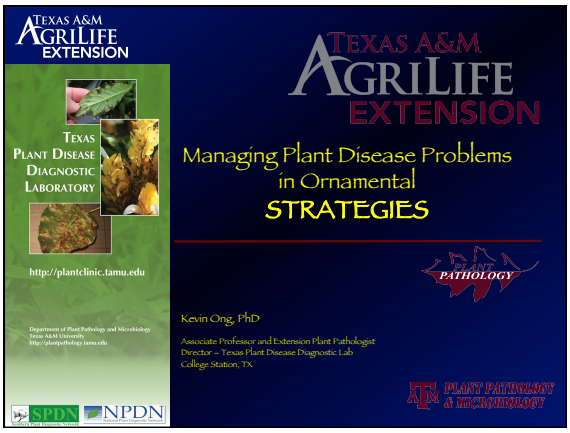
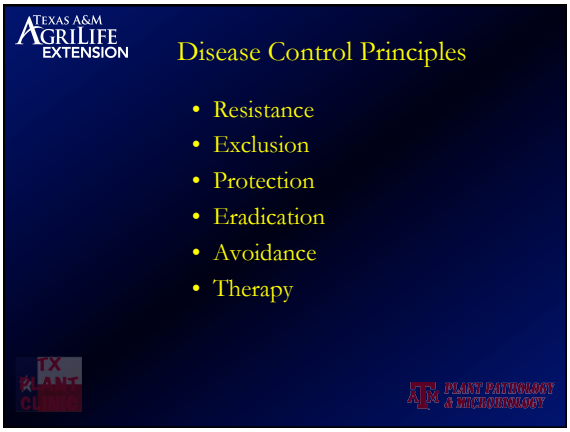

Texas A&M AgriLife Extension
Texas Plant Disease Diagnostic Laboratory
http://plantclinic.tamu.edu
Texas A&M AgriLife Extension
Managing Plant Disease Problems in Ornamental
STRATEGIES
Plant Pathology
Kevin Ong, PhD
Associate Professor and Extension Plant Pathologist
Director – Texas Plant Disease Diagnostic Lab
College Station, TX
SPDN
NPDN
Plant Pathology & Microbiology


Texas A&M AgriLife Extension
Disease Control Principles
• Resistance
• Exclusion
• Protection
• Eradication
• Avoidance
• Therapy
Plant Pathology & Microbiology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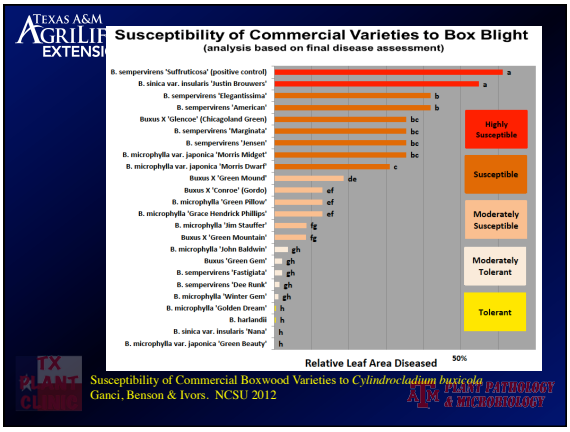
Resistance
Employing genetics of the plant to naturally resist pathogens
– Resistant versus tolerance
Plant Pathology & Microbiology



Susceptibility of Commercial Boxwood Varieties to *Cylindrocladium buxicola*
Ganci, Benson & Ivors. NCSU 2012

Exclusion

Employing methods to keep pathogen out

- Using only healthy plants, buy certified plant materials
- Maintain clean equipment
- Infrastructure to maintain clean growing area

Exclusion

- Boxwood blight
  - If movement is via plant materials
    - Check plants for signs and symptoms
    - Exclude plants from infested area (quarantine)
- Rose rosette
  - Virus moved by eriophyid mites
    - Exclude symptomatic plants
    - Exclude eriophyid mites

Protection

Utilizing barrier to protect the plant from the pathogen

- Chemical barrier
- Biological barrier
- Physical barrier

Protection

- Boxwood blight
  - Preventative fungicide spray program
- Rose rosette
  - Preventative miticide spray program

Eradication

Killing or getting rid of the pathogen

- Removing and/or destroying diseased plant debris (Sanitation or roguing)
- Fumigating area of planting (solarization)

Eradication

- Boxwood blight
  - Removal (pruning) and destruction of severely infected plant material
- Rose rosette
  - Removal and destruction of infected plant material

Avoidance

Finding ways to avoid the wrath of the pathogen

- Different planting sites
- Different planting times
- Utilitarian landscape design plan
- Using adapted varieties

Avoidance

- Boxwood blight
  - Irrigation practices (no sprinklers or overhead)
  - Plant spacing to encourage air movement
- Rose rosette
  - No planting in hotspots or in near vicinity of susceptible plants (ie. *Rosa multiflora*)

Therapy

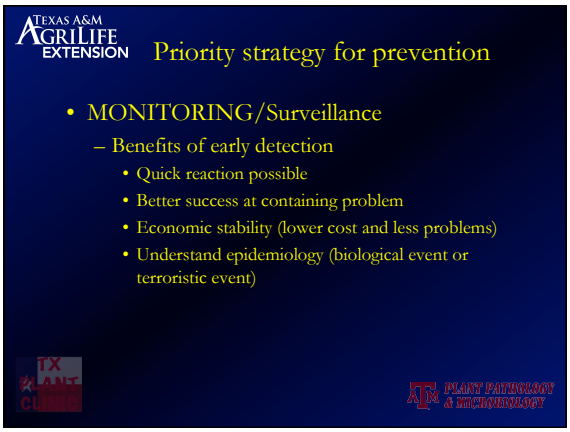
Helping the plant to heal
- Systemic chemicals
- Pruning

Therapy

- Boxwood blight
  - Systemic chemicals available
  - Pruning may work if caught early (not effective)
- Rose rosette
  - Pruning symptomatic stem/branch at early observation.

Purpose of management strategies

- To reduce impact of diseases
- To reduce excessive use of pesticides
- To have a plan of action
- To anticipate potential problem
- To prolong life and usefulness of plants


Texas A&M AgriLife Extension
Priority strategy for prevention
• MONITORING/Surveillance
– Benefits of early detection
• Quick reaction possible
• Better success at containing problem
• Economic stability (lower cost and less problems)
• Understand epidemiology (biological event or terroristic event)
TX Plant Clinic
Plant Pathology & Microbiology