

LGMSC 2021

Diagnosing and Managing the Top Ten Landscape Diseases

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Top Ten Landscape Diseases Rhizosphaera Needle Cast

- Pathogens: *Rhizosphaera kalkhoffii*
Rhizosphaera spp.
- Look-Alike: Stigmina Needle Cast
(*Stigmina* spp.)
- Hosts (major)
 - Colorado blue spruce
 - Other spruces: Black, Engelmann, Serbian, Sitka, white (Black Hills)

Top Ten Landscape Diseases Rhizosphaera Needle Cast

- Hosts (minor)
 - Pines: Austrian, mugo, eastern white pine
 - Douglas fir
 - Hemlock
 - Balsam fir and other firs
- Favorable environment
 - Long periods of needle wetness
 - High humidity



Top Ten Landscape Diseases Rhizosphaera Needle Cast

- Control
 - DO NOT plant Colorado blue spruce
 - DO NOT crowd trees when planting
 - Plant dwarf spruce varieties
 - Thin healthy branches to increase airflow
 - Prevent tree stress
 - Prune diseased branches

Top Ten Landscape Diseases Rhizosphaera Needle Cast

- Control
 - Decontaminate pruning tools
(70% alcohol, disinfectants, 10% bleach)
 - Use fungicides to prevent infections
 - Copper, chlorothalonil
 - Alternate active ingredients (FRAC Codes)
 - Start applications at bud break
 - Apply at 3-4 week intervals under favorable conditions

Top Ten Landscape Diseases Anthracnose

- **Causes**
 - *Gloeosporium* spp.
 - *Discula* spp.
 - *Colletotrichum* spp.
 - Many other fungi
- **Hosts**
 - Any deciduous tree
 - Ash, maple, oak
 - Sycamore
- **Favorable environment:** Cool, wet weather



Top Ten Landscape Diseases Anthracnose

- **Control**
 - DO NOT panic
 - Remove/destroy diseased leaves and branches
 - Burn (where allowed)
 - Deep bury
 - Hot compost

Top Ten Landscape Diseases Anthracnose

- **Control**
 - Use fungicides to prevent infections
 - Copper, chlorothalonil, mancozeb, thiophanate-methyl
 - Alternate active ingredients (FRAC codes)
 - Apply at bud break, 1/2 and full leaf expansion

Top Ten Landscape Diseases Scab (Apple and Pear)

- **Causes**
 - *Venturia inaequalis*
 - *Venturia pirina*
- **Hosts**
 - Apple/crabapple
 - Pear
 - Mountain ash
- **Favorable environment:** Cool, wet weather



Top Ten Landscape Diseases Scab (Apple and Pear)

- **Control**
 - Plant resistant varieties
 - “Home Fruit Cultivars for Northern Wisconsin” (<https://learningstore.extension.wisc.edu/>)
 - “Home Fruit Cultivars for Southern Wisconsin” (<https://learningstore.extension.wisc.edu/>)
 - “Top Ornamental Crabapples for Wisconsin” (<https://pddc.wisc.edu/fact-sheet-listing-all/>)

Top Ten Landscape Diseases Scab (Apple and Pear)

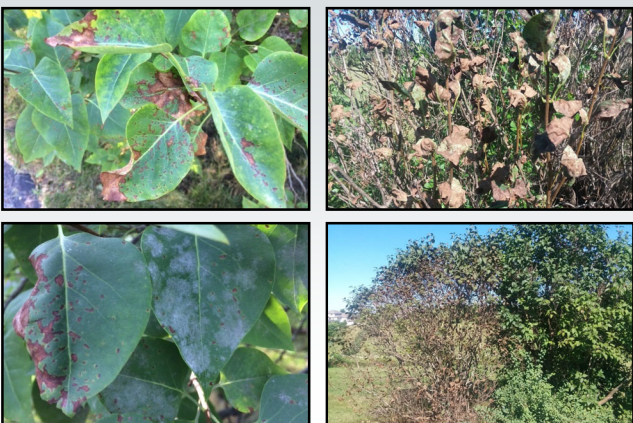
- **Control**
 - Remove/destroy diseased leaves
 - Burn (where allowed)
 - Deep bury
 - Hot compost
 - Thin trees to promote air flow

Top Ten Landscape Diseases Scab (Apple and Pear)

- **Control**
 - Use fungicides to prevent infections
 - Chlorothalonil, copper, mancozeb, myclobutanil, propiconazole, thiophanate-methyl, sulfur
 - Alternate active ingredients (FRAC codes)
 - Apply from bud break through the end of favorable weather
 - Apply at 7 to 14-day intervals

