

Peach Leaf Curl and Plum Pockets

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Peach leaf curl occurs annually in commercial and residential orchards throughout Kentucky. The disease causes severe defoliation, weakens trees, and reduces fruit quality, fruit set, and yield. Peaches, apricots, and nectarines are susceptible to peach leaf curl. Plum pockets is a similar, but less common, disease that occurs on wild and cultivated plums.



FIGURE 1. PEACH LEAF CURL CAUSES THICKENED, CURLED LEAVES ON PEACH, APRICOT, AND NECTARINE.
(PHOTO: JOHN STRANG, UNIVERSITY OF KENTUCKY)

SYMPTOMS & SIGNS

Peach leaf curl

Peach leaf curl is easily recognized by the presence of thickened, puckered, and curled leaf blades (FIGURE 1). Symptoms are even more conspicuous when accompanied by a red or purplish discoloration (FIGURE 2). Diseased areas develop a powdery gray coating of sexual fruiting structures (called *asci*) and reproductive spores (called *ascospores*). Leaves may eventually turn brown, wither, and drop from trees. Twig and fruit infections, which are less obvious than foliar symptoms, can also occur. Yearly defoliation can seriously weaken trees and cause them to become more sensitive to cold injury and other stresses.

FIGURE 2. RED AND PURPLE COLORATION IS COMMON ON THICKENED, CURLED LEAVES. (PHOTO: PAUL BACHI, UK)



Plum pockets

Fruit with plum pockets appears swollen and misshapen with thick, spongy flesh (FIGURE 3). Fruit centers become hollow when seed development fails. Tips of shoots may appear swollen, twisted, and curled (FIGURE 4); leaf distortion can also occur.



FIGURE 3. SWOLLEN, MISSHAPEN FRUIT RESULT FROM PLUM POCKETS DISEASE. (PHOTO: CHERYL KAISER, UK)

FIGURE 4. SHOOT TIPS BECOME TWISTED AND SWOLLEN AS A RESULT OF PLUM POCKETS. (PHOTO: PAUL BACHI, UK)

CAUSE & DISEASE DEVELOPMENT

Peach leaf curl (*Taphrina deformans*) and plum pockets (*Taphrina communis*) are caused by related fungi with similar life cycles. These pathogens survive between seasons on twigs and buds or within bark crevices. In late winter or spring, fungal spores are produced and washed by rain to swelling buds and emerging leaf tissues. Often, leaves are already infected

when they emerge from buds. Diseased leaves are the source for sporulation and subsequent infections in mid-spring. Infection requires at least 12 hours of moisture (high humidity or rain) and temperatures between 50° and 70°F. Once expanding tissues mature and weather warms above 70°F, infections cease.

DISEASE MANAGEMENT

Cultivar selection

A few peach cultivars are available with tolerance or resistance to peach leaf curl. For example, according to the *Midwest Tree Fruit Management Handbook* (ID-93), 'Redhaven' and its derivatives are more resistant than 'Redskin' and its derivatives.

Fungicides

A single preventative fungicide application during dormancy (after leaf drop in late fall but prior to bud swell in early spring) often provides sufficient management of peach leaf curl and plum pockets. Once leaves begin to emerge, infection may have already occurred and fungicides will not be effective.

Consult one of the appropriate spray guides, below, or contact your county Extension agent for recommended fungicides.

Tree health

If disease develops and trees defoliate prematurely, take measures to promote tree health and reduce plant stress:

- Thin fruit
- Irrigate during dry periods
- Fertilize according to soil test results
- Mulch trees in home orchards as far as the dripline to preserve moisture and regulate soil temperatures.

ADDITIONAL RESOURCES

- Commercial Tree Fruit Spray Guide (ID-92)
http://www2.ca.uky.edu/agcollege/plantpathology/ext_files/PPFShtml/MwTreeFruitSprayGuideID92.pdf
- Disease and Insect Control Program for Homegrown Fruit in Kentucky (ID-21)
<http://www.ca.uky.edu/agc/pubs/id/id21/id21.pdf>
- Tree Fruit Pest Management (ID-93)
<http://www.ca.uky.edu/agc/pubs/id/id93/id93.htm>
- Backyard Peach & Stone Fruit Disease Management fact sheets:
 - >http://www2.ca.uky.edu/agcollege/plantpathology/ext_files/PPFShtml/PPFS-FR-T-20.pdf
 - >http://www2.ca.uky.edu/agcollege/plantpathology/ext_files/PPFShtml/PPFS-FR-T-22.pdf
 - Stress and Decline in Woody Plants (ID-50)
<http://www2.ca.uky.edu/agc/pubs/id/id50/id50.pdf>

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