

Talks for the General Public

Diseases of Houseplants

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Diseases of Houseplants Root/Crown Rots

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



Diseases of Houseplants Root/Crown Rots

- Control
 - Use a soilless potting mix
 - Moderate soil moisture
 - Use a soil/potting mix with adequate drainage
 - Improve drainage in poorly drained soils/potting mixes
 - DO NOT overwater

Diseases of Houseplants Root/Crown Rots

- Control
 - Decontaminate tools, pots, work areas
 - 70% alcohol
 - Commercial disinfectants
 - “10%” bleach
 - Decontaminate recycled water

Diseases of Houseplants Root/Crown Rots

- Control
 - Use fungicides to prevent infections (?)
 - Etridiazole, metalaxyl, mfenoxam, fosetyl-Al
 - PCNB, thiophanate-methyl, fludioxonil
 - Spray applications or soil drenches
 - Alternate active ingredients (FRAC Codes)
 - Use biopesticides to prevent infections (?)
 - *Trichoderma* spp., *Gliocladium* spp.
 - Incorporate into potting mixes

Diseases of Houseplants Powdery Mildews

- **Pathogens**
 - *Erysiphe* spp.
 - *Uncinula* spp.
 - *Phyllactinia* spp.
 - *Blumeria* spp.
 - *Oidium* spp.
 - *Microsphaera* spp.
 - *Sphaerotheca* spp.
 - *Podosphaera* spp.
 - *Brasiliomyces* spp.
 - *Ovulariopsis* spp.
- **Hosts: Most houseplants**
- **Favorable environment: High humidity**



Diseases of Houseplants Powdery Mildews

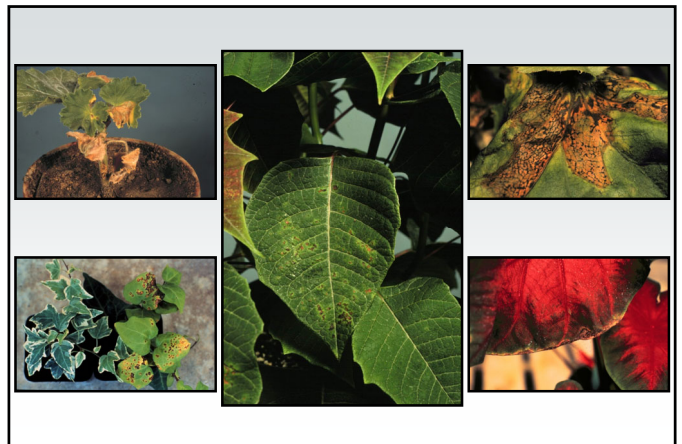
- **Control**
 - Remove diseased plant material and debris
 - Reduce humidity
 - Space plants farther apart
 - Thin plants
 - Increase air flow
 - Grow resistant cultivars/varieties

Diseases of Houseplants Powdery Mildews

- **Control**
 - Use fungicides to prevent infections
 - Dinocap, dithiocarbamates, myclobutanil, triadimefon, triforine, sulfur or thiophanate-methyl
 - Baking soda (1.5 Tbsp/gal) and light-weight horticultural oil (3 Tbsp/gal)
 - Apply when humidity >60-70%
 - Alternate active ingredients (FRAC Codes)
 - 7-14 day application interval

Diseases of Houseplants Bacterial Leaf Spots and Blights

- **Pathogens: *Xanthomonas* spp.**
- **Hosts**
 - Poinsettia
 - Begonia
 - Geranium
 - Ivy
 - Dieffenbachia
- **Favorable environment**
 - Wet leaves
 - High humidity



Diseases of Houseplants Bacterial Leaf Spots and Blights

- Control
 - Buy plants from a reputable source
 - Isolate new plants from established plants
 - DO NOT wet leaves
 - DO NOT overwater
 - Promote good air circulation
 - Discard infected plants
 - Remove contaminated plant debris

Diseases of Houseplants Bacterial Leaf Spots and Blights

- Control
 - Decontaminate tools, pots, work areas
 - 70% alcohol
 - Commercial disinfectants
 - “10%” bleach
 - DO NOT use chemical controls

Diseases of Houseplants Viral Diseases

- Pathogens
 - Many (with more discovered all the time)
 - Wide host-range
 - Tobacco mosaic virus (TMV)
 - Cucumber mosaic virus (CMV)
 - Impatiens necrotic spot virus (INSV)
 - Tomato spotted wilt virus (TSWV)

