

General Public Presentation

Orchid Diseases

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Orchid Diseases Black Rot

- Pathogens
 - *Phytophthora cactorum*
 - *Pythium ultimum*
- Favorable environment
 - Excessive moisture
 - Cool temperatures



Orchid Diseases Black Rot

- Control
 - Avoid symptomatic plants
 - Isolate new plants from established plants
 - Decontaminate pots, work surfaces, tools (70% alcohol, disinfectants, 10% bleach)
 - Use a proper potting mix
 - DO NOT use garden soils

Orchid Diseases Black Rot

- Control
 - DO NOT overwater
 - Limit water splash
 - Promote good air circulation
 - Remove diseased plant material and debris

Orchid Diseases Black Rot

- Control
 - Use fungicides to prevent infections
 - Poultices (?)
 - Copper sulfate + lime
 - Cinnamon
 - Spray treatments
 - Metalaxyl/mefenoxam, fosetyl-AI, etridiazole
 - Mancozeb, captan
 - Alternate active ingredients (FRAC codes)
 - Apply according to label instructions

Orchid Diseases Leaf Spots/Blights

- Pathogens
 - *Phyllosticta* spp.
 - *Colletotrichum* spp.
 - *Cercospora* spp.
 - *Septoria* spp.
 - *Guignardia* spp.
 - *Diplodia* spp.
 - *Uredo* spp.
 - *Pseudomonas* spp.
- Favorable environment
 - Excessive moisture
 - High humidity



Orchid Diseases Leaf Spots/Blights

- Control
 - Avoid symptomatic plants
 - Isolate new plants from established plants
 - DO NOT get water on leaves
 - DO NOT overwater
 - Promote good air circulation
 - Remove diseased plant material and debris (where possible)

Orchid Diseases Leaf Spots/Blights

- Control
 - 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)
 - Apply during periods of high moisture

Orchid Diseases Botrytis Blight/Gray Mold

- Pathogen: *Botrytis cinerea*
- Favorable environment
 - Excessive moisture
 - High humidity



Orchid Diseases

Botrytis Blight/Gray Mold

- Control
 - Isolate new plants from established plants
 - DO NOT get water on flowers
 - DO NOT overwater
 - Promote good air circulation
 - Remove diseased plant material and debris

Orchid Diseases

Botrytis Blight/Gray Mold

- Control
 - Use fungicides to prevent infections
 - Chlorothalonil, copper, fludioxonil, iprodione, mancozeb, maneb, thiophanate-methyl, triflumizole, vinclozolin
 - 7-14 day application interval
 - Alternate active ingredients (FRAC codes)
 - Apply during periods of high moisture
 - Apply when “perfect” flowers are desired

Orchid Diseases

Viruses

- Pathogens
 - *Odontoglossum ringspot virus* (ORSV)
 - *Cymbidium mosaic virus* (CymMV)
 - *Tobacco mosaic virus* (TMV)
 - *Cucumber mosaic virus* (CMV)
 - *Impatiens necrotic spot virus* (INSV)
 - *Tomato spotted wilt virus* (TSWV)
 - Others

Orchid Diseases

Viruses

- Favorable environment: None
- Transmission
 - Touch: TMV
 - Mechanical: ORSV, CymMV
 - Aphid: CMV
 - Thrips: INSV, TSWV



Orchid Diseases

Viruses

- Control
 - Avoid symptomatic plants
 - Isolate new plants from established plants
 - Request testing of plants prior to purchase
 - Enzyme-Linked Immunosorbent Assay (ELISA)
 - Dip-stick tests
 - Polymerase Chain Reaction (PCR)
 - Discard infected plants

Orchid Diseases **Viruses**

- **Control**

- **Dinfest 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

Orchid 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
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pddc@wisc.edu
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