

Talks for the General Public

Top Ten Plant Diseases of 2025

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Top Ten Plant Diseases of 2025 Winter Injury

- Causes
 - Water stress
 - High winds
 - Extreme winter temperatures
 - Cycling winter temperatures
 - Insufficient snow cover
 - Ice

Top Ten Plant Diseases of 2025 Winter Injury

- Affected plants
 - Yew
 - Spruce (Alberta)
 - Arborvitae
 - Boxwood

Top Ten Plant Diseases of 2025 Winter Injury

- Affected plants
 - Fruit trees
 - Pome fruits (apple, pear)
 - Stone fruits (cherry, plum, peach, apricot)
 - Maples
 - Japanese
 - Korean
 - Redbud





Top Ten Plant Diseases of 2025 Winter Injury

- **Management**
 - Water trees and shrubs adequately
 - Plant trees and shrubs
 - Properly
 - In protected locations (sensitive plants)
 - Protect sensitive plants
 - Pray for
 - Lots of snow
 - A slow, gradual cool down and warm up

Top Ten Plant Diseases of 2025 Planting-Related Decline

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



Top Ten Plant Diseases of 2025 Planting-Related Decline

- **Management**
 - Plant at the right time of year
 - 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 Plant Diseases of 2025 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 watering for at least three years

Top Ten Plant Diseases of 2025 Root/Crown Rots

- **Pathogens**
 - *Pythium* spp.
 - *Rhizoctonia solani*
 - *Cylindrocarpon* spp.
 - *Phytophthora* spp.
 - *Fusarium* spp.
 - *Thielaviopsis* spp.
- **Hosts: Any plant**
- **Favorable environment: Cool, wet soils**



Top Ten Plant Diseases of 2025 Root/Crown Rots

- **Control**
 - **Moderate soil moisture**
 - Grow plants in well-drained sites
 - Use a soil/potting mix with adequate drainage
 - Improve drainage in poorly drained soils
 - Add organic matter to improve drainage
 - Use raised beds
 - **DO NOT overwater**
 - **DO NOT overmulch**

Top Ten Plant Diseases of 2025 Root/Crown Rots

- **Control**
 - **DO NOT** move contaminated soil or plants
 - Decontaminate infested tools, pots, work areas (alcohol, disinfectants, bleach)
 - Pretest soils/mulches/composts
 - Use soil-less potting mixes for containerized plants

Top Ten Plant Diseases of 2025 Root/Crown Rots

- **Control**
 - Use fungicides to prevent infections
 - Contract with a professional pesticide applicator
 - PCNB, thiophanate-methyl, fludioxonil, Etridiazole, metalaxyl/mefenoxam, fosetyl-Al
 - Alternate active ingredients
 - Use granular formulations if possible
 - Use during periods of wet weather

Top Ten Plant Diseases of 2025 Root/Crown Rots

- **Control**
 - Use biopesticides to prevent infections
 - *Trichoderma*, *Gliocladium*
 - Use for potted plants

Top Ten Plant Diseases of 2025 Taphrina Diseases of Stone Fruits

- **Pathogens**
 - *Taphrina deformans* (Peach leaf curl)
 - *Taphrina cerasi* (Cherry leaf curl)
 - *Taphrina communis* (Plum pockets)

Top Ten Plant Diseases of 2025 Taphrina Diseases of Stone Fruits

- **Host**
 - Peach, nectarine (peach leaf curl)
 - Cherry (cherry leaf curl)
 - Plum (plum pockets)
- **Favorable environment:** Wet weather



Top Ten Plant Diseases of 2025 Taphrina Diseases of Stone Fruits

- **Control**
 - Plant resistant varieties
 - Avoid susceptible varieties
 - Prune/thin trees to improve air flow
 - Decontaminate pruning tools (alcohol, disinfectants, bleach)

Top Ten Plant Diseases of 2025 Taphrina Diseases of Stone Fruits

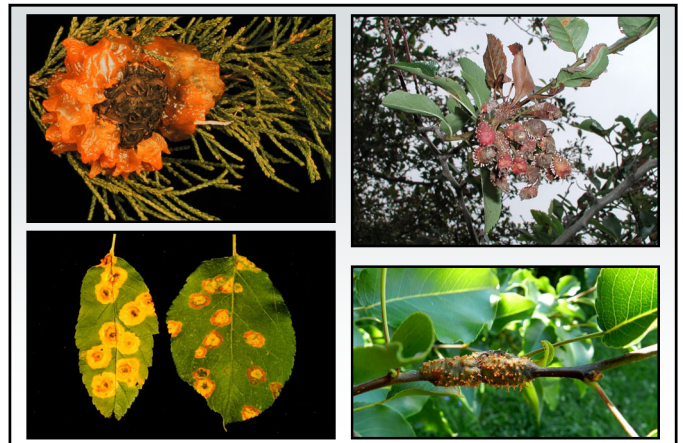
- Control
 - Thin fruit to reduce stress
 - Fertilize with nitrogen
 - Use fungicides to prevent infections
 - Chlorothalonil, copper, ferbam
 - Apply after leaf fall and/or before leaf emergence

Top Ten Plant Diseases of 2025 Gymnosporangium Rusts

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

Top Ten Plant Diseases of 2025 Gymnosporangium Rusts

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



Top Ten Plant Diseases of 2025 Gymnosporangium Rusts

- Control
 - Grow only junipers or rosaceous hosts
 - Use resistant cultivars/varieties
 - Remove galls
 - Decontaminate pruning tools (alcohol, disinfectants, bleach)
 - Destroy infected materials
 - Burn (where allowed)
 - Deep bury

