

Chlorosis Takes Green from Plants

By: John L. Cretti

If the leaves of your trees and shrubs turn a yellowish-green to pale yellow, in contrast to the luxuriant dark green leaves of neighboring plants, your plants may have chlorosis.

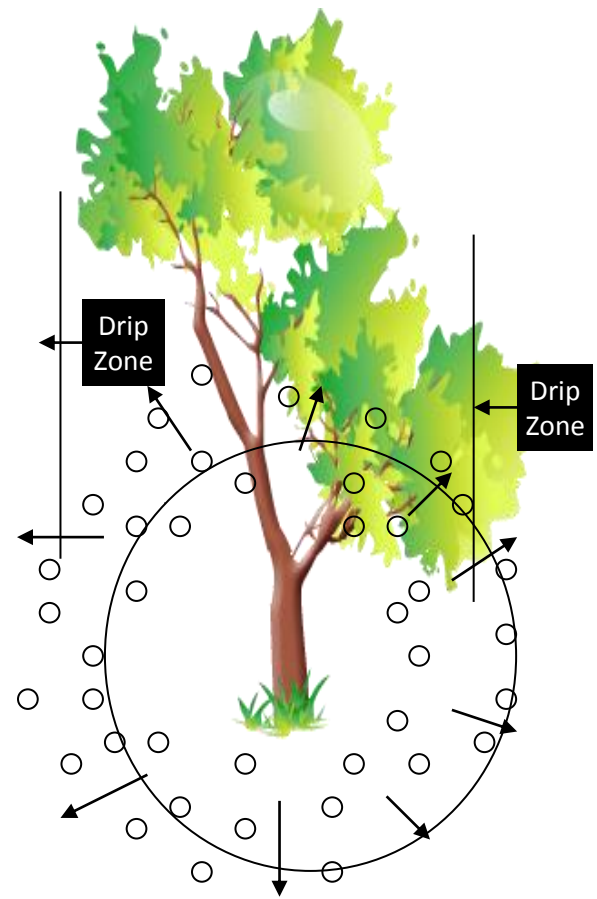
The disorder is common to many landscape plants throughout the Rocky Mountain region. Chlorosis is a rather general term and strictly interpreted, means there is an insufficient amount of chlorophyll in the leaves. Loss of this green coloring material can greatly reduce the plant's efficiency in manufacturing food.

The initial symptom of chlorosis in woody landscape plants is the yellowing of leaf areas because chlorophyll has failed to form.

As these symptoms grow worse, the leaf may turn yellow and, when severe, may exhibit scorched areas. Premature leaf drop also will occur. It's not uncommon for stunting and "die-back" to show up on twigs and branches of severely affected plants. Frequently, only a part or parts of a tree or shrub will exhibit symptoms.

Chlorosis may result from many factors including insect or disease attack, low temperatures, toxic substances in the soil or air, lack or non-availability of nutrients in the soil, drought conditions, or excessive soil moisture. When a condition of chlorosis appears, it is not generally caused by a fungus disease but rather a physiological/environmental problem associated with our alkaline soils.

One of the most common causes of chlorosis that affects shade trees, such as silver maples, oaks, cherries, plums, peaches, grapes, raspberries, and roses, is a deficiency of available iron in our soils. Even with enough iron, often it's in a form that can't be absorbed by the plant. Iron chlorosis is characterized by the yellowing of the leaf tissues between the leaf veins; leaf veins remain green. This problem is prevalent near brick, stucco or concrete foundations and concrete



Apply chelated iron beyond the drip zone of the branches. Holes are at 1' intervals to a depth of 12"-15"

sidewalks or driveways where high lime subsoils from basement excavations were used as fill. It is also a common problem in poorly drained soils because of the high accumulation of soluble salts. Iron chlorosis is often a secondary problem that follows other conditions adverse to the plant's growth.

When a deficiency of iron is present, it can be aggravated by heavy, compacted clay soils, poor aeration in the soil, extreme drought conditions, overwatering, and root injury. Take the time to analyze the cultural conditions that may be contributing to chlorosis problems in your landscape.

Symptoms of iron chlorosis can be confused with zinc and manganese deficiencies that appear first on older, interior leaves.

Proper soil preparation in future landscape plantings and correcting adverse soil conditions can prevent chlorosis problems. Iron, in a form that can be absorbed by plants, may be applied to the soil or the leave of the affected plant.

Foliar applications are the most effective on smaller plants but are impractical on larger woody plants. A note of caution on spraying your plants with iron sulfate: Avoid the hot days since a burning of the foliage may result. Apply foliar fertilizers during the evening or during a cooler period of the early spring or summer.

Iron chelates are recommended for soil applications. In the Rocky Mountain region, Sequestrene 138 (EDDHA) has given good results in correcting iron chlorosis.

Soil applications may also be applied by using commercially prepared fertilizers through a root feeder. The roots-feeding device should be inserted from 10 to 12 inches deep at 1-foot intervals.

John L. Cretti is CSU metro area horticulturist/garden adviser. He hosts the Green Thumb Gardening Show on KOA Radio 85 every Sunday at 11 am and is garden expert for KUSA-Channel 9, Thursdays at 4:30pm. Denver, Colorado