2023 PDDC Plant Disease Talks

Growing Healthy Plants
Basics in Plant Disease Management

Brian D. Hudelson
Department of Plant Pathology
University of Wisconsin-Madison/Extension

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
- Environment

Plant Disease Management
Resistance

- Using a plant’s natural ability to fend off disease

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

- Resistance
- Exclusion
- Protection
- Eradication
- Avoidance
- Therapy
Plant Disease Management
Resistance

• Resistance is NOT universal!

Plant Disease Management
Resistance

• Resistance is NOT immunity!

Plant Disease Management
Resistance

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

Plant Disease Management
Resistance

• Resistance effectiveness can depend on
  the weather!

Plant Disease Management
Resistance

• Resistance may not be equally effective
  in all locations!

Plant Disease Management
Resistance

• Resistance is sometimes NOT forever!
Plant Disease Management

Resistance

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

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!

**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  
pddc@wisc.edu  
https://pddc.wisc.edu  
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