

2020 WAA/DNR Annual Conference

New and Emerging Tree and Shrub Diseases

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New and Emerging Tree and Shrub Diseases Boxwood Blight

- Cause
 - *Calonectria pseudonaviculata*
 - *Cylindrocladium pseudonaviculatum* (*Cylindrocladium buxicola*)
- Hosts
 - Boxwood
 - Pachysandra
- Favorable Environment: Cool, wet weather



New and Emerging Tree and Shrub Diseases Boxwood Blight

- Control
 - Be cautious about holiday wreaths
 - Grow shrubs other than boxwood
 - Buy from a reputable supplier
 - Buy locally produced boxwood

New and Emerging Tree and Shrub Diseases Boxwood Blight

- Control
 - Grow resistant varieties
 - Hybrid boxwood 'Green Gem'
 - Common boxwood 'Katerberg' North Star®
 - Korean littleleaf boxwood
 - 'Eseles' Wedding Ring®
 - 'Franklin's Gem'
 - 'Winter Gem'
 - 'Wintergreen'

New and Emerging Tree and Shrub Diseases Boxwood Blight

- Control
 - DO NOT replant in an area where boxwood blight has been a problem
 - Avoid symptomatic plants
 - Keep new plants isolated
 - Space plants far apart
 - DO NOT overhead water

New and Emerging Tree and Shrub Diseases Boxwood Blight

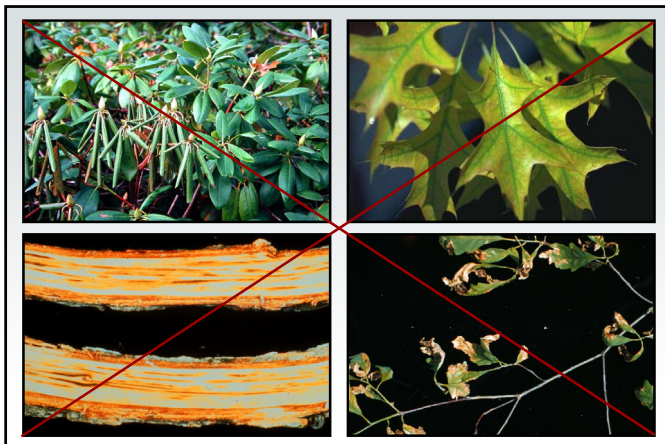
- **Control**
 - Prune out diseased branches
 - Decontaminate (70% alcohol, commercial disinfectants)
 - Remove and destroy infected plants
 - Burn (where allowed)
 - Deep bury (two feet)/Double bag and landfill
 - DO NOT compost

New and Emerging Tree and Shrub Diseases Boxwood Blight

- **Control**
 - Use fungicides to prevent infections
 - Chlorothalonil (alone or with propiconazole or thiophanate-methyl), fludioxonil, metconazole, tebuconazole
 - Alternate active ingredients (FRAC codes)
 - Apply at 7 day intervals
 - Contact the PDDC if you suspect you have seen this disease

New and Emerging Tree and Shrub Diseases Sudden Oak Death (Ramorum Blight)

- **Cause:** *Phytophthora ramorum*
- **Hosts**
 - A wide range of woody and herbaceous ornamentals
 - Rhododendrons/Azaleas
 - Roses ('Double Red Knockout')
 - Viburnums
 - Lilacs
 - Oaks



New and Emerging Tree and Shrub Diseases Sudden Oak Death (Ramorum Blight)

- **Control**
 - Buy woody ornamentals from a reputable source
 - Inspect plants prior to purchase for symptoms of sudden oak death
 - Keep new plants isolated from established plants

