

Peach Leaf Curl

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Identification, Biology & Management

Peach leaf curl is a springtime disease that occurs on peach, nectarine and related ornamental trees. High incidents of peach leaf curl are generally recorded during cool, wet springs after a mild winter has prevailed. The main form of damage is premature leaf drop. This weakens trees, making them more susceptible to other diseases and winter injury. Weakened trees also produce fewer fruit the following season. Yield may be further reduced when blossoms and young fruit become diseased.

Symptoms

Symptoms of leaf curl appear in the spring. Developing leaves become severely distorted (thickened and puckered), and have a reddish or purple colour (Figure 1). With time the leaf surface become powdery grey in colour before turn yellowing/brown and then prematurely dropping from the tree. There is no secondary spread of this disease from leaves infected in the spring to new leaves produced later in the growing season. Diseased twigs become swollen and stunted, and may have a slight golden colour. In addition infected twigs normally produce curled leaves at their growing tips.

Flowers and fruit may also become diseased which drop shortly after infection. Diseased fruit has shiny, reddish, raised, warty spots.

Causal Agent

Peach leaf curl is caused by the fungus, *Taphrina deformans*, spores of which overwinter on bark and in buds. Infection occurs very early in the growing season.



Figure 1: Symptoms of Peach Leaf Curl

During cool, wet spring weather spores infect new leaves as they emerge from buds. The infection period for the fungus is very short as only very young leaf tissue is susceptible to attack. As the leaf tissue matures it becomes resistant. The fungus then produces another type of spore known as an ascospore on the upper surface of diseased leaves. These spores are carried to other parts of the tree by rain and wind, where they will overwinter until the next spring. Peach leaf curl is most severe following cool, wet weather as the low temperatures are thought to retard maturation of leaf tissue in turn increasing the time infection may occur. For example peach leaf curl can attack young leaves readily at temperatures between 10-

21°C but only weakly at temperatures less than 7°C.

Control

Peach Leaf curl is not difficult to control. As the fungus survives the winter on the surface of twigs and buds, a single fungicide, liquid copper or sulphur spray, thoroughly covering the entire tree, will provide good control.

If peach leaf curl does result in significant defoliation in the spring, the fruit on affected trees should be thinned to compensate for the loss of leaves. Over-cropping the tree will weaken it and make it more susceptible to winter injury.

During winter clean and/or light thin the crown to improve circulation of air through the crown as dense foliage prevents air movement and inhibits leaf drying after rainfall. In areas where there is history of the disease, resistant tree species should be planted.

Removal of infected leaves before the bloom of white spores appears will help reduce the amount of fungus carried over to the following year.

Application of phosphite and calcium based fertilisers are recommended based on soil test results. Phosphite and calcium sprays and/or soil drenches have been shown to stimulate tree vitality.



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