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Look out for Iron Chlorosis

This time of year, it is really easy to spot trees with iron chlorosis. Take a drive through any neighborhood, and you will usually see at least one or two trees with this ailment – generally pin oaks. Iron chlorosis is the term we use for iron deficiency in plants. Chlorosis refers to a lack of chlorophyll, the part of the leaf responsible for its green color, and trees need iron to create chlorophyll. Iron chlorosis means that the leaf is turning yellow because it does not have enough iron to form all the chlorophyll it needs. Since trees rely on chlorophyll to photosynthesize and produce food for them, a tree with iron chlorosis will slowly starve, weakening the tree and possibly leading to death of the tree.

Iron chlorosis is easy to spot because the veins of the leaves usually stay green while the rest of the leaf turns yellow. It can affect all types of plants, but it is most common on pin oaks. If you notice your tree has this issue, you may think that your soil needs more iron. Generally, our soils have sufficient iron, the problem is that plants cannot access it. When your soil pH is higher than 7.2, the iron becomes insoluble and plants cannot pick it up.

To remedy iron chlorosis, there are several things you can try. If your tree needs immediate rescue, you will want to spray the leaves with iron sulfate or iron chelate solution. We call this a foliar application, and it is fast acting but temporary. After you spray the tree, the leaves should absorb the iron and turn a darker green. However, the iron will not move beyond the leaves that you spray it on. That means when the leaves fall off in autumn, new growth next spring will have the same issue. Therefore, we only recommend a foliar application if you are worried about your tree surviving the season.

For a longer-term solution, you can do either a soil treatment or a trunk injection. While lowering the pH of the soil would be ideal, it is unlikely that you can lower the soil pH significantly to depths of 18-24 inches, where tree roots are. Instead, you can add iron sulfate or chelated iron to the soil around it. In most of the Meadowlark District, chelated iron will be superior as it works in higher pH soils. If your soil is above 7.2, you will want chelated iron with EDDHA, which, although more expensive, will not become immobile in high pH soils.

If you have bare ground around your tree, you can add the chelated iron to the soil. If you have a lawn, you will want to deep feed the iron either with liquid injection using a hydraulic sprayer, or by drilling holes 15 to 18 inches deep around the canopy and adding the iron. This soil treatment is usually effective for 2 to 3 years.

The last option is trunk injection. This is best done by a professional arborist who can use the proper drill to minimize tree injury and knows the right depth to drill the holes. These applications usually last several years as well.