

Columbia County Seminar

Growing Healthy Plants Basics in Plant Disease Management

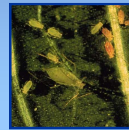
Brian D. Hudelson

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



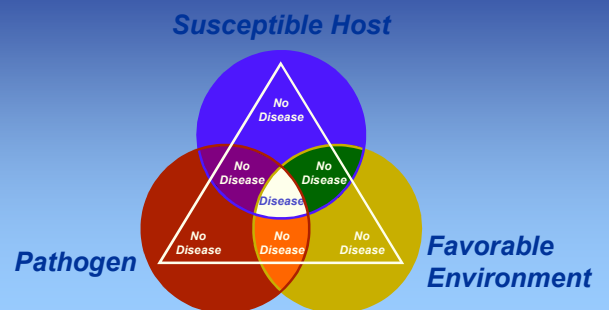
Plant Disease Management Diagnosis

- 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

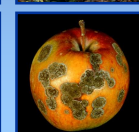
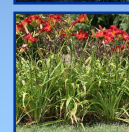
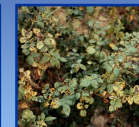


Plant Disease Management R-E-P-E-A-T

- 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!



+

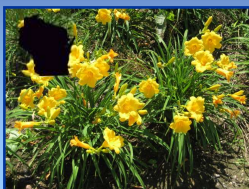


=



Plant Disease Management Resistance

- Resistance may not be equally effective in all locations!

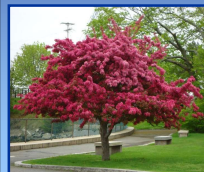


vs.



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!

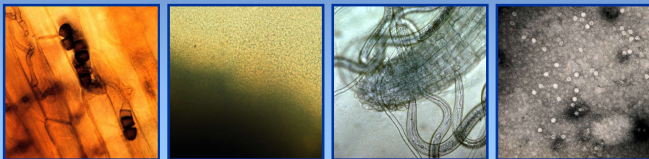


vs.



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
pddc@wisc.edu
<http://pddc.wisc.edu>
 Follow on Facebook and Twitter @UWPDDC*