New and Emerging Tree and Shrub Diseases

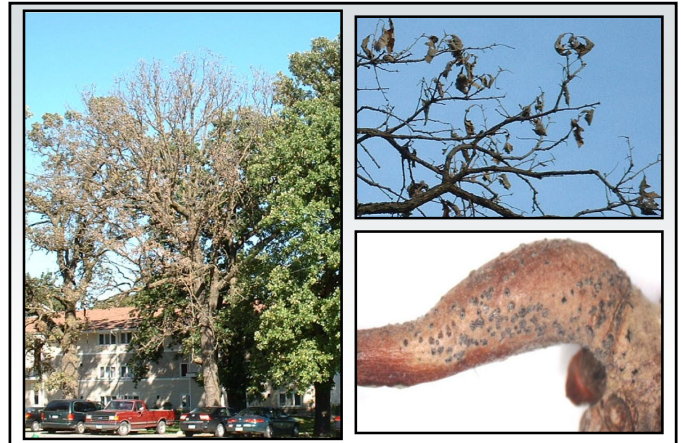
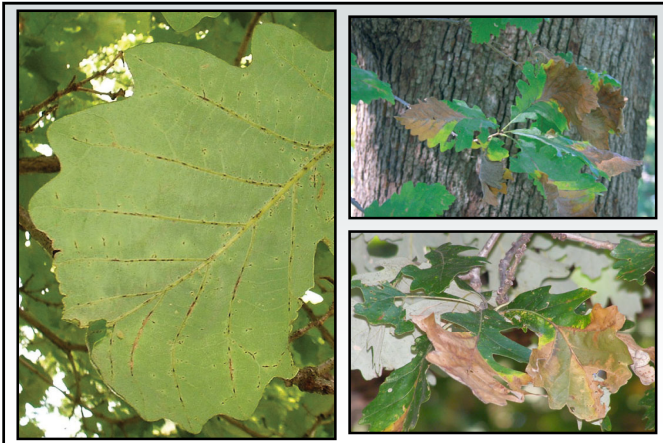
Sudden Oak Death (Ramorum Blight)

- **Control**
 - Remove and destroy infected plants
 - Decontaminate (70% alcohol, 10% bleach, commercial disinfectants)
 - Contact the PDDC if you believe you have seen this disease

New and Emerging Tree and Shrub Diseases

Bur Oak Blight

- **Cause:** *Tubakia iowensis*
- **Host:** Bur oak
 - *Quercus macrocarpa* var. *oliviformis*
 - *Quercus macrocarpa* var. *macrocarpa*
- **Favorable Environment**
 - Cool, wet weather
 - Stress?



New and Emerging Tree and Shrub Diseases

Bur Oak Blight

- **Control**
 - Reduce stress
 - Water stress
 - Nutrient stress (chlorosis)
 - Diseases/insect pests
 - Oak wilt
 - Armillaria root disease
 - Leaf diseases (anthracnose, Tubakia leaf spot, etc.)
 - Two-lined chestnut borer

New and Emerging Tree and Shrub Diseases

Bur Oak Blight

- **Control**
 - Use fungicide injections
 - Propiconazole
 - Prophylactic
 - Late May or early June
 - Every 12-24 months

New and Emerging Tree and Shrub Diseases

Beech Bark Disease

- **Causes**
 - *Neonectria faginata*
 - *Neonectria ditissima*
 - *Bionectria ochroleuca*
- **Hosts**
 - American beech
 - European beech

New and Emerging Tree and Shrub Diseases

Beech Bark Disease

- **Favorable Environment:** None
- **Insect Contributors**
 - Woolly beech scale
(*Cryptococcus fagisuga*)
 - American beech scale
(*Xylococcus betulae*)



New and Emerging Tree and Shrub Diseases

Beech Bark Disease

- **Control**
 - Limit movement of beech wood (firewood)
 - Remove trees in healthy stands
 - Eliminate more susceptible trees (older, structurally unsound, rough-barked)
 - Increase diversity of forest composition
 - Remove affected trees in diseased stands
 - Thins the stand potentially affecting scale levels
 - Limits tree fall/increases wood marketability

New and Emerging Tree and Shrub Diseases

Beech Bark Disease

- **Control**
 - Reduce tree stress
 - Water stress
 - Nutrient stress
 - Root disturbance
 - Manage scale infestations
 - Water sprays
 - Use insecticides/insecticidal soaps
 - Hope for eventual resistant varieties

