



# Physiological Leaf Scorch

## Introduction

Leaf scorch is a physiological problem that can occur on any kind of plant. It can be caused by transplanting, soil compaction, nearby excavation, a nutrient deficiency, chemical injury, unfavorable weather conditions (such as drought), poor soil, or limited room for root growth. Scorch often occurs in July and August, especially on newly planted trees, when the roots cannot supply enough water to offset the water lost through the leaves in transpiration. Hot, dry winds will increase the amount and severity of leaf scorch, especially in the early summer after a cool, wet period.



Figure 1: Symptoms at leaf margin.

## Symptoms

Symptoms of leaf scorch include yellowing and/or darkening of tissues between the main leaf veins or along the leaf margins, sometimes with dark angular spots in the discolored areas. Entire leaves may

become brown and wither when leaf scorch is severe. Plants affected by leaf scorch may lose many leaves during late summer and exhibit some twig dieback. However, they often recover if the cause of stress on the plant is not chronic. Physiological Leaf Scorch may be confused with Bacterial Leaf Scorch, caused by the bacterium *Xylella fastidiosa*. Laboratory analysis may be required to determine if scorch is due to a bacterial infection.

## Management Strategies

Sometimes severely affected plants may be fertilized and watered to help overcome leaf scorch. Apply fertilizer in the spring and by broadcasting over the ground under the spread of the branches at the rate suggested on the label directions. Proper watering by saturating the soil to a depth of six inches is especially important. Water once every one to two weeks during dry periods.

Light, general pruning of trees and shrubs helps reduce the total foliage load that must be supported by the root system. Dead and dying branches should also be removed. All pruning tools should be disinfected by dipping them in alcohol or 10% bleach (1 part bleach in 9 parts water) after each cut. Pruning wounds should be coated with shellac if invasion by canker-causing fungi and bacteria is likely to occur.

If the cause of leaf scorch is chemical injury by salt toxicity, fertilizer burn, weed killer injury, etc., recovery may be slow. In some cases, leaf scorch is the first sign of irreparable chemical injury that may

result in the plant's death. If salt toxicity or fertilizer burn are suspected, where possible, leach the soil by slowly trickling water onto the soil for 24-48 hours. Deicing salt toxicity may be prevented in some cases by building a curb or drainage ditch that carries the spring snow melt away from plants' root zones.

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