New and Emerging Tree/Shrub Diseases

Lipstick Rust (Japanese Apple Rust)

- **Pathogen:** Gymnosporangium yamadae
- **Hosts**
  - Junipers
    - Juniperus chinensis
    - Juniperus chinensis var. procumbens
    - Juniperus chinensis var. sargentii
    - Juniperus squamata

- **Hosts**
  - Malus spp.
    - M. asiatica
    - M. baccata
    - M. halliana
    - M. micromalus
    - M. platycarpa
    - M. prunifolia
    - M. pumila var. domestica
    - M. scheideckeri
    - M. spontanea
    - M. theifera
    - M. toeringo
    - M. transitoria
    - M. yannanensis

- **Favorable environment:** Wet weather

- **Control**
  - Grow only junipers or rosaceous hosts
  - Carefully inspect junipers prior to purchase
  - Remove galls
  - Decontaminate pruning tools
    (70% alcohol, disinfectants, bleach)
  - Destroy infected materials
    - Burn (where allowed)
    - Deep bury
  - DO NOT use fungicides
  - Contact the PDDC if you suspect you have seen this disease
Pathogen – *Calonectria pseudonaviculata*  
– *Cylindrocladium pseudonaviculatum*  
(Mycrocladium buxicola)

Hosts  
– Boxwood  
– Pachysandra

Favorable Environment: Cool, wet weather

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New and Emerging Tree/Shrub Diseases  
Boxwood Blight

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

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New and Emerging Tree/Shrub Diseases  
Boxwood Blight

Control  
– Grow resistant varieties  
• Hybrid boxwood  
  – ‘Green Gem’  
  – ‘Karzgreen’ (Green Ice®)  
• Japanese littleleaf boxwood  
  – ‘Jim Stauffer’  
  – ‘Little Missy’  
  – ‘Winter Gem’

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

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

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

- 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/Shrub Diseases
Ramorum Blight (Sudden Oak Death)

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

New and Emerging Tree/Shrub Diseases
Beech Leaf Disease

• Pathogen: *Litylenchus crenatae* subsp. *mccannii*

• Hosts
  – American beech
  – European beech
  – Asian beech

• Favorable environment: None

New and Emerging Tree/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/Shrub Diseases
Thousand Cankers Disease

• Pathogen: *Geosmithia morbida*

• Hosts
  – Black walnut
  – Other walnuts

• Favorable Environment: None

• Transmission
  – Walnut twig beetle (*Pityophthorous juglandis*)
New and Emerging Tree/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/Shrub Diseases

Phytoplasma Diseases

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

New and Emerging Tree/Shrub Diseases

Phytoplasma Diseases

- Favorable environment: None
- Transmission: Leafhoppers

New and Emerging Tree/Shrub Diseases

Phytoplasma Diseases

Cranberry (16SrIII-J/XV/XV-B)
Squash (16SrIII-B)
Elm (16SrV*)
Ash (16SrVII-A)
Grape (16SrVII-A*)
Butternut (16SrVII-A)
Bitternut Hickory (16SrV*)
Lilac (16SrVII-A/VIII-A)
New and Emerging Tree/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/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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