New and Emerging Tree and Shrub Diseases

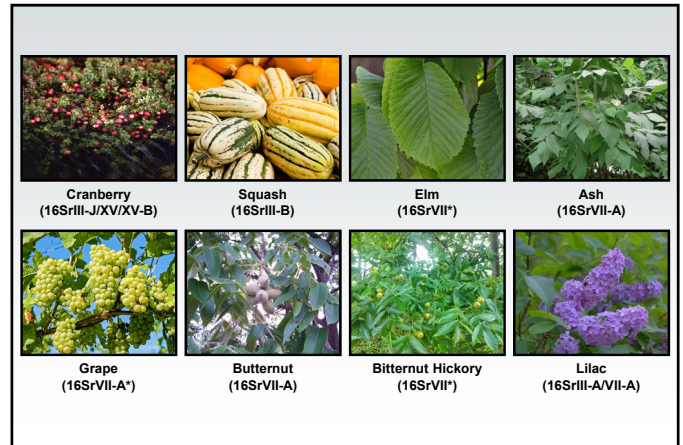
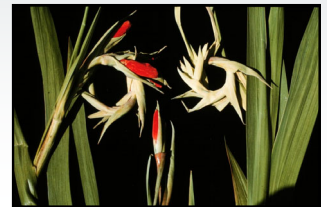
Phytoplasma Diseases

- **Examples**
 - Aster yellows
 - Ash yellows
- **Causes:** Miscellaneous phytoplasmas
- **Hosts**
 - Many herbaceous plants (aster yellows)
 - Ash, lilac (ash yellows)
 - “The more you look, the more you find.”

New and Emerging Tree and Shrub Diseases

Phytoplasma Diseases

- Favorable environment: None
- Transmission: Leafhoppers



New and Emerging Tree and Shrub Diseases

Phytoplasma Diseases

- Control
 - Remove infected plants
 - Destroy infected materials
 - Compost
 - Bury
 - Burn (where allowed)
 - Avoid growing susceptible plants
 - Use insecticides for leafhopper control (?)

New and Emerging Tree and Shrub Diseases

Thousand Cankers Disease

- Cause: *Geosmithia morbida*
- Hosts
 - Black walnut
 - Other walnuts
- Favorable Environment: None
- Transmission
 - Walnut twig beetle
(*Pityophthorus juglandis*)

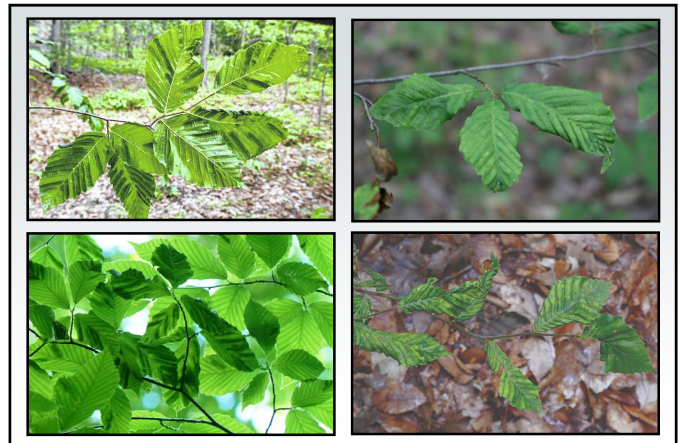


New and Emerging Tree and Shrub Diseases Thousand Cankers Disease

- Control
 - DO NOT transport walnut wood/products from areas known to have the disease
 - Remove and destroy affected trees (burn)
 - No effective fungicide strategies known
 - No effective insecticide strategies known
 - Contact the PDDC if you believe you have seen this disease

New and Emerging Tree and Shrub Diseases Beech Leaf Disease

- Cause: *Litylenchus crenatae* subsp. *mccannii*
- Hosts
 - American beech
 - European beech
 - Asian beech
- Favorable environment: None



New and Emerging Tree and Shrub Diseases Beech Leaf Disease

- Control
 - Limit movement of beech wood
 - Avoid symptomatic nursery stock
 - Remove affected trees
 - Hope for eventual resistant varieties
 - Contact the PDDC if you believe you have seen this disease

New and Emerging Tree and Shrub 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
<https://pddc.wisc.edu>
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