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Recognized as a common problem in peach production since 1821, peachleaf curl is one of the most common and widespread diseases affecting peach plantings in the United States.

In Idaho, peachleaf curl is most prevalent in home-orchard plantings although it causes frequent and serious damage to commercial orchards. This is particularly true in the state's northern portion.

Cause of the Disease

Cause of peachleaf curl is the fungus *Taphrina deformans*. In early summer, the fungus produces spores on surfaces of infected leaves. These spores give the leaf a powdery appearance. Millions of the spores are blown and splashed about by wind and rains to come to rest eventually in bud scales and rough bark of the trees and remain there throughout summer and winter months. When the young peach buds begin to swell in spring, the spores germinate and the fungus penetrates the developing young leaves. Infection follows.

Symptoms of the Disease

Peachleaf curl appears first in early spring. Leaves are noticeably red and become distorted, thickened, and curled as they develop. Our cover photo is a good illustration.

When diseased leaves are fully developed, they are lighter colored than normal, frequently flushed with red, and extremely curled, puckered, and distorted.

Diseased leaves are also thicker than normal leaves and have a firm, leathery consistency. The entire leaf or any portion of it may become infected, and a few or nearly all of the leaves on a tree may fall depending upon the severity of the attack. As the growing season advances, the upper surfaces of diseased leaves turn gray and develop



a powdery appearance. Dry weather soon withers infected leaves and they fall early. Cool weather delays this defoliation.

Peach blossoms also may become infected, but they fall from the tree early and usually pass unnoticed.

The fungus may also attack young terminal twigs. When this occurs, the end of the twig may be enlarged from 4 to 5 inches. (Fig. 1). Infected twigs usually are shorter than normal and are more or less swollen and show a pale yellow or green color. Such twigs generally produce nothing but curled leaves at their tips, and the majority of them die back.

Peach fruits are attacked more often than we generally recognize. Young peach fruits, when affected by the fungus, become distorted and seldom remain long on the tree. Infected fruits show irregular, swollen, and colored areas on their surfaces. These areas usually are without the normal



peach fuzz and look as though they have been polished (Fig. 2).

A severe infection of peachleaf curl can destroy many of the blossoms and much of the young fruit.

Effects of the Disease

Attacks by the peachleaf-curl fungus may cause foliage to drop in early summer (Fig. 1). This stimulates the infected tree to produce another crop of leaves with resulting decreased vigor in the tree. In turn, this lowered tree vigor increases the tree's susceptibility to winter injury.

Blossoms and young fruits may drop prematurely as a result of defoliation. Attacks on terminal buds of young twigs may result in their death (Fig. 1). Severe attacks by the fungus may hinder formation of fruit buds and thereby endanger the next year's bud crop. If defoliation from peachleaf curl occurs year after year, the infected tree eventually dies.

Prevention of the Disease

Two applications of a suitable spray material applied at the most advantageous time prevent peachleaf curl. The first application—made at or just before leaf fall—gives excellent control in most instances. If the disease has been a perennial problem, spray one additional time before the buds begin to swell in spring. On the next page, you will find a list of chemical materials satisfactory for either application.

PESTICIDE RESIDUES — These recommendations for use are based on the best information currently available for each chemical listed. If followed carefully, residues should not exceed the tolerance established for any particular chemical. To avoid excessive residues, follow recommendations carefully with respect to dosage levels, number of applications, and minimum interval between application and harvest.

THE GROWER IS RESPONSIBLE for residues on his crops as well as for problems caused by drift from his property to other properties or crops.

| Material | Rate per 100 gallons of water | Rate per gallon of water |
|---------------------------------------------|--------------------------------------------------|-----------------------------|
| Bordeaux (copper sulfate and hydrated lime) | (Use according to manufacturer's recommendation) | |
| Lime sulfur | 8 gallons | 1 $\frac{1}{4}$ cups |
| *Tag | 1 $\frac{1}{2}$ pints | 1 $\frac{1}{2}$ tablespoons |
| *Puratized Agricultural Spray | 3 pints | 3 tablespoons |

* Tag and Puratized Agricultural Spray contain mercury and are poisonous. Handle them with caution. These fungicides cause a mild skin burn on some people.