

## 2024 PDDC Plant Disease Talks

### Hosta Diseases

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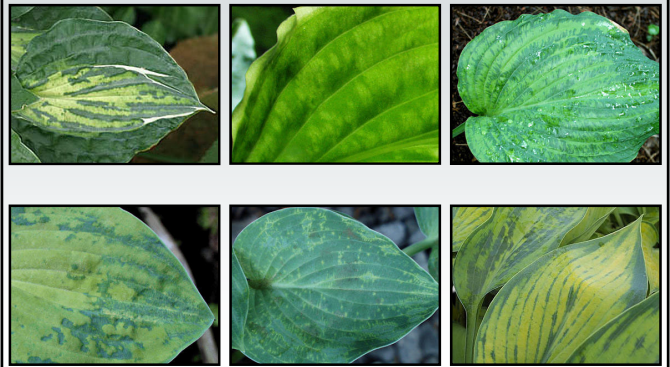


### Hosta Diseases Hosta Virus X

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

### Hosta Diseases Hosta Virus X

- Transmission: Mechanical
  - Shovels
  - Knives
  - String edgers
  - Lawnmowers



### Hosta Diseases Hosta Virus X

- 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

### Hosta Diseases Hosta Virus X

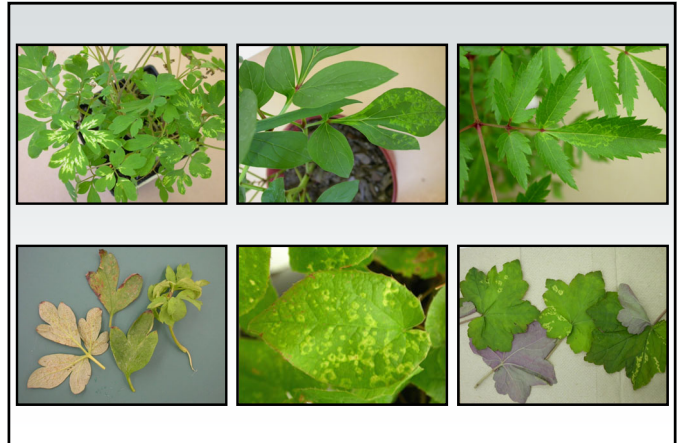
- Control
  - Disinfest contaminated materials
    - 1% Sodium dodecyl sulfate (sodium lauryl sulfate) + 1% Alconox® (2½ Tbsp + 2¾ Tbsp/gal)
    - Trisodium phosphate (14 dry oz/gal)
    - 20% low fat dry milk (Carnation®) + 0.1% polysorbate 20 (9½ cups + ¼ tsp/gal)
    - Alcohol dip followed by flaming
  - 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**
  - **Disinfest contaminated materials**
    - 1% Sodium dodecyl sulfate (sodium lauryl sulfate) + 1% Alconox® (2½ Tbsp + 2¾ 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

## 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



## 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

## Hosta Diseases Foliar Nematode

- **Control**
  - 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



## 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)

## Hosta Diseases Southern Blight

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

– <i>Pythium</i> spp.	– <i>Phytophthora</i> spp.
– <i>Rhizoctonia solani</i>	– <i>Fusarium</i> spp.
– <i>Cylindrocarpon</i> spp.	– <i>Thielaviopsis</i> 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
  - Disinfect 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, mefenoxam, fosetyl-AI, 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**

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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