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Peach Leaf Curl *Taphrina deformans*

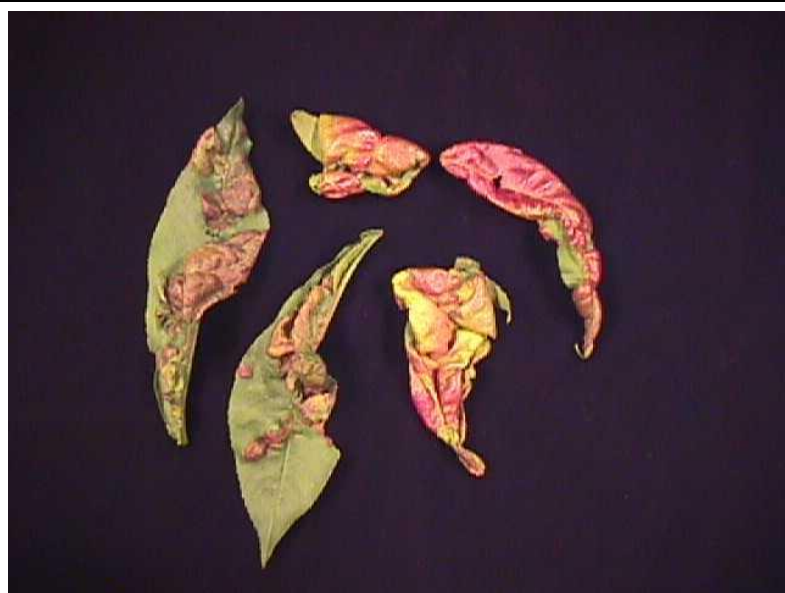


Figure 1. Peach leaves exhibiting the characteristic peach leaf curl symptoms. Note the distorted, puckered, reddish/purple coloring. (Paula Flynn, Plant Pathology, Iowa State University)

Introduction: Peach leaf curl is a springtime disease of peach, nectarine, almond, and related ornamental species caused by the fungus *Taphrina deformans*. This disease is common in unsprayed orchards. Peach leaf curl is not serious except in rainy years when it can cause defoliation of unsprayed trees early in the growing season. This weakens the trees making them more susceptible to winter injury.

Symptoms: *Taphrina deformans* can infect leaves, fruit, and young twigs. Infected leaves become distorted, puckered, and thickened, initially with a distinct reddish or purple coloration (**Fig. 1**). As infection progresses, affected leaves turn gray with a powdery appearance as a result of the production of fungal spores on the leaf surface. Shortly thereafter these leaves turn yellow or brown and drop. Fruit which becomes infected tends to drop shortly after infection occurs. Infected

twigs are swollen and stunted, usually with deformed leaves at their tips.

Disease Cycle: Spores produced on the leaf surface by the fungus are washed or wind blown onto peach twigs and buds. They remain lodged in bud scales or crevices in the bark throughout the summer and following winter. These spores germinate during periods of frequent rain as the buds open in the spring. If rains do not occur at this time, the spores remain inactive and little or no infection occurs. Only juvenile plant tissues are susceptible to infection, so if no spore germination occurs at bud break, then little damage results for that year. Spores are capable of producing secondary spores known as bud conidia during periods of wet, cool weather. Both spore types can remain inactive for several years on the peach tree until conditions are right for infection to occur. This explains why peach leaf curl can periodically cause severe defoliation even though it was not noticed the previous growing season.

Management Strategies: Peach leaf curl can be managed by a single, dormant application of a registered fungicide. Homeowners in New York State may use a registered product containing either the active ingredient chlorothalonil or copper soap (copper octanoate), or they may use Lilly Miller Kop-R-Spray or Lilly Miller Polysul Summer & Dormant Spray Concentrate on peach trees in their home orchard. Some commercially prepared dormant pesticide spray mixes containing copper may also be suitable, but check the label to be certain the product is registered for this use. Apply fungicide in autumn after the leaves have fallen. Where disease has been severe, some chlorothalonil products may also be applied in late winter or early spring before the buds

begin to swell. Fungicide applications will not be effective if applied after bud break. Read label carefully regarding proper timing of applications.

Some copper products may also be available to treat flowering (ornamental) peach trees in the home landscape. Apply in the spring before buds open. Additional products may be available for use by commercial applicators for nursery, orchard, or landscape applications. For commercial applications, please refer to the appropriate commercial pest management guidelines, or contact your local Cooperative Extension Office for more information on currently registered products. The varieties Clayton, Q1-8, Five Star Curlless, Indian Blood Free, and others are reported to be resistant.

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The Pesticide Management Education Program (PMEP), in cooperation with the New York State Department of Environmental Conservation (NYSDEC), maintains a web site with a searchable database for pesticide products currently registered in New York State. Individuals who have Internet access can locate currently registered products containing the active ingredients suggested above at <http://pmep.cce.cornell.edu/pims/current> (NYS PIMS).

This publication contains pesticide recommendations. Changes in pesticide regulations occur constantly and human errors are still possible. Some materials mentioned may no longer be available, and some uses may no longer be legal. All pesticides distributed, sold or applied in New York State must be registered with the New York State Department of Environmental Conservation (NYSDEC). Questions concerning the legality and/or registration status for pesticide use in New York State should be directed to the appropriate Cornell Cooperative Extension Specialist or your regional NYSDEC office. Read the label before applying any pesticide.

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