

## Plant Pathology Fact Sheet

# Diseases and Cultural Problems of Houseplants

By John Hartman and Brian Eshenaur

## Diseases

Houseplants help create a pleasant home atmosphere. Unwelcome houseplant problems, normally the result of poor growing conditions, are sometimes caused by microorganisms. Diseases caused by microorganisms (such as bacteria, viruses, nematodes and fungi) can be spread from one plant to another and are therefore “contagious” or “infectious”. If plants are purchased disease-free, fungi and bacteria generally cause little trouble indoors. Most homes and offices lack the high humidity necessary for the development of these diseases.

Some diseases, such as powdery mildew, can become a problem on plants growing in a bathroom or kitchen window since these rooms will often have periods of high humidity. Houseplants left out of doors in the summer may “pick-up” disease problems,



ANTHRACNOSE ON DIEFFENBACHIA

as well. Do not purchase houseplants which are unthrifty looking since you may be buying a disease problem that could spread to your healthy plants.

## FOLIAR FUNGAL AND BACTERIAL DISEASES

### Symptoms

Yellow, brown or black spots can indicate a fungal or bacterial leaf spot disease. Leaf spots vary in shape and size depending on the organism and the type of plant involved. A grayish-white

powdery fungal growth on stems and leaves is typical of powdery mildew.

### Disease Management

1. Pick off and destroy affected leaves.
2. Provide plenty of space between plants.
3. Move the plant to an area of lower humidity.

4. Avoid wetting the foliage.
5. Some foliar diseases can be controlled with a fungicide or bactericide, however the disease should be accurately diagnosed before applying any pesticides. Department stores and garden centers carry pesticides labelled specifically for houseplant use.

## FOLIAR VIRAL DISEASES

### Symptoms

The virus diseases that affect foliage plants often result in crinkled or curled leaves, or they may cause yellow spots, rings, or streaks in the leaves. Viruses are normally moved from diseased plants to healthy plants



TOMATO SPOTTED WILT VIRUS ON GLOXINIA

by insects and on human hands. Infected plants are propagated when cuttings are taken from diseased stock plants. The best way to eliminate a virus problem is to discard the entire plant.

## ROOT AND STEM ROT DISEASES

### Symptoms

Root and stem rot diseases are caused by organisms which are "soilborne", i.e. live in the soil. Lesions may form on the stem, especially near the soil surface, and girdle plants. In other cases, stems and crown may become discolored, soft and mushy. Diseased roots become brown to black, and slough off easily.



FUNGAL ROOT ROT SYMPTOMS

## Disease Management

1. Use sterile soil or a sterile soil-less mix as a preventative measure. Moistened garden soil can be sterilized before use in an oven (180 degrees F for 2 hours) or microwave (15 minutes). Packages of sterile soil-less mixes may also be purchased.
2. Since root rot diseases occur under extremely wet soil conditions, providing good drainage and avoiding overwatering can also help in controlling soilborne disease problems.
3. Avoid wetting stems and foliage when a stem rot is prevalent.
4. Some fungicide drenches are available for homeowner use, but these should only be used after the root rot pathogen has been correctly identified.
5. In many cases it may be best to just re-root a healthy portion of the plant root in water or moist sand. The rooted cutting should then be replanted in sterile soil. Plants in the more advanced stages of disease should be completely discarded.

## Cultural Problems

Many of the problems associated with houseplants are the result of adverse growing conditions or cultural problems, rather than disease. These problems are often called abiotic diseases and are not contagious. Refer to the UK publication entitled "Houseplants: problems and care" (HO-44) for more details.

(Revised 8-04)

TABLE 1. COMMON HOUSEPLANT SYMPTOMS AND THEIR POSSIBLE CAUSES:

<b>SYMPTOMS</b>	<b>POSSIBLE CAUSES</b>
Brown leaf tips, burned leaf margins	Root injury from overwatering, excess soil dryness, and excess fertilizer Excessive exposure to cold temperatures Low humidity Pesticide injury or mechanical damage Potassium deficiency Root rot disease Nutrient toxicity (e.g. fluoride toxicity)
Pale foliage or yellowing - Older leaves  - New growth  - General	Air pollution; gas fumes Insect attack Insufficient fertility, especially nitrogen Poor root health due to poor drainage, poor aeration, pot-bound roots  Improper soil pH; trace element imbalance  Light too intense; insufficient fertilizer; temperature too high Root rot disease Insect attack Overwatering
Small, pale leaves, spindly growth	Light too low; lack of soil fertility Overwatering; poorly drained soil
Sudden defoliation	Change in location and/or sudden change in light, temperature or humidity Overwatering Transplanting shock
Brown, yellow, or black spots on leaves	Fungal or bacterial leaf spot diseases Overwatering Sunburn occurring when plant placed outside Chemical spray injury
Wilting or drooping of foliage, plants do not recover with watering	Poor root health due to overwatering, excess dryness, excess fertilizer, compacted soil Root, stem, or crown rot disease
Crown or stem is soft and mushy	Crown or stem rot disease, coupled with overwatering
Roots brown in color, soft or rotted	Poor root health from overwatering, excess dryness, excess fertilizer Root rot disease

*Educational programs of the Kentucky Cooperative Extension Service serve all people regardless of race, color, age, sex, religion, disability, or national origin.*