Hosta Diseases

Hosta Virus X

Pathogen: Hosta virus X (HVX)

Host: Hosta
- 'Gold Edger'
- 'Gold Standard'
- 'Golden Tiara'
- 'Sum and Substance'
- 'Stripedase'

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

- Disinfest contaminated materials
  - 1% Sodium dodecyl sulfate (sodium lauryl sulfate) + 1% Alconox® (2½ Tbsp + 2½ 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
- 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 + 2½ Tbsp/gal)
    • Trisodium phosphate (14 dry oz/gal)
    • 20% low fat dry milk (Carnation®) + 0.1% polysorbate 20 (9½ cups + ½ 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:** *Aphelenchoïdes* spp.
- **Hosts**
  - Many types of herbaceous plants
  - Landscape plants
    - Hosta, begonia, coral bells, miterwort
  - Houseplants
    - African violets, ferns, chrysanthemum
- **Favorable environment:** Wet weather

**Hosta Diseases**

**Foliar Nematode**

- **Control**
  - Inspect plants prior to purchase
  - Avoid overhead watering
  - Remove symptomatic plants and plant debris
    - Burn (where allowed)
    - Deep bury (landfill)
    - Hot compost
  - Disinfest contaminated materials (70% alcohol, disinfectants, 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

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**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, bleach)

- **Control**  
  - Amend soil with organic matter (?)  
  - Use fungicides for control  
    - Contract with a professional pesticide applicator  
    - Azoxytrobin, 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

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**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

Hosta Diseases
Root/Crown Rots

- 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, bleach)

Hosta Diseases
Root/Crown Rots

- 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

Hosta Diseases
Root/Crown Rots

- 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

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<thead>
<tr>
<th>Plant Disease Diagnostics Clinic</th>
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<tbody>
<tr>
<td>Department of Plant Pathology</td>
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<tr>
<td>University of Wisconsin-Madison</td>
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<td>1630 Linden Drive</td>
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<td>(608) 262-2863</td>
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