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, bleach)
  – Use a proper potting mix
  – DO NOT use garden soils

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

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

### 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)

#### Botrytis Blight/Gray Mold

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

### 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

#### 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

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

#### 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
  - 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

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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