Hosta Diseases
Hosta Virus X

• Pathogen: *Hosta virus X* (HVX)
• Host: Hosta
  – ‘Gold Edger’
  – ‘Gold Standard’
  – ‘Gold Tiara’
  – ‘Gold Standard’
  – ‘Sum and Substance’
• Favorable environment: None

**Transmission:** Mechanical
– Shovels
– Knives
– String edgers
– Lawnmowers

**Control**
– Buy hostas from a reputable source
  • Inspect hostas for symptoms
  • Test hostas prior to purchase
– Keep new and established hostas separated
– Remove diseased plants and plant debris
  • Burn (where allowed)
  • Deep bury
  • Hot compost

– Disinfect contaminated materials
  • 1% Sodium dodecyl sulfate (sodium lauryl sulfate) + 1% Alconox<sup>®</sup> (2½ Tbsp + 2½ Tbsp/gal)
  • Trisodium phosphate (14 dry oz/gal)
  • 20% low fat dry milk (Carnation<sup>®</sup>) + 0.1% polysorbate 20 (9⅛ cups + ¾ tsp/gal)
  • Alcohol dip followed by flaming
– Do NOT use chemical controls on plants
Hosta Diseases
Tobacco Rattle

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

Hosta Diseases
Tobacco Rattle

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

Hosta Diseases
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

Hosta Diseases
Tobacco Rattle

• Control
  – Disinfect contaminated materials
    • 1% Sodium dodecyl sulfate (sodium lauryl sulfate) + 1% Alconox® (2¼ Tbsp + 2¼ Tbsp/gal)
    • Trisodium phosphate (14 dry oz/gal)
    • 20% low fat dry milk (Carnation®) + 0.1% polysorbate 20 (9⅛ cups + ¾ tsp/gal)
    • Alcohol dip followed by flaming
Hosta Diseases
Tobacco Rattle

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

Hosta Diseases
Foliar Nematode

- Pathogen: *Aphelenchoides* spp.
- Hosts
  - Many types of herbaceous plants
  - Landscape plants
    - Hosta, begonia, coral bells, miterwort
  - Houseplants
    - African violets, ferns, chrysanthemum
- Favorable environment: Wet weather

Control
- Inspect plants prior to purchase
- Avoid overhead watering
- Remove symptomatic plants and plant debris
  - Burn (where allowed)
  - Deep bury (landfill)
  - Hot compost

Control
- Disinfest contaminated materials (70% alcohol, disinfectants, 10% bleach)
- Hot water treatments (10 minutes at 125°F)
- DO NOT use nematicides
Hosta Diseases
Southern Blight

• Pathogen: *Sclerotium rolfsii*

• Hosts
  – Hosta
  – Many bedding plants
  – Many herbaceous annuals and perennials
  – Some woody ornamentals

• Favorable environment: Warm, wet weather

Hosta Diseases
Southern Blight

• Control
  – DO NOT buy infected/infested plants
  – Avoid cocoa mulch (?)
  – Remove infected plants, mulch and soil
    • Double bag and landfill
  – Disinfect contaminated materials
    (70% alcohol, disinfectants, 10% bleach)

Hosta Diseases
Southern Blight

• Control
  – Amend soil with organic matter (?)
  – Use fungicides for control
  • Contract with a professional pesticide applicator
  • Azoxyostrobin, flutolanil, flutolanil + thiophanate-methyl, PCNB, tebuconazole, triadimefon
  • Alternate active ingredients (FRAC codes)
  • Apply at 14 – 28 day intervals
  – Pray for a really, really, REALLY cold winter

Hosta Diseases
Root/Crown Rots

• Pathogens
  – *Pythium* spp.
  – *Rhizoctonia solani*
  – *Cylindrocarpon* spp.
  – *Phytophthora* spp.
  – *Fusarium* spp.
  – *Thielaviopsis* spp.

• Hosts
  – Hosta
  – Any herbaceous plant

• Favorable environment: Cool, wet soils
**Hosta Diseases**

**Root/Crown Rots**

- **Control**
  - Moderate soil moisture
    - Grow plants in well-drained sites
    - Use a 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

- **Control**
  - Pretest soils/mulches/composts
  - Use a soil-less potting mix or a pasteurized potting mix for containerized plants
  - DO NOT move contaminated soil or plants
  - Disinfest contaminated materials (70% alcohol, disinfectants, 10% bleach)

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

- **Control**
  - Use biopesticides to prevent infections
    - Trichoderma, Gliocladium
    - Use for potted plants
    - Exercise caution when combining with chemical fungicides

**Hosta Diseases**

**Sun Scald/Sunburn**

- **Causes**
  - Excessive light
  - Excessive heat
  - Insufficient rain
- **Hosts**
  - Hosta
  - Other shade-loving plants
Hosta Diseases
Sun Scald/Sunburn

- Management
  - Site plants appropriately
  - Provide adequate shade
  - Water adequately
  - Mulch appropriately

Hosta 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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