#### **Garden Visions 2020**

**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

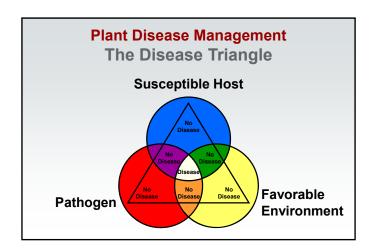
- · First step in successful management
- · Recognition that something is wrong





 Detective work to figure out what happened and why something happened





### Plant Disease Management 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







#### 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 Resistance

· Resistance is not always good!



vs.

# Plant Disease Management Exclusion

Preventing introduction of pathogens into you garden









# Plant Disease Management Exclusion

• Buy healthy plants!











## Plant Disease Management Exclusion

Buy healthy seeds!











# Plant Disease Management Exclusion

· Limit soil movement!



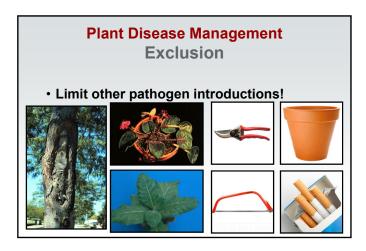


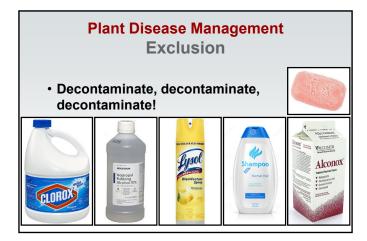










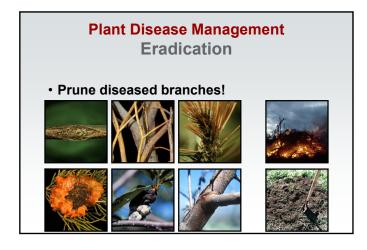


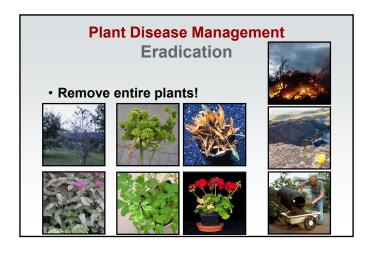


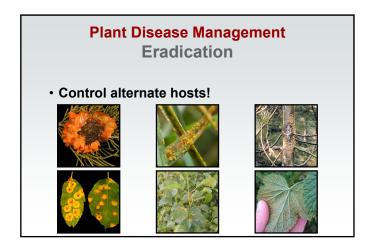


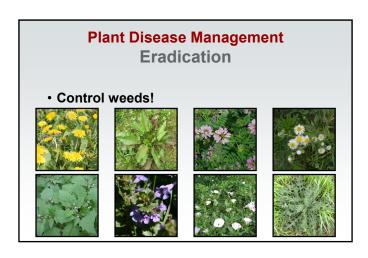


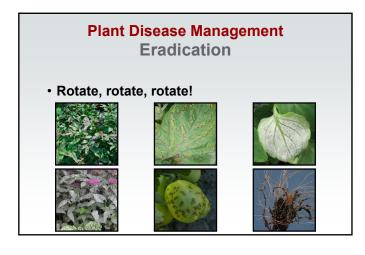














#### **Plant Disease Management Avoidance**

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



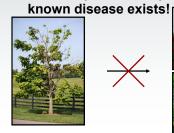






#### **Plant Disease Management** Avoidance

· DO NOT plant susceptible plants where a









#### **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

Follow on Facebook and Twitter @UWPDDC