

## Washington County Master Gardeners

### Growing Healthy Plants Basics in Plant Disease Management

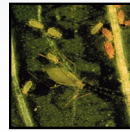
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## Plant Disease Management Definition

- Anything that you can do to reduce the impact of disease
- Integrated with other types of management



## Plant Disease Management Diagnosis

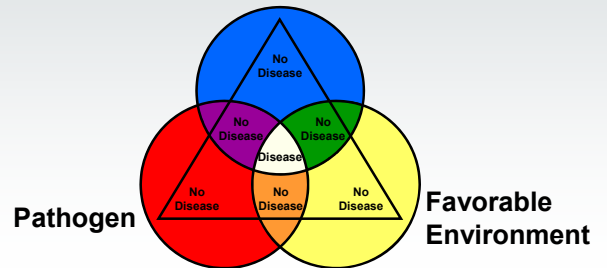
- First step in successful management
- Recognition that something is wrong



- Detective work to figure out what happened and why something happened

## Plant Disease Management The Disease Triangle

Susceptible Host

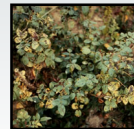


## Plant Disease Management R-E-P-E-A-T

- 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!



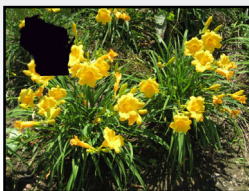
### Plant Disease Management Resistance

- Resistance effectiveness can depend on the weather!



### Plant Disease Management Resistance

- Resistance may not be equally effective in all locations!



vs.



### Plant Disease Management Resistance

- Resistance is sometimes NOT forever!



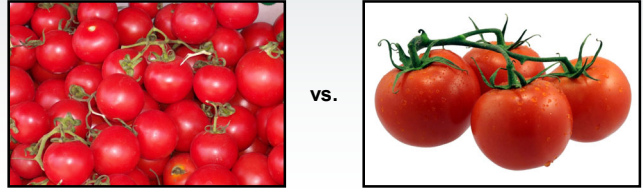
### Plant Disease Management Resistance

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



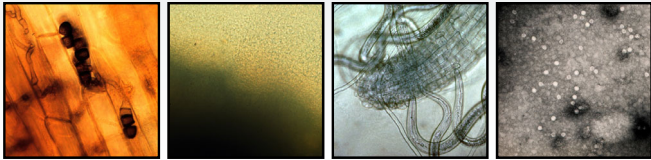
### Plant Disease Management Resistance

- Resistance is not always good!



### 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

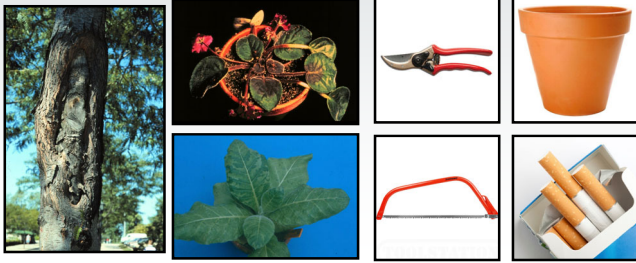
- Limit soil movement!





## Plant Disease Management Exclusion

- Limit other pathogen introductions!



## Plant Disease Management Exclusion

- Decontaminate, decontaminate, decontaminate!



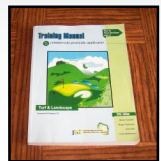
## Plant Disease Management Protection

- Applying materials to prevent infections by pathogens from occurring



## Plant Disease Management Protection

- Use as a last resort!
- Read pesticide labels!
- Use proper rates!
- Apply at the right times!
- Wear appropriate clothing!
- Alternate active ingredients!
- Get training!



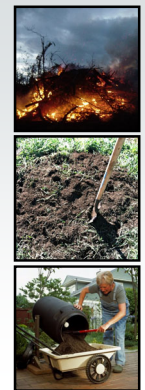
## Plant Disease Management Eradication

- Getting rid of pathogens once they have arrived in your garden



## Plant Disease Management Eradication

- Do good fall clean-up!



## Plant Disease Management Eradication

- Prune diseased branches!



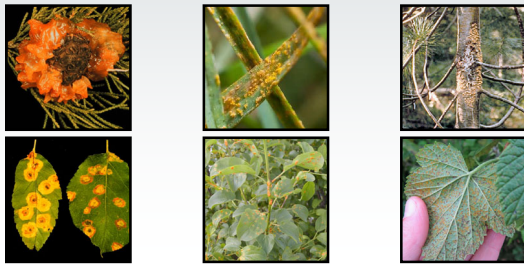
## Plant Disease Management Eradication

- 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!





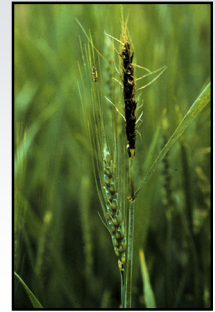
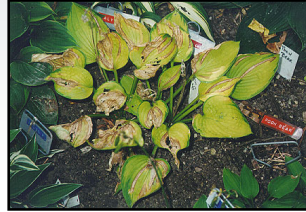
### **Plant Disease Management** Avoidance

- **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  
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