

Control of Ornamental Diseases

Chuan Hong, Extension Plant Pathologist, Hampton Roads AREC

Overview

Home gardens are unique ecosystems, unlike professional nurseries. Making a beautiful home garden does not necessarily mean spraying pesticides on a preventive schedule. It is possible to use non-chemical approaches to avoid and control disease problems in home gardens.

General Cultural Controls

Many pathogens attack ornamental plants. Some, like rusts, are very aggressive but may not survive if their host plant tissues are absent. Others, like *Botrytis*, are ubiquitous and opportunistic; they attack only physiologically-weakened plants. Home gardeners can lessen the risk of disease and plant loss by reducing pathogen populations and increasing plant vigor.

- **Crop rotation:** Rotating crops is an effective way to control diseases caused by soilborne pathogens. Little is known about these pathogens, but it is a safe rule of thumb to plant different crops in a flower bed each year. Each pathogen has a host range and its population may decline if the pathogen's favorite host plants are not present. Crop rotation may not eliminate a pathogen from soil, but it slows the inoculum build-up in a flower bed.
- **Sanitation:** It is important to remove dead plants and diseased plant parts as well as to keep the tools you use clean. Removing dead plants reduces inoculum during a growing season and removing diseased plant parts avoids unintentional spreading of a pathogen from one plant to another. It is best to remove dead or severely diseased plants from a flower bed as soon as you see them; otherwise, they become sources of inoculum for disease progression. Symptomatic limbs, leaves and flowers should be pruned from plants and removed from the bed. Sterilize pruners with 70% alcohol solution regularly.
- **Fertilization and irrigation:** Fertilize and water plants only as needed. This improves plant physiology and limits the excess water pathogens need to reproduce, germinate, and attack ornamental plants.

General Biological Controls

Biological control in the home garden means using resistant plant species and beneficial microbes that outcompete or are hostile to pathogens. There are many kinds of ornamental plant species and cultivars, and some are almost disease-free while others are very prone to pathogen attack. Gardening exclusively with resistant plant species and cultivars is an option for gardeners who want to avoid and manage disease problems. Choosing the right plants is usually site-specific and should be guided by personal experience and careful research. The future of plant disease management is the use of beneficial microbes. Use composted green waste or other organic matter to enhance naturally-occurring beneficial microbes already in the soil.

General Chemical Controls

Chemical control should be the last resort for disease management in a home garden. Unlike cultural and biological controls, the efficacy of most chemicals is pathogen-specific. There are five major groups of pathogens: fungi, bacteria, oomycetes (*Phytophthora*, *Pythium*, downy mildew), nematodes, and viruses. Some chemicals control only diseases caused by fungi. These chemicals are called "fungicides". Similarly, the pesticides that control only bacterial, oomycete, and nematode diseases are regarded as "bactericides," "oomycetocides," and "nematicides," respectively. When chemical control is necessary, it is critical to first determine the nature of a disease, then select the right chemical. Review pesticide labels carefully and follow instructions strictly to avoid any health hazards and phytotoxicity. Using the same pesticide repeatedly may make the target pathogen resistant. It is best to alternate pesticides with different modes of action.

Determine the Nature of a Disease Problem by Using the Index of Ornamental Plants and Their Diseases

The index below is arranged alphabetically by the scientific name of the host plant with its common name in parentheses. Common diseases that usually require chemical treatments are in italics.

Abies (Fir) *Botrytis* blight, *Cytospora* canker, oedema, *Phytophthora* root/crown rot

Acer (Maple) *Anthraco*se, *bacterial scorch*, bacterial wetwood, *Botrytisphaeria dieback*, *Cytospora* canker, Ganoderma root rot, leaf spot, *Nectria* canker, *Phomopsis dieback*, *purple-eye leaf spot*, tar spot, *Valsa* canker, *Verticillium wilt*, *zonate leaf spot*

