Many trees, shrubs and other ornamental plants in Nebraska suffer from iron deficiency.

In the Southwest part of the state there is no exception. In fact, it can be much worse here than other areas.

The high mag soils in this area cause the iron to be tied up with other elements in the soil. This makes it unavailable to the plants. Since the iron is not available to the plant they are slow to grow, have yellow leaves and when severe, the branches die back.

The yellowing of the leaves is very distinct. The veins of the leaf remain somewhat green, but the area in between the veins will be yellow.

Chlorosis becomes progressively more apparent as one travels west across the state. The main reason is the pH of the soil.

As one travels west in Nebraska, the soil becomes more alkaline, the pH is higher. This makes the iron tied up with other elements and unavailable to plants.

Symptoms include partial or complete yellowing of leaves. The yellowing first becomes apparent between the veins leaving a network of darker veins on a greenish-yellow background.

More severe symptoms include smaller leaves that turn pale yellow and develop angular brown spots between the veins. The leaf margins may turn brown and will eventually curl, dry up becomes entirely brown and falls off prematurely. The tips of the branches can die and poor root development occurs.

There are three methods used to correct the problem. The bottom line is to get some iron available to the plant.

Methods include:

1. Applying a mixture of dry ferrous sulfate and sulfur to the soil;
2. Spraying the foliage with solutions of ferrous sulfate or iron chelate;
3. Introducing iron salts into the main trunk or stems of a tree by implanting or injecting.

The first two methods can be used for all ornamental plants. The third method is restricted to trees and large shrubs.

The slowest plant response is applying ferrous sulfate and sulfur to the soil. However, when application is correct and effective, a single treatment may last up to three years.

Spraying the foliage with liquid iron may be great for annual plants and when chlorosis is severe. This method is very costly.

Trunk implants or injection is very effective when the correct chemicals are used. If too much iron is applied the leaves can burn black, but they will soon fall and the new leaves will be nice and dark green.

Several other options are available.

The inclusion of sulfur in your every year lawn fertilizer will slowly help to make the soil more acidic which makes more iron available for the plants to use. This takes a longer time, but does help over the long run.

Locally, several people have used ammonium sulfate, an everyday agricultural fertilizer, to help. Since it is readily available it is a good choice. However, it is hard to handle and get the right amount in the right area.