Dane County Winter Seminar Series

Commonly Misdiagnosed Diseases
(and What They Really Are)

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Commonly Misdiagnosed Diseases
Oak Wilt

- Cause
  - Ceratocystis fagacearum
  - Chalara sp.
- Hosts
  - Oaks
  - Chinese chestnut

Commonly Misdiagnosed Diseases
Oak Wilt

- Consequences of misdiagnosis
  - Two-lined chestnut borer (Severe)
    - Use insecticide injections
    - Reduce stress
  - Armillaria root disease (Severe)
    - Remove and destroy affected trees (with roots)
    - Remove surrounding trees that may be infected
    - DO NOT trench

Commonly Misdiagnosed Diseases
Oak Wilt

- Consequences of misdiagnosis
  - Canker diseases (Moderate)
    - Prune affected branches
  - Chlorosis (Moderate to severe)
    - Prune affected branches
    - Modify soil pH and/or nutrients as needed
    - Consider alternative tree selections
Commonly Misdiagnosed Diseases

**Bur Oak Blight**

- **Cause:** *Tubakia iowensis*
- **Host:** Bur oak (particularly *Quercus macrocarpa var. oliviformis*)

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Commonly Misdiagnosed Diseases

**Bur Oak Blight Look-alikes**

- **Consequences of misdiagnosis**
  - **Oak wilt (Severe)**
    - Sever root grafts
    - Remove affected trees
    - Use preventative/therapeutic fungicide injections
  - **Two-lined chestnut borer (Severe)**
    - Use insecticide injections
    - Reduce stress

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Commonly Misdiagnosed Diseases

**Bur Oak Blight**

- **Consequences of misdiagnosis**
  - **Armillaria root disease (Severe)**
    - Remove and destroy affected trees (with roots)
    - Remove surrounding trees that may be infected
  - **Chlorosis (Moderate to severe)**
    - Prune affected branches
    - Modify soil pH and/or nutrients as needed
    - Consider alternative tree selections

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Commonly Misdiagnosed Diseases

**Bur Oak Blight**

- **Consequences of misdiagnosis**
  - **Canker diseases (Moderate)**
    - Prune affected branches
  - **Tubakia leaf spot (Minor to moderate)**
    - Clean up leaf debris properly
    - Consider preventative fungicide treatments
Commonly Misdiagnosed Diseases
Boxwood (Box) Blight

- **Cause**
  - *Calonectria pseudonaviculata*
  - *Cylindrocladium pseudonaviculatum*  
    (*Cylindrocladium buxicola*)
- **Hosts**
  - Boxwood
  - Pachysandra

Commonly Misdiagnosed Diseases
Boxwood (Box) Blight

- **Consequences of misdiagnosis**
  - Severe due to regulated nature of the disease
- **Volutella blight**
  - Prune affected branches
  - Reduce stress
- **Winter burn**
  - Select proper varieties (‘Green Gem’, ‘Green Mound’)
  - Water properly

**Commonly Misdiagnosed Diseases**
Boxwood (Box) Blight Look-alikes

- Volutella Blight
- Winter Burn
- Fusarium Canker
- Root Rot
- Small Animal Injury

**Commonly Misdiagnosed Diseases**
Boxwood (Box) Blight

- **Consequences of misdiagnosis**
  - Fusarium canker
    - Prune affected branches
    - Use preventative fungicide sprays
  - Root rot
    - Prune affected branches
    - Avoid excess soil moisture
    - Use preventative fungicide treatments

**Commonly Misdiagnosed Diseases**
Boxwood (Box) Blight

- **Consequences of misdiagnosis**
  - Small animal injury
    - Trap and remove offending animals
    - Make environment less attractive to small animals
Commonly Misdiagnosed Diseases
Verticillium Wilt

- Causes: *Verticillium* spp. (*V. dahliae*)
- Hosts
  - Many woody ornamentals
    - Common: Maple, ash, redbud, smokebush
    - “New”: Seven son flower, wafer-ash, buttonbush
  - Many herbaceous plants
  - Many vegetables (tomato, potato, eggplant)

Commonly Misdiagnosed Diseases
Verticillium Wilt Look-alikes

- Consequences of misdiagnosis
  - Severe if Verticillium wilt not detected
    - Girdling roots (Moderate)
      - Prune affected branches
      - Sever roots where feasible
      - Plant properly
  - Winter injury (Moderate)
    - Prune affected branches
    - Plant hardy plants

Commonly Misdiagnosed Diseases
Verticillium Wilt

- Consequences of misdiagnosis
  - Salt injury (Moderate)
    - Reduce salt usage
    - Water to leach away salt
  - Canker diseases (Moderate)
    - Prune affected branches

Commonly Misdiagnosed Diseases
Verticillium Wilt

- Consequences of misdiagnosis
  - Root rot (Moderate)
    - Avoid wet sites/heavy soils
    - Modify soil to improve drainage
    - Use soil fungicide treatments
    - Remove affected trees
Commonly Misdiagnosed Diseases

