

Prunus Stem Pitting

Tomato Ringspot virus

I. Introduction: Prunus stem pitting (PSP) is caused by tomato ringspot virus, which can attack all stone fruit species, as well as many other hosts. The virus is also found in broadleaf weeds.

II. Symptoms: Symptoms result from girdling of the trunk and, at least in part, resemble symptoms of trees girdled by other causes. Leaves appear drought-stressed. Usually in late summer, before healthy trees begin to color and lose leaves, leaves on single or multiple shoots of infected trees turn yellow, may cup upward along the midrib, may turn red to purple, and then begin to drop from the tip of the branch back toward the main branches. Generally, infected trees produce large numbers of small fruit, which tend to ripen early and may drop prematurely. In the following season, the infected tree appears weak, with stunted growth (photo 2-66). Eventually, the tree dies or breaks off near the ground during a heavy wind. Breakage may be confused with incompatibility of the graft union.

To separate PSP from other problems, remove a strip of bark from six inches (15 cm) above to six inches (15 cm) below the ground line on the trunk. On infected trees, bark and sapwood will be thicker than normal, and wood will have elongated indentations, swellings or pits (photo 2-67).



photo 2-66 - E. V. Podleckis

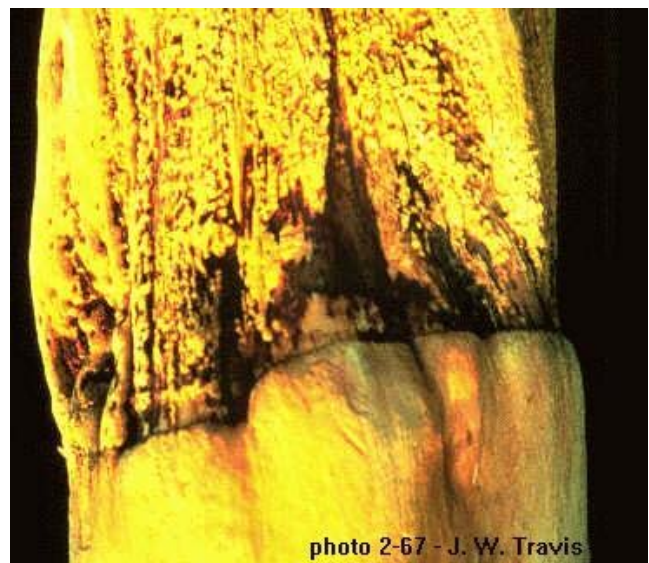


photo 2-67 - J. W. Travis

The degree of pitting will depend on the variety of scion and rootstock and on the stage of disease development. Pitting may or may not extend across the graft union. The root systems of infected trees are often poorly developed. The root may break away leaving a socket-type depression. The wood of infected trunks is often disorganized and a cross-sectional cut can be made to determine, by means of the annual growth rings, when the tree was first infected. This characteristic is useful in determining if trees were infected before or after planting.

III. Disease Cycle: Broadleaf weeds act as reservoirs for infection of trees. Some weeds, such as dandelion, can spread the virus over long distances through seed. Tomato ringspot virus is transmitted from weeds to trees by dagger nematodes (*Xiphinema* spp.). Nematodes acquire virus by feeding on the roots of an infected plant and later transmit virus when feeding on a healthy plant. In the absence of dagger nematodes, the virus does not naturally spread to fruit trees, but can be transmitted through grafting and budding of infected tissue. Diseased trees do not recover and cannot be cured. Because the disease is not usually obvious at early stages of its development, opportunity for spread has already been ample when the disease is identified.

IV. Monitoring: Be aware of symptoms of this disease. No routine monitoring is required.

V. Management: Before nursery certification programs were established, nursery trees were a common source of infected trees. Due to the efforts of the nursery industry and state agencies, the production of virus-tested trees is now common practice. To avoid introducing the disease into new plantings, growers should obtain and plant trees derived from a virus certification program. Prior to planting, land preparation should include destruction of weeds, which serve as reservoir hosts of the virus, and, if nematode vectors are detected, fumigation should be considered.

TEXT PREPARED BY E.V. PODLECKIS AND R. WELLIVER

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