Garden and Landscape Expo 2024

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

Plant Disease Management
R-E-P-E-A-T

• 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!
**Plant Disease Management**

**Resistance**

- Resistance is not everything you may need in a plant!

**Exclusion**

- 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!
• Prune diseased branches!

• Remove entire plants!

• Control alternate hosts!

• Control weeds!

• Rotate, rotate, rotate!

• Decontaminate, decontaminate, decontaminate!
### Plant Disease Management Avoidance

- 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!

**Plant Disease Management**

**Therapy**

- Eliminating pathogens from infected plants

**Plant Disease Management**

**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)

**Plant Disease Management**

**Where to Go for Help**

Plant Disease Diagnostics Clinic  
Department of Plant Pathology  
University of Wisconsin-Madison  
1630 Linden Drive  
Madison, WI 53706-1598  
(608) 262-2863  
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