Apple Mosaic Virus I

Apple Mosaic Virus

I. Introduction: Apple mosaic virus is one of the oldest known and most widespread apple viruses. The same virus can cause line pattern symptoms in plum and rose mosaic disease. Apple mosaic virus is related to Prunus necrotic ringspot virus.

II. Symptoms: Apple trees infected with apple mosaic virus develop pale to bright cream spots on spring leaves as they expand (photo 2-27). These spots may become necrotic after exposure to summer sun and heat. Most commercial cultivars are affected, but vary in severity of symptoms. 'Golden Delicious' and 'Jonathan' are severely affected, whereas 'Winesap' and 'McIntosh' are only mildly affected. Except in severe cases, a crop can still be produced by infected trees; yield reductions vary from 0 to 50 percent. In some cultivars, bud set is severely affected.

III. Monitoring: For this and the other viruses named below, no routine monitoring is required.

Common Latent Viruses of Apple

I. Introduction. A large number of latent viruses have been identified in apple. More common latent viruses include apple chlorotic leaf spot virus, apple stem pitting virus, and apple stem grooving virus. These viruses also cause diseases in other fruit crops: apple chlorotic leaf spot virus causes pear ring pattern mosaic and has been found in all

pome and stone fruit species; apple stem pitting virus is the causal agent of pear vein yellows.

II. Symptoms: As the designation "latent" implies, these viruses are symptomless in most commercial cultivars, but may cause symptoms in certain cultivars, scionl/ rootstock combinations, and ornamental varieties. Symptoms of apple chlorotic leaf spot virus may include chlorotic leaf spots, leaf distortion, chlorotic rings and line patterns, reduced leaf size, and stunting. Apple stem grooving virus produces symptoms on 'Virginia Crab' such as chlorotic leaf spots, stern grooving and pitting, union necrosis, and swelling of the stem above the graft union. Like apple stem grooving, apple stem pitting virus symptoms are also associated with 'Virginia Crab', and include stem pitting of xylem that generally stops at the graft union. Apple stem pitting virus also causes fluted (grooved) fruit in 'Virginia Crab', and epinasty and decline in 'Spy 227'. Although causing no marked symptoms in commercial apple cultivars, latent viruses may have a detrimental effect on the growth and cropping of some cultivars.

Other Virus and Virus-Like Diseases

I. Introduction: In general, apple viruses other than tomato ringspot virus (apple union necrosis and decline) are transmitted only through grafting. If a tree is healthy, with virus-free rootstock and scion, that tree will remain healthy in an orchard situation. If an infected tree is present in the orchard, many viruses have been known to spread slowly to adjacent trees through natural root grafts.

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