Your Garden &
The Disease Triangle

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What We Will Learn
- What is the disease triangle?
- Terminology & tools
- What clues are in your garden?
- Problem-solving | Case studies

Terms
- Chlorosis - yellowing of leaf tissue
- Necrotic tissue - death of leaf tissue
- Necrosis - leaf turns brown or gray
- Pathogen - causes disease
- Abiotic - without life/environmental
- Symptoms - abnormal features

Save money and time by thinking about the
The Disease Triangle

Host
Pathogen
Environment

Fungi
Bacteria
Phytoplasmas
Viruses
Viroids

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Soil Samples
Hillsborough County Extension Service pH test
$3.00 per sample
UF IFAS pH test & lime requirement (if needed)
$3.00 per sample
UF IFAS pH & soil fertility test
pH, lime requirement (if needed), P, K, Ca, Mg
$7.00 per sample
UF IFAS pH, soil fertility test + micronutrients
pH, lime requirement (if needed), P, K, Ca, Mg, + Cu, Mn, Zn
$12.00 per sample

For additional information and instructions on how to take a soil sample, please visit these links:
http://soilslab.ifas.ufl.edu/ESTL%20Tests.asp

P test required in Hillsborough County and the City of Tampa to apply P-containing fertilizers.

Unlock the Mystery!
Chart of the Effect of Soil pH on Nutrient Availability
Case Studies:
You help solve the problem

□ What’s wrong with this situation?
□ What can be done to correct it?
Case Studies

Zinc

Asymmetrical yellowing

Nutrient deficiency

http://edis.ifas.ufl.edu/ep344
Case Studies

Clue: Chamaedorea elegans

http://edis.ifas.ufl.edu/mg441
Identifying Nutrient Deficiencies in Ornamental Plants - You're the detective!

**Old Leaves**
- Symptoms on entire plant
- Plant light green, lower leaves yellow, dying to brown
- Chlorine leaves yellow at the edges, but stay green in the center
- Chlorine leaves will or spots, edges, etc

**New Leaves**
- Leaves deformed and/or stunted
- Leaves chlorotic
- Leaves reddened or shriveled

**Elements**
- Iron
- Copper
- Magnesium
- Potassium
- Calcium
- Phosphorus

**Case Studies**

**Management**

**Management**
Too Much Fertilizer Can Be Toxic

Copper
Iron
Nitrogen
Potassium

Help Protect Florida’s Water Quality

- Test the soil before using fertilizers.
- Fertilize only when needed.
- Irrigate properly.
- Read the fertilizer label carefully.
- Follow UF/IFAS recommendations.

Integrated Pest Management (IPM) for Pests of Lawn & Garden

Chemical
Biological
Physical - Mechanical
Cultural

Pathogen
Host
Environment

FRAC & IRAC

Review
What are some clues you will now look for?
Help Desk Hours
Mon-Fri 8:00 AM - 5:00 PM
Contact
Telephone: (813) 744-5519

Services Available
Include:
- Troubleshooting plant problems
- Soil pH testing
- Insect identification
- Plant identification
- Disease identification
- Irrigation recommendations
- Vegetable and fruit tree growing assistance
- Nutritional recommendations

Resources
Florida Gardening Calendar
http://solutionsforyourlife.ufl.edu/lawn_and_garden/calendar/
Florida Vegetable Gardening Guide
http://edis.ifas.ufl.edu/vh021
EDIS (Electronic Data Information Source)
http://edis.ifas.ufl.edu
The Lawn Fertilizer Toolbox
http://edis.ifas.ufl.edu/ep435
Frequently Asked Questions about Florida Friendly Landscaping
http://edis.ifas.ufl.edu/document_wq144
Frequently Asked Questions about Florida Friendly Fertilizing
http://edis.ifas.ufl.edu/document_wq143

Questions?
THANK YOU!
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OR
hillsborough.ifas.ufl.edu