Top Ten Landscape Diseases Septoria Leaf Spot

- **Cause:** *Septoria* sp.
- **Host:** Lilac
- **Favorable environment:** Wet weather



Top Ten Landscape Diseases Septoria Leaf Spot

- **Control**
 - Space lilacs to promote good air flow
 - Routinely thin shrubs
 - Decontaminate pruning tools (70% alcohol, disinfectants, 10% bleach)
 - Avoid overhead watering
 - Reduce stress

Top Ten Landscape Diseases Septoria Leaf Spot

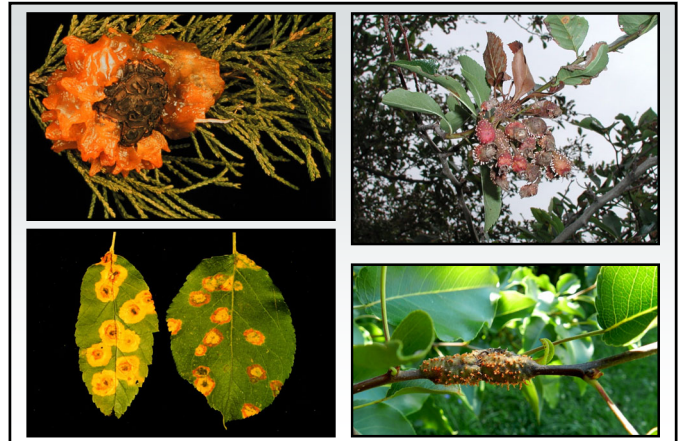
- Control
 - Destroy infected materials
 - Burn (where allowed)
 - Deep bury
 - Hot compost
 - Use fungicides to prevent infections
 - Chlorothalonil, copper, mancozeb
 - Apply from bud break through the end of favorable weather
 - Apply at 7 to 14-day intervals

Top Ten Landscape Diseases Gymnosporangium Rusts

- Pathogens: *Gymnosporangium* spp.
 - *Gymnosporangium juniperi-virginianae* (Cedar-apple rust)
 - *Gymnosporangium globosum* (Cedar-hawthorn rust)
 - *Gymnosporangium clavipes* (Cedar-quince rust)

Top Ten Landscape Diseases Gymnosporangium Rusts

- Hosts
 - Junipers
 - Rosaceous plants
 - Apple, crabapple
 - Hawthorn
 - Quince
 - Pear
 - Serviceberry
- Favorable environment: Wet weather



Top Ten Landscape Diseases Gymnosporangium Rusts

- Control
 - Grow only junipers or rosaceous hosts
 - Use resistant cultivars/varieties
 - “Juniper Diseases” (<https://store.extension.iastate.edu/Product/Juniper-Diseases>)
 - “Home Fruit Cultivars for Northern Wisconsin” (<https://learningstore.extension.wisc.edu/>)
 - “Home Fruit Cultivars for Southern Wisconsin” (<https://learningstore.extension.wisc.edu/>)

Top Ten Landscape Diseases Gymnosporangium Rusts

- Control
 - Remove galls
 - Decontaminate pruning tools (70% alcohol, disinfectants, 10% bleach)
 - Destroy infected materials
 - Burn (where allowed)
 - Deep bury

Top Ten Landscape Diseases Gymnosporangium Rusts

- **Control**
 - Use fungicides to prevent infections (?)
 - Treat rosaceous hosts
 - Chlorothalonil, copper, ferbam, mancozeb, propiconazole, sulfur, and triadimefon
 - Alternate active ingredients (FRAC Codes)
 - Apply when flowers first show color, when half of flowers open, at petal fall, 7 to 10 days after petal fall, and 10 to 14 days later

Top Ten Landscape Diseases Elderberry Rust

- **Pathogen:** *Puccinia bolleyana*
- **Hosts**
 - Elderberry
 - Sedges
- **Favorable environment:** Wet weather



Top Ten Landscape Diseases Elderberry Rust

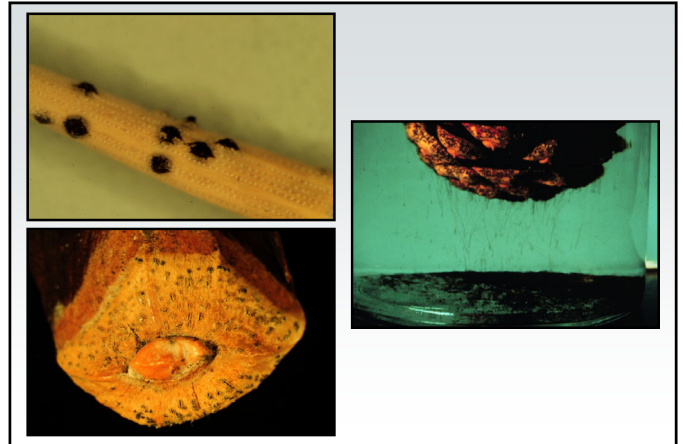
- **Control**
 - Prune out galls
 - Decontaminate pruning tools (70% alcohol, disinfectants, 10% bleach)
 - Remove sedges
 - DO NOT use fungicides

