

## Diagnosing Plant Problems

David W. Marshall

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Since receiving my Masters degree in Plant Protection and Pest Management, much of my work over the last 26 years has involved answering questions from people like you about problems with your plants. As I get older and have to deal with more health problems of my own, it amazes me how similar diagnosing plant problems is to what a doctor has to do when he diagnoses people problems.

If anything, it seems that the doctor has it easier because at least his patients can talk. But just as most of us want a quick and easy solution for medical problems, we also want quick and easy solutions for plant problems. Very often, though, the situation is very complicated and there is no quick or easy solution. In fact, very often there is no solution at all. At least, be glad that with plants you can often throw away the plant and start over. Though, when it's a 200-year old live oak, replacing the plant is not an option.

Just as most of the problems we go to the doctor for are not caused by any one single disease organism, most of the problems you will have with plants in your home landscape are not caused by any one single disease organism either. In fact, many of our health problems are caused by genetics and lifestyle rather than by disease organisms. Not surprisingly, many plant problems are caused by genetics and environment, too. Every day I see plants dying because they are the wrong plants for the site conditions. And every day I hear people say things such as, "But my neighbor has shade and his grass grows okay. Why doesn't mine?" That's similar to saying, "But my neighbor smokes and he's not dead. So why do I have lung cancer?" There are many variables involved in genetics and environment, but we still know it's not healthy to smoke, and we know that none of our grasses, not even St. Augustine, grow in heavy shade. Likewise, we're not very surprised when we hear that someone who never exercises, who smokes, and is overweight has a heart attack. So why should we be surprised when a plant doesn't grow well in a soil that is so hard that you can't push a shovel into it?



Here are some suggestions for diagnosing plant problems. First, look for the obvious. It can save you a lot of wasted time and money. Evaluate the type of plant and the site. For example, weeping willows and red maples aren't good parking lot trees. They don't grow well in hot, dry conditions. Dwarf azaleas don't grow well in full sun. They don't grow well in poorly drained soils either. Remember, most plant problems are caused by an unsuitable relationship between the type of environment and the type of plant. Sometimes with a little extra tender loving care you can make a plant grow in a site where it is not ideally suited. But often people kill plants by too much tender loving care. It's much better to just find a plant that grows well on the site and then stand back and let it do its thing. A bald cypress, for example, is accustomed to growing

where there's not much oxygen, so it can grow well in a parking lot situation.

When diagnosing problems, look for other obvious factors such as excessive planting depth or wounds on the plant. Examine the plant well, from top to bottom. Look on the undersides of the leaves to see if there are insect pests. Grasp the plant by the trunk and see if it wiggles in its planting hole, indicating that its roots aren't well established. If a plant doesn't have well established roots a year from planting, obviously there was something wrong, either with the plant, the planting site, or the care given to the plant.

You may need to even examine the below-ground part of the plant. If you dig into the root system, you may be surprised by how wet the soil is or by how hard the soil is. You may be surprised to hit chunks of concrete. You may find that the soil line is several inches above where the trunk flares out to the roots, indicating that the plant was planted too deep. If the roots are dead or dying, do you see any white fungal growth just inside beneath the bark, indicating presence of mushroom root rot, a disease?

Just as a doctor asks you many questions about your medical history, your symptoms, and your lifestyle, you need to ask yourself questions about the care given to the plant. For example, how well does that sprinkler really water that plant? Have you ever placed a can there to check and see how much water the plant actually receives each time it's watered? How much fertilizer have you been giving the plant? Did you read the directions on the bag and apply the fertilizer at that rate or did you just apply a handful, possibly burning the plant? Have you applied a weed-and-feed fertilizer to the lawn around the plant? Have you repeatedly pruned the plant? Remember that pruning leaves open wounds which are sites for entry of fungi or bacteria. Under most conditions, this is no problem. But the more often you prune, the greater the chance the plant will eventually encounter a problem.

Very rarely are disease organisms the true causes of plant problems. And when insect pests are the problems, they are usually obvious. Though mites themselves are so small you can't easily see them, even mite damage is fairly easy to detect once you've seen it a few times.

Remember, most problems stem from the type of plant and its relationship to the site or the way the plant has been cared for. If you don't see an obvious answer for why your plant isn't doing well, then take the time to learn a little more about your site. Then try to find a plant that's better suited for it.

One last note\* remember that plants have an normal life span, just as we do. A dying 40-year old dogwood, for example, is no more surprising than a dying 80-year old man. However, just because I've now said dogwoods have a life span of more or less forty years, don't think that they all do, no more than all us humans are guaranteed 80 years on this earth. Some of us will live more than 80 years and some of us will live much fewer. There are no guarantees with living organisms as there are many variables involved.

For more information about gardening in our area, visit the UF-IFAS website for Leon County at <http://leon.ifas.ufl.edu>.

*Plant genetics and environment properly image by David Marshall, UF-IFAS Extension in*

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*\*David W. Marshall directs environmental education programs for the University of Florida IFAS Extension in Leon County.*

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