La Crosse County Seminar

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!

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Resistance

- Resistance is not always good!

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Exclusion

- Preventing introduction of pathogens into your garden

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Exclusion

- Buy healthy plants!

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Exclusion

- Buy healthy seeds!

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Exclusion

- Limit soil movement!
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**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!
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!

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**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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