Orchid Diseases

Black Rot

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

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

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

Control
- Use fungicides to prevent infections
  - Poultices (70%)
    - Copper sulfate + lime
    - Cinnamon
  - Spray treatments
    - Metalaxyl/mefenoxam, fosetyl-Al, etridiazole
    - Mancozeb, captan
- Alternate active ingredients (FRAC codes)
- Apply according to label instructions
Orchid Diseases
Leaf Spots/Blights

• Pathogens
  – *Phyllosticta* spp. – *Guignardia* spp.
  – *Colletotrichum* spp. – *Diplodia* spp.
  – *Cercospora* spp. – *Uredo* spp.
  – *Septoria* 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
Botrytis Blight/Gray Mold

• Pathogen: *Botrytis cinerea*

• Favorable environment
  – Excessive moisture
  – High humidity

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**

- 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® (2⅜ Tbsp + 2⅜ 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

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**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
(608) 262-2863
pddc@wisc.edu
https://pddc.wisc.edu
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