

**Dr. Robert Raabe**  
**Master Gardener Plant Disease Outline**  
**Part I**

**I. Symptoms**

A. Necrosis - small areas

*Non-infectious*

- Excess salts
- Sunburn
- Toxicity (from soil)
- Lack of water
- Uneven water

*Infectious*

Bacteria

Leaf spots (and fruit spots) - ivy, hibiscus, tomatoes, walnut, oak

Fungi

Leaf spots (sometimes twig blights)

- Anthracnose - sycamore, Modesto ash, elm
- Entomosporium - pome tribe of rose family
- Heterosporium - iris, nasturtium, carnation
- Phyllosticta - ivy, calla
- Septoria - hebe, celery
- Botrytis - lily

Flower blights

- Camellia, azalea, rhododendron
- Botrytis - petunia, phlox, gerbera calceolan chrysanthemum, lisianthus, poinsettia

Fruit diseases

- Powdery mildew
- Late blight
- Citrus brown rot
- Penicillium rot

B. Necrosis - larger areas

*Infectious*

Bacteria

- fire blight
- blast
- canker

Fungi

- Anthracnose - Modesto ash, elm
- Botrytis - redwood, begonia, chrysanthemum
- Brown rot of stone fruits
- Botryosphaeria - giant redwood
- Fusarium Pitch Canker
- Verticillium - tomato, camphor, olive, pistachio, Japanese maple
- Heart rot - trees
- Root rot

**End of Part I**

**Dr. Robert Raabe**  
**Master Gardener Plant Disease Outline**  
**Part II**

**I. Symptoms (Continued)**

C. Necrosis - whole plants

*Non-infectious*

Poor cultural practices

*Infectious*

Fungi

Damping-off

Root rot - water mold, Rhizoctonia

Armillaria

Fusarium wilt

Verticillium wilt

Sclerotinia

Late blight

Virus

Spotted wilt

D. Wilting

E. Overgrowths

*Non-infectious*

Oedema (edema)

Poor culture

Fasciation

Natural

Lack of light

*Infectious*

Bacteria

Crown gall, hairy root

Fasciation

Oleander gall, olive knot

Fungi

Peach leaf curl

Azalea leaf and flower gall - azalea, manzanita

Corn smut

Rust - gall, dichondra

Downy mildew

Powdery mildew

Phytoplasma-like organisms

Aster yellows

Nematodes

Root Knot

Insects and mites

Galls and overgrowths

- F. Stunting
  - Non-infectious*
    - Nutrient deficiencies
    - Excess water
  - Infectious*
    - Phytoplasma-like organisms
      - Western X
      - Buckskin
    - Fungi
      - Downy mildew, Powdery mildew
      - Verticillium wilt
      - Water mold
    - Viruses
      - Tomato, clematis, dahlia
- G. Color changes
  - Nutrient deficiencies
  - Air pollution
  - Weed killers
  - Excess light
  - Temperature change plus light
  - Old age
  - Infectious*
    - Bacteria
      - Bleeding canker
      - Leaf spots
      - Fire blight
    - Phytoplasma-like organisms
      - Aster yellows
      - Virescens
    - Fungi
      - Root rots
      - Verticillium wilt, Fusarium wilt
      - Leaf infections
    - Viruses
      - Mosaics
      - Vein clearing
      - Flower variegation

## II Signs

### Bacteria

Fireblight

### Fungi

Powdery mildew

Sooty molds

Rusts

Azalea gall

Peach leaf curl

Armillaria

Heart rots

Brown rot of stone fruits

Sclerotinia

Camellia petal blight, azalea petal blight

Botrytis

Scab

Black spot of rose

Smuts

### Phanerogams

Dodder

Mistletoe