Ixora Shrubs are Litmus Test for Several Soil Nutrient Problems

Reddish-Purple Spots on Plants aren't Always an Indication of Disease

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These purplish leaf spots on ixora are due to P and K deficiencies. A cold snap will also enhance the appearance of these symptoms. [Inset photo: Ixora 'Duffii']

Yellowing of leaves is termed chlorosis and indicates a high pH root zone (alkaline soil). Treatment with iron and manganese supplements may help.

This heavy blooming shrub is an old time favorite in South Florida. Flowers grow in clusters on the ends of stems and appear at almost any time of year, especially in summer. A single flower cluster can last for 6 to 8 weeks. If unpruned, *Ixora coccinea* can reach up to twelve feet in height. Ixora are native to southern Asia and are not particularly well-suited to our south Florida alkaline "soils".

With certain plants, different ailments or pests may cause remarkably similar symptoms. This is referred to as mimicking symptoms and can lead to a "Who-dun-nit" mystery. This is fun when you know the plants and the various symptoms. Especially when there is a budding diagnostician who has been through the basics and thinks they know it all.

For example, take the reddish-purple leaf spots on the older leaves of ixora, which for all the world resemble a fungal leaf spot disease. These spots resemble the leaf symptoms that occur on Indian hawthorn, *Rhapiolepis* spp., when they are infected by the entomosporium leaf spot fungus.

Spraying the ixora with fungicides will not help. With ixora, these spots are caused by MACRO-nutrient deficiencies. Dr. Timothy Broschat, UF/IFAS Fort Lauderdale, has found this ailment occurs in calcarious, sandy "soils"(sound familiar?)–typical of most yards in Naples. His research showed that when BOTH phosphorous (P) and potassium (K) were missing, the spots occurred. He also reported premature leaf drop and thus, thin looking hedges. There may be a significant reduction in flowering as well.

An Ixora 'Nora Grant' hedge showing off under the Spanish moss in Naples on August 5, 2013.

How to avoid this? Test your soil first. If it is alkaline and mostly sand, don't plant this shrub! If it is too late, and you have inherited a landscape with ixora, here are some suggestions for more vigorous plants.

Add the missing nutrients!

But–avoid using soluble nitrogen based fertilizers and a lot of nitrogen in an attempt to "push" growth. The new growth will need more of the nutrients that are not available. Thus, more red spots and/or chlorosis, a yellowing of the leaves due to iron/manganese deficiency (another common ailment with ixora), will appear.

Use slow release nitrogen based fertilizers. And because K isn't retained in our sandy "soil" root zone, use slow release K fertilizer. Dr. Broschat has recently recommended a slow release fertilizer with a ratio of 8N-2P-12K-4Mg plus water-soluble micronutrients for all plant material, turf and ornamentals. Apply about 1.2 to 1.8 pounds of fertilizer per 100 sq. ft. of root zone. Apply 2 to 4 times per year, say in February, May, August and September-October, depending on their color. If the ixora are a nice dark green, skip an application or two. If the spots persist after a year, you may want to try superphosphate, if you can find it. Follow your local fertilizer ordinances by contacting your local extension office or you can try here: http://ffl.ifas.ufl.edu/materials/fertilizer-ordinances.pdf

To help them survive, provide soil high in acidic organic matter. Add liberal amounts (not more than 50%) of peat

or other organic matter when planting. For established shrubs, use 2 to 3 inches of organic mulch such as pine needles. This mulch will eventually contribute to the build-up of organic matter in the root zone and improve nutrient availability.

You can also top-dress next to the plants with coffee grounds, cotton seed meal or compost. More organic matter will also reduce nematode populations that can also plague some varieties of ixora. Often, some plants are grown in containers too long. This leads to a compromised root system composed of girdling roots that are not very efficient. Examine the roots before you buy!

Chlorosis:

Iron and manganese chlorosis (yellowing of new growth) can be alleviated by soil applications of soluble iron and manganese products, such as Hi Iron Granules, Essential Minor Elements. There are some chelated products worth trying as well. Do not use oxide or sucrate forms of micronutrients, they are not effective. You have to read the fine print on the fertilizer label to determine the ingredients!

To learn more about different shrubs, invest in a copy of *Your Florida Guide to Shrubs*
by University of Florida Drs. Ed Gilman and Robert Black. It is available at Barnes & Noble, Amazon
or **http://www.upf.com**

Ixoras are now available in many colors- coral, pale yellow, and light pink and white. This one is an orange sherbet color, possibly an Ixora chinensis 'Dixiana' .

This planting is at the Naples Botanical Garden. The shrub with the dark green leaves and deep red flowers is Ixora 'Super King' the smaller pink flowering shrub to the right is Ixora taiwanensis 'Petite Pink'.

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