

LGMSC 2018

Commonly Misdiagnosed Diseases
(and What They Really Are)

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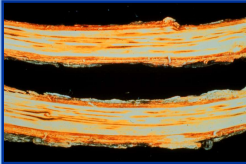


Commonly Misdiagnosed Diseases
Oak Wilt

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

Commonly Misdiagnosed Diseases
Oak Wilt



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*)

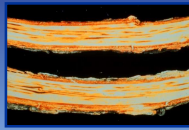
Commonly Misdiagnosed Diseases Bur Oak Blight



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

Stigmata 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

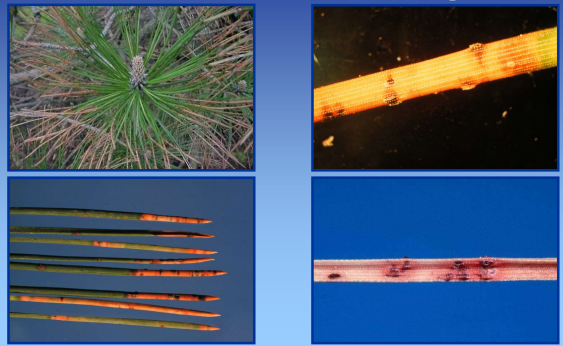
Commonly Misdiagnosed Diseases Rhizosphaera Needle Cast

- **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



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

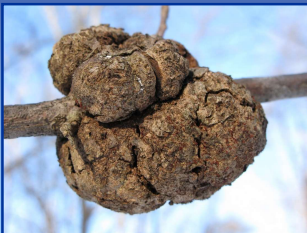
Commonly Misdiagnosed Diseases Black Knot

- **Cause:** *Apiosporina morbosa*
- **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 host (juniper)

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



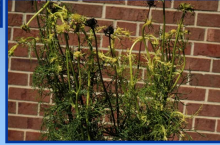
Commonly Misdiagnosed Diseases Herbicide Look-alikes



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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