Top Ten Landscape Diseases Diplodia (Sphaeropsis) Tip Blight

- **Pathogen:** *Diplodia pinea* (*Sphaeropsis sapinea*)
- **Hosts (major)**
 - Austrian pine
 - Other pines: red, jack, Scots, mugo
- **Hosts (minor)**
 - Other conifers: cedars, cypresses, firs, spruces, junipers, yews

Top Ten Landscape Diseases Diplodia (Sphaeropsis) Tip Blight

- **Favorable environment**
 - Wet weather (for infection)
 - Drought (for extensive colonization)



Top Ten Landscape Diseases Diplodia (Sphaeropsis) Tip Blight

- Control
 - DO NOT plant Austrian pines
 - Prevent tree stress, particularly water stress
 - Thin branches to increase airflow
 - Prune diseased branches
 - Decontaminate pruning tools (70% alcohol, disinfectants, 10% bleach)
 - Remove infected cones (?)

Top Ten Landscape Diseases Diplodia (Sphaeropsis) Tip Blight

- Control
 - Use fungicides to prevent infections
 - Thiophanate-methyl, chlorothalonil
 - Alternate active ingredients (FRAC Codes)
 - Apply from bud break through shoot elongation
 - Apply at 14 day intervals

Top Ten Landscape Diseases Fire Blight

- Cause: *Erwinia amylovora*
- Hosts
 - Many woody rosaceous plants
 - Apple, crabapple, pear, mountain ash, cotoneaster
- Favorable environment
 - Wet weather (but not too wet)
 - Hail (or other wounding)



Top Ten Landscape Diseases Fire Blight

- Control
 - Plant resistant varieties
 - “Home Fruit Cultivars for Northern Wisconsin” (<https://learningstore.extension.wisc.edu/>)
 - “Home Fruit Cultivars for Southern Wisconsin” (<https://learningstore.extension.wisc.edu/>)
 - “Top Ornamental Crabapples for Wisconsin” (<https://pddc.wisc.edu/fact-sheet-listing-all/>)
 - Prune diseased branches

Top Ten Landscape Diseases Fire Blight

- Control
 - Decontaminate pruning tools (70% alcohol, disinfectants, 10% bleach)
 - Destroy infected materials
 - Burn (where allowed)
 - Deep bury
 - DO NOT over-fertilize with nitrogen

Top Ten Landscape Diseases Fire Blight

- Control
 - Use bactericides to prevent infections (?)
 - Copper, streptomycin
 - Apply during flowering
 - Apply every 7-14 days (3-4 days)

Top Ten Landscape Diseases Black Knot

- Cause: *Apiosporina morbosa*
- Hosts
 - *Prunus* spp.
 - Plums
 - Cherries
- Favorable environment: Wet weather



Top Ten Landscape Diseases Black Knot

- Control
 - DO NOT plant infected *Prunus* stock
 - Buy black knot-resistant varieties if available
 - Amur chokecherry (*Prunus maackii*)
 - Sargent's cherry (*Prunus sargentii*)
 - Accolade flowering cherry (*Prunus* 'Accolade')
 - Remove volunteer plums/cherries
 - Prune diseased branches

Top Ten Landscape Diseases Black Knot

- **Control**
 - Decontaminate pruning tools
(70% alcohol, disinfectants, 10% bleach)
 - Destroy infected materials
 - Burn (where allowed)
 - Deep bury
 - DO NOT use fungicides

Top Ten Landscape Diseases Planting-Related Decline

- **Causes**
 - Impatience
 - Improper plant techniques
 - Overly deep planting
 - Failure to remove burlap, wire basket, wires
 - Lack of watering post installation
- **Hosts: Any tree or shrub**



Top Ten Landscape Diseases Planting-Related Decline

- **Management**
 - Plant small trees
 - Plant bare-root trees
 - Prepare balled and burlaped trees properly
 - Remove burlap
 - Remove wire basket
 - Remove wires/cords
 - Expose the root flare

Top Ten Landscape Diseases Planting-Related Decline

- **Management**
 - Mulch properly
 - Use high quality mulches
 - Use the right amount of mulch
 - Water properly
 - Apply two inches of water per week
 - Water from bud break through summer and into the fall
 - Continue this watering for at least three years

Top Ten Landscape 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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