

Dane County Winter Seminar Series

Commonly Misdiagnosed Diseases (and What They Really Are)

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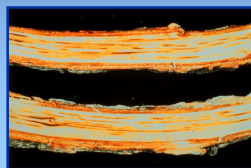
University of Wisconsin-Madison/Extension



Commonly Misdiagnosed Diseases Oak Wilt

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

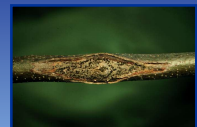
Commonly Misdiagnosed Diseases Oak Wilt



Commonly Misdiagnosed Diseases Oak Wilt Look-alikes



Two-lined Chestnut Borer



Canker Diseases



Armillaria Root Disease



Chlorosis

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*)

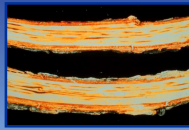
Commonly Misdiagnosed Diseases *Bur Oak Blight*



Commonly Misdiagnosed Diseases *Bur Oak Blight Look-alikes*



Two-Lined Chestnut Borer



Oak Wilt



Canker Diseases



Armillaria Root Disease



Tubakia Leaf Spot



Chlorosis

Commonly Misdiagnosed Diseases *Bur Oak Blight*

- 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

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

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



Commonly Misdiagnosed Diseases Boxwood (Box) Blight Look-alikes



Volutella Blight



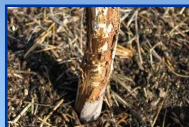
Winter Burn



Fusarium Canker



Root Rot



Small Animal Injury

Commonly Misdiagnosed Diseases Boxwood (Box) Blight

- Consequences of misdiagnosis
 - 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

- 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**



Commonly Misdiagnosed Diseases **Verticillium Wilt Look-alikes**



Girdling Roots

Salt Injury

Canker Diseases



Winter Injury



Root Rot

Commonly Misdiagnosed Diseases **Verticillium Wilt**

- **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

Commonly Misdiagnosed Diseases *Fire Blight*



Commonly Misdiagnosed Diseases *Fire Blight Look-alikes*



Bacterial Canker

Fungal Canker Diseases

Winter Injury

Commonly Misdiagnosed Diseases *Fire Blight*

- 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.)

Commonly Misdiagnosed Diseases *White Pine Blister Rust*



Commonly Misdiagnosed Diseases White Pine Blister Rust Look-alikes



Physical Injuries



Canker Diseases



Armillaria Root Disease



Phytophthora Root Rot

Commonly Misdiagnosed Diseases White Pine Blister Rust

- **Consequences of misdiagnosis**
 - **Physical injuries (Minor)**
 - No remedy required
 - Prune to remove severely affected branches
 - Proactively prune to alleviate rubbing
 - **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

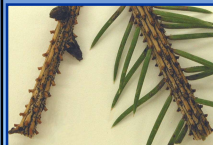
Commonly Misdiagnosed Diseases Rhizosphaera Needle Cast

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

Commonly Misdiagnosed Diseases Rhizosphaera Needle Cast



Commonly Misdiagnosed Diseases Rhizosphaera Needle Cast Look-alikes



Spruce Needle Drop



Stigmina Needle Cast



Drought Stress

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

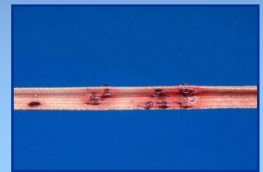
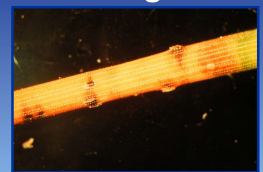
Commonly Misdiagnosed Diseases *Rhizosphaera Needle Cast*

- **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

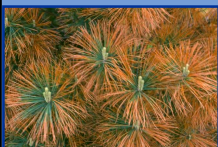
Commonly Misdiagnosed Diseases *Dothistroma Needle Blight*



Commonly Misdiagnosed Diseases *Dothistroma Needle Blight Look-alikes*



Brown Spot Needle Blight



Salt Damage



Drought Stress

Commonly Misdiagnosed Diseases *Dothistroma Needle Blight*

- **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 morbos
- Hosts
 - Prunus species
 - Plums
 - Cherries

Commonly Misdiagnosed Diseases **Black Knot**



Commonly Misdiagnosed Diseases **Black Knot Look-alikes**



Phomopsis Gall



Cedar-Quince Rust

Commonly Misdiagnosed Diseases **Black Knot**

- 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
 - Imprelis!
 - Other herbicides
- Affected plants: Anything and everything

Commonly Misdiagnosed Diseases **Herbicide Injury**



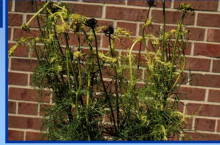
Commonly Misdiagnosed Diseases Herbicide Look-alikes



Ethylene Injury



Virus Diseases



Phytoplasma Diseases

Commonly Misdiagnosed Diseases Herbicide Injury

- **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

Commonly Misdiagnosed Diseases 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>
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