

Gardenias Can Suffer from Iron Deficiency

By Susan Camp

A quick turn around our front garden each day tells me which shrubs and perennials are suffering from this miserable, blistering heat and high humidity. Native shrubs like clethra, yaupon holly, and beautyberry are thriving. The native perennials, including baptisia, goldenrod, rudbeckia, echinacea, and liatris are holding up well, as are Mediterranean herbs like lavender, thyme, and rosemary. The roses, too, manage the heat well, although the Japanese beetles currently are launching their daily attack, which will end in a few weeks.

Affected most by the high temperatures and lack of rain are the few shade plants still left in the garden: hostas and astilbe suffer the most, their leaves turning dry and crunchy. The hydrangea blossoms have faded too early, and the shrubs seem to need continuous irrigation.

The gardenia bushes continue to sprout glossy, leathery, dark green leaves and produce fragrant masses of snow-white flowers, seemingly unfazed by the hot, muggy weather. Gardenias (*Gardenia jasminoides*) are native to tropical and subtropical regions of Asia, Africa, Australia, and some Pacific Islands, so it isn't a surprise that they can thrive on the Middle Peninsula.

Gardenias are considered high maintenance shrubs and require tender loving care and a watchful eye to catch problems before they escalate. Two friends asked me the same question earlier in the spring: "Why are the leaves on my gardenia turning yellow?" As a proponent of Occam's razor, I find that in gardening, as in most other aspects of life, the "simplest explanation usually is the best one."

I reminded my friends that gardenias are evergreen shrubs. In the spring, the older leaves turn yellow and separate easily, making way for new leaves. Before you start shopping for fungicide or insecticide, wait a few days and watch for other symptoms to appear.

If you don't think the leaf yellowing is seasonal, and there are no obvious signs of fungal disease or insects, yellowing could be occurring because of overwatering, poor drainage, or nutritional deficiency.

If the leaves are yellow but the leaf veins remain green, your plant probably is suffering from interveinal iron chlorosis. Gardenias require moist, well-drained, acidic soil with plenty of organic matter and a pH of 5.0 to 6.0.

Iron is an essential nutrient in the soil; plants need it in order to produce chlorophyll, the pigment that gives leaves their green color. If the soil pH is above 7.0, the iron may not be in a usable form. Iron deficiency prevents photosynthesis, leading to iron chlorosis, so the soil pH must be adjusted to allow uptake of iron by the shrub.

If you suspect that your gardenias are suffering from iron chlorosis, the first step is to obtain a soil test kit from the Gloucester Extension Office. The results from Virginia Tech will tell you if you need to correct the soil pH.

Our local soil is normally acidic, but several factors can affect pH levels, including close proximity of plantings to home foundations and concrete driveways and patios. These structures can leach limestone and calcium into the soil, raising the pH. Turfgrass lime is sometimes the culprit when it washes into garden beds. In these cases, apply water-soluble aluminum sulfate or sulfur to the soil around the gardenia. You can maintain the soil pH by using a slow-release fertilizer specifically for acid-loving plants like gardenias and azaleas.

You can also add chelated lime or ferrous sulfate to the soil or to the leaves to directly provide the needed iron. You may need to apply the product several times during the growing season, as foliar application will not correct the soil pH.

Clemson University publications HGIC 1065 “Gardenia” and HGIC 2058 “Gardenia Diseases & Other Problems” offer detailed information on growing this loveliest of shrubs. Virginia Cooperative Extension (VCE) Publication 430-027 “Trees and Shrubs for Acid Soils” provides detailed information on the pH scale, causes of acid soils, and how to adjust soil pH.

Stay cool and have a happy and safe 4th of July!