Advanced Master Gardener Training

Growing Healthy Plants
Basics in Plant Disease Management

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Plant Disease Management

Definition

• Anything that you can do to reduce the impact of disease
• Integrated with other types of management

Plant Disease Management

Diagnosis

• First step in successful management
• Recognition that something is wrong
• Detective work to figure out what happened and why something happened

Plant Disease Management

The Disease Triangle

Susceptible Host
Pathogen
Favorable Environment

• Resistance
• Exclusion
• Protection
• Eradication
• Avoidance
• Therapy

Plant Disease Management

Resistance

• Using a plant's natural ability to fend off disease
Resistance is NOT universal!

Resistance is NOT immunity!

Resistance can depend on plant “age” and plant part!

Resistance effectiveness can depend on the weather!

Resistance may not be equally effective in all locations!

Resistance is sometimes NOT forever!
Resistance is not everything you may need in a plant!

Resistance is not always good!

Preventing introduction of pathogens into your garden

Buy healthy plants!

Buy healthy seeds!

Limit soil movement!
**Plant Disease Management**

**Exclusion**
- Limit other pathogen introductions!

**Protection**
- Applying materials to prevent infections by pathogens from occurring
  - Use as a last resort!
  - Read pesticide labels!
  - Use proper rates!
  - Apply at the right times!
  - Wear appropriate clothing!
  - Alternate active ingredients!
  - Get training!

**Eradication**
- Getting rid of pathogens once they have arrived in your garden
  - Do good fall clean-up!
Plant Disease Management Eradication

- Prune diseased branches!

Plant Disease Management Eradication

- Remove entire plants!

Plant Disease Management Eradication

- Control alternate hosts!

Plant Disease Management Eradication

- Control weeds!

Plant Disease Management Eradication

- Rotate, rotate, rotate!

Plant Disease Management Eradication

- Decontaminate, decontaminate, decontaminate!
• Manipulating how you grow your plants to prevent conditions favorable for disease

• DO NOT plant susceptible plants where a known disease exists!

• DO NOT plant too early or too deeply!

• DO NOT plant too densely!

• DO NOT water too much!

• DO NOT use sprinklers to water!
**Plant Disease Management**

**Avoidance**

- DO NOT water, heat or nutrient stress plants!

**Therapy**

- Eliminating pathogens from infected plants

**Putting It All Together**

- Figure out what diseases you have
- Figure out what management techniques work
- Integrate your disease management with other management needs
- DO NOT expect perfection
- Enjoy your garden (including the diseases)

**Where to Go for Help**

Plant Disease Diagnostics Clinic  
Department of Plant Pathology  
University of Wisconsin-Madison  
1630 Linden Drive  
Madison, WI 53706-1598  
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