**Fire Blight**

- **Cause:** *Erwinia amylovora*
- **Hosts**
  - Many woody rosaceous plants
  - Apple, crabapple, pear, mountain ash, cotoneaster

**Fire Blight Look-alikes**

- **Consequences of misdiagnosis**
  - Bacterial canker *(Minor)*
    - Prune affected branches
  - Fungal canker diseases *(Minor)*
    - Prune affected branches
  - Winter injury *(Moderate)*
    - Prune affected branches
    - Plant hardy plants

Commonly Misdiagnosed Diseases

**White Pine Blister Rust**

- **Pathogen:** *Cronartium ribicola*
- **Hosts**
  - White pine
  - Gooseberry/Currants *(Ribes spp.)*

**White Pine Blister Rust**

- **Hosts**
  - White pine
  - Gooseberry/Currants *(Ribes spp.)*
Commonly Misdiagnosed Diseases

White Pine Blister Rust Look-alikes

- Phytophthora Root Rot
- Armillaria Root Disease
- Canker Diseases

White Pine Blister Rust

- Consequences of misdiagnosis
  - Physical injuries (Minor)
    • No remedy required
    • Prune to remove severely affected branches
  - Canker diseases (Minor)
    • Prune affected branches

Commonly Misdiagnosed Diseases

White Pine Blister Rust

- Consequences of misdiagnosis
  - Armillaria root disease (Severe)
    • Remove and destroy affected trees (with roots)
    • Remove surrounding trees that may be infected
  - Phytophthora root rot (Severe)
    • Avoid wet sites/heavy soils
    • Modify soil to improve drainage
    • Use soil fungicide treatments
    • Remove affected trees

Rhizosphaera Needle Cast

- Pathogen: *Rhizosphaera kalkhoffii* (*Rhizosphaera* spp.)
- Hosts
  - Spruce species (particularly blue spruce)
  - Other conifers (minor hosts)

Rhizosphaera Needle Cast Look-alikes

- Spruce Needle Drop
- Drought Stress
- Stigmina Needle Cast
Commonly Misdiagnosed Diseases

**Rhizosphaera Needle Cast**
- Consequences of misdiagnosis
  - Stigmina needle cast (None)
  - DO NOT plant blue spruce
  - DO NOT overcrowd plantings
  - Prune to open canopies
  - Use preventative fungicide sprays

**Rhizosphaera Needle Cast**
- Consequences of misdiagnosis
  - Spruce needle drop (Moderate)
    - Prune affected branches
    - Reduce stress
  - Drought stress (Moderate)
    - Water properly
    - Mulch properly

Commonly Misdiagnosed Diseases

**Dothistroma Needle Blight**
- Pathogen: *Dothistroma pini*
- Hosts
  - Austrian pine
  - Mugo pine
  - Ponderosa pine

**Dothistroma Needle Blight**

Commonly Misdiagnosed Diseases

**Dothistroma Needle Blight Look-alikes**
- Consequences of misdiagnosis
  - Brown spot needle blight (None)
    - Identical treatment
  - Salt Damage (Moderate)
    - Reduce salt usage
  - Drought stress (Moderate)
    - Water properly
    - Mulch properly
Commonly Misdiagnosed Diseases

Black Knot

- **Cause:** *Apiosporina morbosa*
- **Hosts**
  - Prunus species
  - Plums
  - Cherries

Commonly Misdiagnosed Diseases

Black Knot Look-alikes

- **Consequences of misdiagnosis**
  - Phomopsis Gall (None)
    - Ignore the disease
    - Prune affected branches
  - Cedar-quince rust (Minor)
    - Prune affected branches
    - Consider managing alternate hosts (hawthorn, quince, pear, apple, crabapple)

Commonly Misdiagnosed Diseases

Herbicide Injury

- **Causes**
  - Growth regulator herbicides
    - 2,4-D
    - Dicamba
    - Implus!
  - Other herbicides
- **Affected plants:** Anything and everything
Phytoplasma Diseases

Virus Diseases

Ethylene Injury

Phytoplasma Diseases

Commonly Misdiagnosed Diseases

Herbicide Look-alikes

Consequences of misdiagnosis

- Ethylene (Moderate)
  - Check heating systems
  - Improve venting
- Virus diseases (Severe)
  - Remove and destroy affected plants
  - Increase sanitation efforts
  - Increase insect management efforts

Commonly Misdiagnosed Diseases

Herbicide Injury

Consequences of misdiagnosis

- Phytoplasma diseases (Severe)
  - Remove and destroy affected plants

Where to Go for Help

Plant Disease Diagnostics Clinic
Department of Plant Pathology
University of Wisconsin-Madison
1630 Linden Drive
Madison, WI 53706-1598
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