCO RINGSPOT VIRUS

The tobacco ringspot virus (TRSV) has a very broad host range, affecting not only cucumber, but other cucurbit species, several vegetable species, ornamental plants and weeds. A prominent symptom is the presence of small, pale circular spots on leaves (Fig. 1). Spots may be surrounded by a yellowish halo. However, other symptoms can occur in the same field, such as a general leaf mottle (Fig. 2), a yellow mosaic (Fig. 3), ringspots, or necrosis. The photos shown here are intended to be a guide for diagnosis; they should not be considered diagnostic just for this virus.



Fig.1. Small, circular spots caused by TRSV.



Fig. 2. Leaf mottle symptom caused by TRSV.

Tiny, water-soaked spots can also occur on the fruit, and also extending into it. Older plants can be stunted, with less severe foliar symptoms.

One vector of TRSV is the dagger nematode, *Xiphinema americanum*, but the disease can occur when this nematode is not present in soil. Other vectors of lesser importance include thrips, mites, grasshoppers, and flea beetles. Seed transmission can occur with melons, but is not important with cucumbers. Plant juices on hands or tools are also infectious.



Fig. 3. Yellow mosaic caused by TRSV.

TRSV can only be confirmed using a serological or PCR test and not on symptoms alone. Symptoms vary because crops can be infected by a mixture of viruses, and also, the cultivar, strain of virus, and growing environment can affect symptom expression.

Control: No resistant cultivars are available. The disease may be a problem in fields recently brought into production. Controlling weeds may reduce disease incidence.

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