Basic Steps for Diagnosing Plant Problems

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Diagnostic Steps
1. Identify the Problem
2. Identify Signs & Symptoms
3. Collect Information
4. Research
5. Follow Up with Client

“My tree is dying. What should I do?”
As a MGV what do you want to know?
top 3 in order

1. What kind of tree?
2. What is normal for this plant?
3. Why they think the tree is dying?

Step 1: Identify Problem
• Identify plant (or insect)
  — Clarify if using common names/terms
  — Use books, keys
• What is the specific concern?
• What should it look like?
  — What is “normal”?
• What are common problems of plant?
  — Rule out
  — Example: black knot in Prunus

“The leaves are turning yellow & fall off.”
What more do you want to know?

1. Abnormal characteristics (more than yellow leaves?)
2. Pattern of problem
3. Timing
4. Other plants affected
5. All the above

2. Identify Signs & Symptoms
• What is abnormal?
  — Color, wilting, galls, holes, spots
  — Overall and close up
  — Pattern of problem
  — Have symptoms changed?
• How long has problem occurred? Has it happened before?
• When did problem first appear?
• Are other plants affected?
What other information do you need to know about the tree?

(top 3 in order)

1. Soil conditions
2. Has it been watered, fertilized?
3. Weather
4. Age of tree
5. Pesticides applied

3. Collect Information

- Plant history
  - Overall health
  - Age
  - Culture – water, fertilizer, planting, mulching
    - What? When? How?
  - Pesticide usage
    - Direct applications
    - Indirect

- Environment around plant
  - Site conditions
    - Soil – drainage, type, pH, compaction
    - Other – sun/shade, wind, construction, buildings & roads
    - Surrounding plants
  - Weather conditions
    - Consider multiple years
    - Localized issues – flood, lightening

Common Missteps

- Not using “rule out” process
- Jumping to a quick conclusion
- Not gathering enough information
  - Leading questions
  - Not listening carefully or clarifying
- Using incorrect/appropriate resources
- Not saying “I’ll research it and get back to you.”

Which is the best question to learn more about the tree’s problem?

1. Are the leaves at the top of the tree turning brown?
2. Describe what you see that concerns you about your tree.
3. We have been in a drought. Have you watered?

4. Research

- Consider living (biotic)
  - Fungi, phytoplasms, viruses
  - Insects, mites
  - Animals (wild, pets, human)
- And non-living (abiotic)
  - Nutritional problems
  - Weather - temperature, water, hail, lightening
  - Injuries
4. Research

• In office
  – Take notes
  – Tools: hand lens, dissecting scope, utility knife, etc
  – Use appropriate resources & references
  – Get samples if needed
  – Your horticulture educator/agent

4. Research

• UW-Extension help
  – Specialists
  – Labs & Clinics
    • Plant Disease Diagnostics Clinic
    • Insect Diagnostic Lab
    • Soil Testing Labs
    • Turfgrass Diagnostic Lab

5. Follow Up with Client

• First – review all facts and conclusions
  – Don’t jump to easy answer
• Research based recommendations
  – Unbiased, all options
• Return calls (updates) in timely manner

Practice — What would you ask?

1. I used to get lots of raspberries every year but now I hardly get any.
2. The past couple of years my sweet peppers look awful and I don’t get many peppers.
3. My lawn has spots all over it and there seems to be more every year.
4. My evergreen is turning brown.
5. What is eating my flowers?
6. Potato leaves have brown edges and spots.