Top Ten Plant Diseases of 2025 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 Plant Diseases of 2025 Scab (Apple and Pear)

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



Top Ten Plant Diseases of 2025 Scab (Apple and Pear)

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

Top Ten Plant Diseases of 2025 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 Plant Diseases of 2025 Aster Yellows

- **Pathogen:** Aster yellows phytoplasma
- **Hosts**
 - Many plants in the Asteraceae (aster family)
 - Many other plants in many other plant families
 - Vegetable crops
- **Favorable environment:** None
- **Vector:** Aster leafhopper



Top Ten Plant Diseases of 2025 Aster Yellows

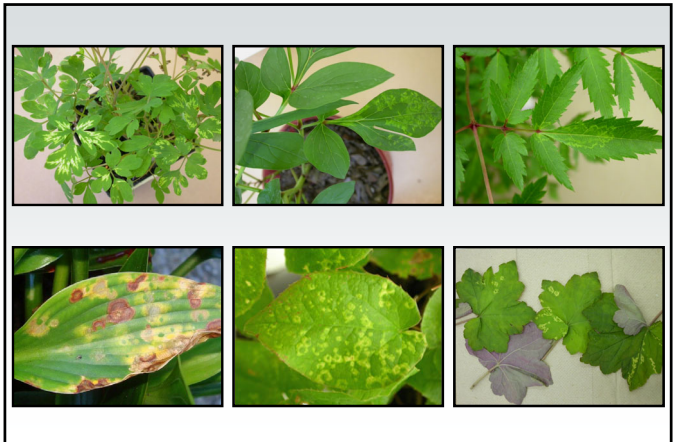
- **Control**
 - Remove diseased plants
 - Hot compost
 - Bury
 - Burn (where allowed)
 - Control leafhopper vector (?)

Top Ten Plant Diseases of 2025 Tobacco Rattle

- **Pathogen:** *Tobacco rattle virus (TRV)*
- **Hosts**
 - **Ornamentals**
 - Astilbe, bleeding heart, columbine, coral bells, daffodils, epimedium, gladiolus, hyacinth, marigold, peony, tulip, vinca
 - **Vegetables**
 - Beans, beet, pepper, potato, spinach
- **Favorable environment:** None

Top Ten Plant Diseases of 2025 Tobacco Rattle

- **Transmission**
 - Stubby-root nematodes
 - *Trichodorus* spp.
 - *Paratrichodorus* spp.
 - Mechanical
 - Grafting
 - Seed



Top Ten Plant Diseases of 2025 Tobacco Rattle

- **Control**
 - DO NOT buy symptomatic plants
 - Grow non-susceptible plants
 - Annual phlox, carnation, devil's trumpet (downy thorn-apple), sweet William, zinnia, zombie cucumber
 - Remove and destroy infected plants
 - Burn (where allowed)
 - Deep bury
 - Hot compost

Top Ten Plant Diseases of 2025 Tobacco Rattle

- **Control**
 - Disinfest contaminated materials
 - 1% Sodium dodecyl sulfate (sodium lauryl sulfate) + 1% Alconox® (2½ Tbsp + 2¼ Tbsp/gal)
 - Trisodium phosphate (14 dry oz/gal)
 - 20% low fat dry milk (Carnation®) + 0.1% polysorbate 20 (9½ cups + ¼ tsp/gal)
 - Alcohol dip followed by flaming

Top Ten Plant Diseases of 2025 Tobacco Rattle

- **Control**
 - DO NOT use chemical controls on plants
 - DO NOT attempt to control stubby-root nematodes

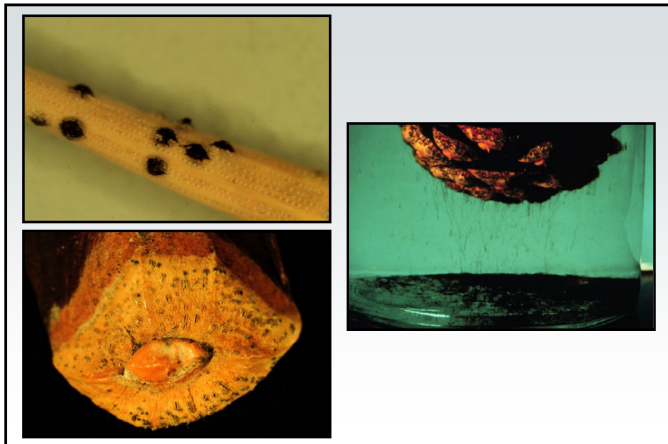
Top Ten Plant Diseases of 2025 Diplodia Shoot Blight and Canker

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

Top Ten Plant Diseases of 2025 Diplodia Shoot Blight and Canker

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





Top Ten Plant Diseases of 2025 Diplodia Shoot Blight and Canker

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

Top Ten Plant Diseases of 2025 Diplodia Shoot Blight and Canker

- 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 Plant Diseases of 2025 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 Plant Diseases of 2025 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 Plant Diseases of 2025

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 Plant Diseases of 2025

Rhizosphaera Needle Cast

- **Control**
 - Decontaminate pruning tools (alcohol, disinfectants, 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 Plant Diseases of 2025

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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