Outagamie County MG Association

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
R-E-P-E-A-T

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

Plant Disease Management
The Disease Triangle

Susceptible Host
Pathogen
Favorable Environment

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!

**Plant Disease Management**

**Resistance**
- Resistance is not always good!

**Plant Disease Management**

**Exclusion**
- Preventing introduction of pathogens into your garden

**Plant Disease Management**

**Exclusion**
- Buy healthy plants!

**Plant Disease Management**

**Exclusion**
- Buy healthy seeds!

**Plant Disease Management**

**Exclusion**
- 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!
Plant Disease Management Avoidance

• Manipulating how you grow your plants to prevent conditions favorable for disease

Plant Disease Management Avoidance

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

Plant Disease Management Avoidance

• DO NOT plant too early or too deeply!

Plant Disease Management Avoidance

• DO NOT plant too densely!

Plant Disease Management Avoidance

• DO NOT water too much!

Plant Disease Management Avoidance

• 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  
(608) 262-2863  
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