

## Garden & Landscape Expo 2019

### Growing Healthy Plants

Basics in Plant Disease Management

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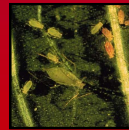
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## Plant Disease Management Definition

- 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 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!



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### Plant Disease Management Resistance

- Resistance may not be equally effective in all locations!

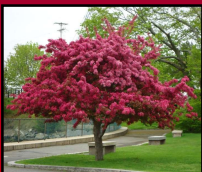


vs.



### Plant Disease Management Resistance

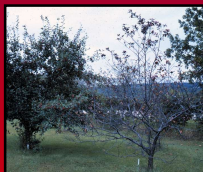
- Resistance is sometimes NOT forever!



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### Plant Disease Management Resistance

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



## Plant Disease Management Resistance

- Resistance is not always good!

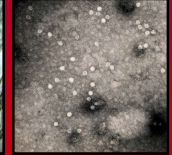
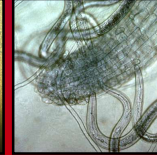
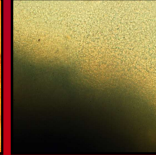


vs.



## Plant Disease Management Exclusion

- Preventing introduction of pathogens into you garden



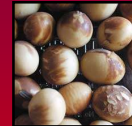
## Plant Disease Management Exclusion

- Buy healthy plants!



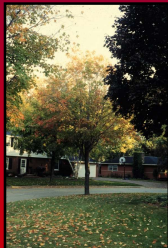
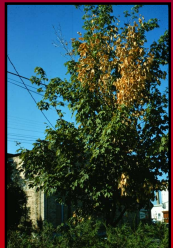
## Plant Disease Management Exclusion

- Buy healthy seeds!



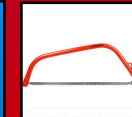
## Plant Disease Management Exclusion

- Limit soil movement!



## Plant Disease Management Exclusion

- Limit other pathogen introductions!





## Plant Disease Management Exclusion

- Decontaminate, decontaminate, decontaminate!



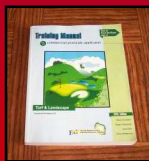
## Plant Disease Management Protection

- 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!



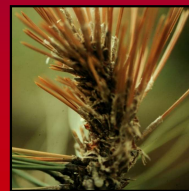
### Plant Disease Management Avoidance

- 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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<https://pddc.wisc.edu>

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