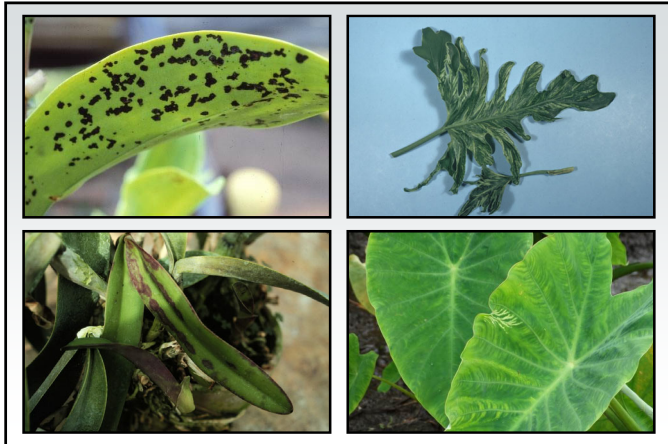
Diseases of Houseplants Viral Diseases

- Pathogens
 - Narrow host-range
 - Cymbidium mosaic virus (CyMV)
 - Odontoglossum ringspot virus (ORSV)
 - Dasheen mosaic virus (DsMV)
- Favorable environment: None

Diseases of Houseplants Virus Diseases

- Transmission
 - Mechanical
 - Touch (TMV)
 - Tools (TMV, CMV, INSV, TSWV, CyMV, ORSV, DsMV)
 - Insects
 - Aphids (CMV, DsMV)
 - Thrips (INSV, TSWV)





Diseases of Houseplants

Viral Diseases

- Control
 - Buy plants from a reputable source
 - Avoid symptomatic plants
 - Test plants prior to purchase (Agdia, Inc. – <http://www.agdia.com>)
 - Isolate new plants from established plants
 - DO NOT smoke around plants
 - Control insect vectors (thrips, aphids)

Diseases of Houseplants

Viral Diseases

- Control
 - Isolate/discard infected plants
 - Remove/discard plant debris
 - Disinfect tools, pots, work areas
 - 1% Sodium dodecyl sulfate (sodium lauryl sulfate) + 1% Alconox® (2½ Tbsp + 2¾ Tbsp/gal)
 - Trisodium phosphate (14 dry oz/gal)
 - Alcohol dip followed by flaming

Diseases of Houseplants

Viral Diseases

- Control
 - Wash hands routinely
 - DO NOT use chemical control

Diseases of Houseplants

Fungal Leaf Spots and Blights

- Pathogens

– <i>Phyllosticta</i> spp.	– <i>Stagonospora</i> spp.
– <i>Colletotrichum</i> spp.	– <i>Guignardia</i> spp.
– <i>Cercospora</i> spp.	– <i>Diplodia</i> spp.
– <i>Septoria</i> spp.	– Many others
- Favorable environment
 - Wet leaves
 - High humidity



Diseases of Houseplants Fungal Leaf Spots and Blights

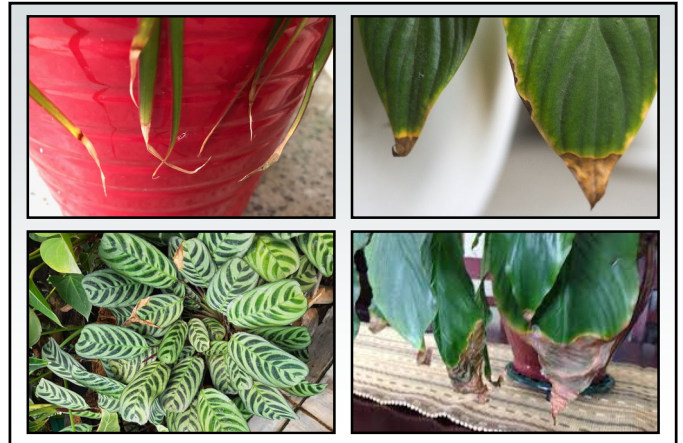
- Control
 - Buy plants from a reputable source
 - Avoid symptomatic plants
 - Isolate new plants from established plants
 - DO NOT get water on leaves
 - DO NOT overwater
 - Promote good air circulation

Diseases of Houseplants Fungal Leaf Spots and Blights

- Control
 - Remove diseased plant material and debris
 - Discard infected plants
 - Use fungicides to prevent infections (?)
 - Chlorothalonil, copper, mancozeb, thiophanate-methyl, fludioxonil, captan, ferbam
 - Apply to protect new leaves
 - 7-14 day application interval
 - Alternate active ingredients (FRAC codes)

Diseases of Houseplants Salt Injury

- Cause: High salt in soil/potting mixes
- Favorable environment: None



Diseases of Houseplants Salt Injury

- Management
 - Use distilled/deionized water for watering
 - DO NOT overfertilize
 - Routinely leach salts from pots
 - Routinely repot plants

Diseases of Houseplants 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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