

YELLOWING OF KBG AND OAK/MAPLE

By: Kelly Feehan, Extension Educator

Release: Week of July 17, 2023

The annual yellowing of some Kentucky bluegrass lawns has started. It seemed to begin earlier this year. I've noticed turf yellowing and have had questions about it since late June. On the other hand, red and silver maple and pin oak trees have been yellowing since spring.

Summer yellowing of Kentucky bluegrass and leaf yellowing in trees is caused by chlorosis, which is usually a lack of iron in plants but not a lack of iron in soil in eastern Nebraska. Chlorosis causes leaves to turn light green to yellow, sometimes white, with leaf veins remaining darker green.

This symptom helps diagnose the problem as chlorosis. In some cases, the nutrient lacking is manganese or zinc rather than iron. In most cases in our area the cause is a high soil pH compounded by other factors.

In the Great Plains, the pH of landscape soils tends to be alkaline which makes iron less available for some plants to take up. Pin oak and red maple are two trees that develop chlorosis. If the problem was a lack of soil iron, we would see chlorosis in other plants too.

It is not unusual to see leaf yellowing in trees from spring through fall. With Kentucky bluegrass, it tends to develop in summer and disappear in fall or by the next spring. One might wonder why bluegrass lawns are not always yellow if it's related to soil pH.

Yellowing of Kentucky bluegrass is not only due to high pH soils; but also to poorly functioning roots in hot soils that remain continuously wet from frequent irrigation. This root dysfunction impedes iron uptake in July and August.

Kentucky bluegrass is a cool season grass. It grows best during cool spring and fall weather and is negatively affected by hot air and soil temperatures. The roots of all plants function best when there are equal amounts of water and oxygen available in soil. Maintaining a wet soil reduces oxygen and hinders root function.

While there is not much we can do about soil temperature, we can avoid overwatering lawns or watering too frequently. Water long enough to moisten the soil 6 inches deep; then wait for soil to dry before watering again.

When lawns or trees begin to yellow, the instinct may be to apply nitrogen but this can hurt more than help. Nitrogen increases growth which increases the need for iron, compounding the issue.

To green up Kentucky bluegrass yellowing from iron chlorosis, irrigate correctly and apply a foliar application of iron sulfate. Do not water the iron in or it will be less effective. Follow label directions for application rate.

If a lawn has not been core aerated or plugged in the last few years, consider having this done in September. This practice relieves soil compaction and improves root growth and function.

For chlorotic maples and pin oaks, treatments include applying iron sulfate to soil by digging 6 to 9-inch deep holes to place iron sulfate into. The number of holes needed and amount to apply is based on tree diameter. Iron sulfate can burn plants so it is important to apply the correct rate.

Trunk injections are also used to inject iron into trees. This is best done by an experienced professional as injections wound the tree. It will need to be repeated about every few years or when tree leaves begin to turn light green to yellow again.

You might wonder about changing soil pH. Unfortunately this is not feasible to do in established landscapes and once changed, it eventually reverts back to the native pH.