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DIAGNOSTIC STRATEGIES for TROUBLED TREES & SHRUBS

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DIAGNOSIS OF PLANT PROBLEMS

- a.** Consider all factors that influence plant growth & health.
- b.** Look for symptoms, a plants response to a causal agent: chlorosis, wilt, lesions, cankers, etc.
- c.** Look for signs, the physical evidence of the causal agent: insects, fungal fruiting bodies, etc.
- d.** Know what the healthy specimen looks like; recognize normal growth for the time of year.
- e.** Know the affect of combined landscape factors: soil type, drainage, site alteration, grade changes, extreme weather, pests, diseases, fertilizer, pesticide & herbicide use/drift, etc.
- f.** Many pests & diseases are host specific, they infest/infect one plant type. Know that symptoms affecting more than one plant species often indicate cultural & environmental problems.
- g.** Ask questions, ask questions, ask questions.....

EXAMINATION & IDENTIFICATION OF PLANT PROBLEMS

- a.** Remember to look at the area surrounding the plant, find out the maintenance history of the plant.
- b.** Look for physical evidence: wounds, changes in site conditions, soil compaction, construction injury, lawnmower injury, insects, diseases, drainage problems, etc.
- c.** Examine all plant parts: roots, shoots, stem, trunk, leaf, flower, fruit. Look for an injury pattern.
- d.** Use your hand lens, shovel, soil probe, etc.
- e.** Note pest evidence: shedded skins, frass, droppings, webs, honeydew, sooty mold, pitch, galls, etc.
- f.** Note disease evidence: fungal growth, galls, powdery material, leaf spots, cankers, etc.
- g.** Identify the pest, disease or problem to make a control decision. Identify the plant to make a control decision. Some plants can tolerate more damage than others.
- h.** Send samples to labs or use local specialists if you need assistance.
- i.** Ask questions, ask questions, ask questions.....

DECIDING CONTROL MEASURES

- a.** Is there a control measure? Should the plant be removed? Should it be replaced with the same species? Should it even be replaced?
- b.** Accurate & timely diagnosis leads to accurate control measures; it can prevent the need for removal & replacement of plants. Identify pests or diseases, become familiar with life cycles.
- c.** By the time disease/insect damage is observed, it may be too late to do anything until next season.
- d.** Once mature trees & shrubs begin to decline, there often is no way to reverse the process.
- e.** Identify the problem, corrective action, control strategy. Select the least toxic solution first; hand removal, change watering, replacement, pruning, beneficials, etc. Use pesticides with the least toxic materials, if possible; spot treatments using Bt, insecticidal soaps, horticultural oils, etc.
- f.** Monitor the plant's health after treating a problem to determine if further action is needed.

QUESTIONS TO ASK CLIENT

- When were the signs first observed?
- When did the symptoms develop?
- When was the plant installed?
- What is the soil like?
- Is there good drainage?
- Have amendments been added to the soil? At what rate? What are they composed of?
- Is there an automatic irrigation system? What is the watering schedule? Has it been adjusted to meet plant needs as they mature?
- If there is no automatic irrigation, how is water applied? Frequency? Length of application?
- Have pesticides or fertilizers been used? At what rate? What are they?
- Have there been any site changes recently or in the past years?
- Have there been any unusual weather occurrences?
- Are similar signs or symptoms obvious on other plants on site or neighboring properties?
- Do you have any questions?

QUESTIONS TO ASK YOURSELF

- Did I ask all of the basic questions about the plant & site?
- Does the plant exhibit normal growth that I am familiar with?
- Is there a pattern to the abnormality or symptoms?
- What part of the plant is affected?
- What are the signs?
- What are the symptoms?
- Did I get out of my vehicle?
- Did I touch the plant?
- Did I examine all sides of the foliage?
- Did I walk all the way around the plant?
- Did I get dirt, pitch, fungus, leaf debris, insects, etc. on me?
- Did I use my tools?
- Did I sharpen and/or disinfect my tools prior to bringing/using them?
- Did I take thorough notes?
- Did I take thorough pictures?
- Do I have all of the information & samples I need?
- Will I need to go back to the site?
- Do I have homework to do?
- Do I need to ask more questions?