IS YOUR PLANT NUTRIENT DEFICIENT?

By Ralph E. Mitchell, *Director/Horticulture Agent of Charlotte County Extension Service*

Ornamental plants by their very nature are grown for a certain appeal concerning their foliage or flowers. When ornamental trees and shrubs are planted in our landscape, their nutrient needs are hopefully available. There are 16 elements required by plants for normal growth and a few of these elements are sometimes missing in a typical landscape setting. Off-colored leaves, stunted growth and a general lack of health are characteristics of nutrient-deficient plants. This article will review some of the common nutrient-deficiencies that a gardener may face.

The most notable nutrients that we see on a fertilizer package are the familiar Nitrogen (N), Phosphorus (P), and Potassium (K). The nutrient that most gardeners will instantly recognize a deficiency of is nitrogen. The oldest leaves show symptoms first as they turn yellow or light green in color. As the deficiency continues the whole plant, not only turns light green to yellow in color, but also slows down in growth. Phosphorus deficiency is very rare in Florida due to the fact that there is already plenty of this element in the soil. However, when phosphorus deficiency does show up (often in combination with a potassium deficiency), on Ixora, for instance, a reddish color appears on the oldest leaves. Reddish spotting may also be apparent and is sometimes mistaken for a disease. Firebush may also show phosphorus deficiency in this manner from time to time. Potassium deficiency does occur fairly often on trees and shrubs in our area. This deficiency manifests itself as spots of dead tissue, some yellowing between the leaf veins or dead tissue along the edge of the leaf.

Of all the common nutrients that plants need, Magnesium (Mg) deficiency is perhaps the most often encountered. The symptoms of this deficiency show up as yellowing between the veins and along the margins of the plant's oldest leaves. Severe magnesium deficiency may even cause plants to drop their lower leaves. Plants will also appear stunted and individual leaves will be smaller than normal.

Iron (Fe) is another common plant nutrient that is often lacking. Plants that grow in our alkaline soils may show this deficiency. In other words, if a soil is too high in pH (alkaline), plants are unable to uptake this nutrient as it is biologically "locked up" in the soil. Poorly drained soils can also predispose plants to iron deficiency. If plants have damaged roots due to disease, injury or nematodes, iron deficiency may also occur. Iron deficient plants show a distinct yellowing between the veins on new leaves. Severe iron deficiency may show newly emerged leaves as almost white in color with spots of dead tissue.

Magnesium deficiency in rose.

Manganese (Mn) is another deficiency often associated with alkaline soils. New leaves show this deficiency as yellowing between the veins with spots of yellow or dead tissue. Deficient plants will develop new leaves that are small along with tip die-back.

One final nutrient to look at is Boron (B) This micronutrient deficiency is somewhat rare, but has been observed on hibiscus. Not to

be confused with an infestation of pink hibiscus mealybugs, boron deficiency symptoms on hibiscus have shown up as small, cupped, brittle, dark-green leaves. Shoot stunting and die-back have also been noted. Boron deficiency is associated with the leaching of this nutrient in sandy and high pH soils.

When all is said and done, nutrient deficiencies in plants can make them lose their ornamental features and render them useless in the landscape. Nutrient deficiencies may also stress a plant and allow secondary, opportunistic organisms to cause more damage. Preventing nutrient deficiencies will depend on knowing your plants' soil requirement and using a proper, slow-release fertilizer as per label instructions. Read fertilizer labels to check for nutrient formulations. Soil testing may also be a worthwhile task.

For more information on plant nutritional needs and how to obtain a soil test kit from our office, please contact our Master Gardeners on the Plant Lifeline at 941.764.4340 from 1:00pm-4:00pm Mondays, Wednesdays, and Fridays. Our office is located at 25550 Harbor View Road, Suite 3, in Port Charlotte. Our Plant Clinics are available across the county:

- **Demonstration Garden (6900 Florida Streeet, PG)** Thursdays 9:00am-11:00am.
- **Englewood/Charlotte Public Library** Thursdays 10:00am-1:00pm.
- **Mid-County Regional Library** 1st and 3rd Thursday of month 1:00pm-3:00pm.
- **Edison College Learning Resources Library** 3rd Tuesday of month 1:00pm-4:00pm.
- **South Gulf Cove Learning Garden** 3rd Wednesday of month 9:00am-12:00pm.

Monthly Plant Clinics are Saturdays 9:00am-12:00pm at the following locations:

- **Peachland Promenades Publix** 2nd Saturday of month.
- **Home Depot Murdock & Home Depot Punta Gorda** 3rd Saturday of month.
- **Lowes Garden Center Murdock** 4th Saturday of month.

Ralph Mitchell is the County Extension Director/Horticulture Agent for the Charlotte County Cooperative Extension Service. You may contact him by email (Ralph.Mitchell@charlottefl.com). You may also contact a volunteer Master Gardener 1:00pm-4:00pm Monday, Wednesday, and Friday at 941.764.4340 or by email (Master.Gardener@charlottefl.com).

For more information about our Florida Yards and Neighborhoods Program, please contact our FYN Horticulture Program Assistant, Allison Steele, at 941.764.4340. Allison can help educate you about the Florida Yards & Neighborhoods Program so that you can create a beautiful, Florida-Friendly landscape that saves you time and money while conserving precious water resources and reducing pollution.

Resource:

Broschat, T.K. (2008) Nutrient Deficiency Symptoms of Woody Ornamental Plants in South Florida. UF/IFAS Extension Service.