4-2 Home Ornamentals: Control of Ornamental Diseases

- Aconitum (Monkshood)** Southern blight
Aegopodium (Goutweed) leaf spot
Aesculus (Buckeye) Guignardia blotch
Agave (Century plant) crown rot
Ageratum (Floss flower) Southern blight
Ailanthus (Tree-of-heaven) Fusarium stem/root rot
Ajuga (Bugleweed) Phomopsis dieback, *Phytophthora root rot*, *Pythium root rot*, Rhizoctonia root/crown rot, root knot nematode, *Southern blight*, viral disease, web blight
Albizia (Mimosa) Fusarium wilt
Alcea (Hollyhock) root knot nematode, *rust*
Amelanchier (Service berry) rust, Entomosporium leaf spot
Anemone foliar nematode, *Phytophthora root rot*
Antirrhinum (Snapdragon) *Cercospora leaf spot*, downy mildew, *Phytophthora root/crown rot*, *Pythium root rot*, Rhizoctonia stem rot, *rust*, *Verticillium wilt*, viral diseases
Aquilegia (Columbine) *Pythium root rot*
Arctostaphylos (Bearberry) *Pythium root rot*, *Phytophthora root rot*
Arisaema (Jack-in-the-pulpit) rust
Armeria (Sea thrift) web blight
Aronia (Chokeberry) *Pythium root rot*
Artemisia (Dusty miller) Rhizoctonia root/stem rot
Asclepias (Milkweed) anthracnose
Asclepias tuberosa (Butterfly weed) Rhizoctonia stem rot
Aster *powdery mildew*, rust
Astilbe *Pythium root rot*
Aucuba anthracnose, *Botrytisphaeria dieback*, leaf spot, *Phomopsis dieback*, ring nematode
Bamboo *Pythium root rot*
Bedding plants damping-off
Begonia anthracnose, *Botrytis blight*, *Fusarium stem rot*, *powdery mildew*, *Rhizoctonia root/stem rot*, root knot nematode
Berberis (Barberry) *Phytophthora root rot*
Bergenia *Pythium root rot*
Betula (Birch) *anthracnose*, *Botrytisphaeria dieback*, *Botrytis blight*, red heart, *Septoria leaf spot*
Buddleia (Butterfly bush) *Phytophthora root rot*, Rhizoctonia root rot
Buxus (Boxwood) *Botrytisphaeria dieback*, *boxwood decline*, lesion nematode, *Macrophoma leaf spot*, *volutella blight*
Cactus *Pythium root rot*
Caladium *Pythium root rot*
Calibrachoa (Million bells) *Phytophthora crown rot*, black root rot, Rhizoctonia root rot, Southern blight
Calocedrus (Incense cedar) *Seiridium canker*
Camellia anthracnose, *Botrytisphaeria dieback*, *leaf/flower gall*, leaf spot, oedema, *petal/flower blight*, *Phytophthora root rot*, *Pythium root rot*, viral disease
Campanula (Bellflower) *Fusarium crown rot*
Campsis (Trumpet vine) anthracnose
Canna (Canna lily) lesion nematodes, *Pythium root rot*
Carpinus (Hornbeam) *Pythium root rot*
Carya (Hickory) downy leaf spot, *Gnomonia leaf spot*, *phomopsis gall*, *powdery mildew*, *zonate leaf spot*
Caryopteris (Bluebeard) *Phytophthora stem/root rot*, *Pythium root rot*
Catalpa bacterial wetwood, *Verticillium wilt*
Catharanthus (Madagascar periwinkle) black root rot, *Botrytis blight*, *Phytophthora blight*, *Pythium root rot*, Rhizoctonia stem/root rot
Cattleya (Orchid) bacterial brown spot
Cedrus (Cedar) *Armillaria root rot*, *Phomopsis needle/twig blight*
Celosia (Cockcomb) *Pythium root rot*, Rhizoctonia root rot

- Cercis (Redbud)** Botrytisphaeria dieback, botrytis blight, Fusarium canker, leaf spot, Verticillium wilt
- Chamaecyparis (Falsecypress)** Phytophthora root rot, Seiridium canker, web blight
- Chionanthus (Fringe tree)** leaf spot
- Chrysanthemum (Daisy)** *Pythium root rot*, bacterial blight, web blight
- Chrysogonum (Goldenstar)** Southern blight
- Cladastris (Yellow wood)** anthracnose
- Clematis** leaf spot, Phytophthora root rot
- Cleyera** Armillaria root rot
- Clivia (Kaffir lily)** leaf spot, Southern blight
- Coleus** Botrytis blight, downy mildew
- Consolida (Larkspur)** Pythium root rot, Rhizoctonia crown/root rot
- Coreopsis (Tickseed)** Botrytis blight, Rhizoctonia root/stem rot, rust, viral disease
- Cornus (Dogwood)** anthracnose, Armillaria root rot, Botrytisphaeria dieback/canker, *Botrytis blight*, *Discula anthracnose*, Fusarium canker, leaf spot, phomopsis dieback, *powdery mildew*, Pythium root rot, *Septoria leaf spot*, *spot anthracnose*, viral disease
- Corylus (Filbert)** eastern filbert blight
- Cosmos (Mexican aster)** Botrytis blight, Phomopsis stem canker, powdery mildew, white smut
- Cotinus (Smoke bush)** anthracnose, Verticillium wilt
- Cotoneaster** leaf spot, Phytophthora root rot, web blight
- Crassula (Jade plant)** oedema, Pythium root rot
- Crataegus (Hawthorn)** Cercospora leaf spot, *Entomosporium leaf spot*, rust
- Cryptomeria (Japanese cedar)** needle blight, *Phomopsis twig blight*, Phytophthora root rot
- Cupressocyparis (Leyland Cypress)** phytophthora root rot
- Cupressus (Cypress)** Botrytisphaeria dieback, Kabatina dieback, tip blights, Phytophthora root rot, *Seiridium canker*
- Cyclamen** Fusarium wilt
- Cymbidium (Orchid)** viral disease
- Dahlia** crown gall, *powdery mildew*
- Daphne** anthracnose, Phytophthora root/stem rot
- Davidia (Dove tree)** Phomopsis dieback
- Delosperma (Ice plant)** Pythium root rot
- Dendranthema (Chrysanthemum)** bacterial leaf spot, *Botrytis blight*, *Mycosphaerella ray blight*, Phytophthora root rot, *powdery mildew*, *Pythium root/stem rot*, Rhizoctonia root rot, *Septoria leaf spot*, *leaf rust*, Verticillium wilt
- Dianthus (Carnation)** *Alternaria leaf spot*, *Botrytis blight*, Fusarium stem rot, *powdery mildew*, Rhizoctonia stem rot, rust
- Digitalis (Foxglove)** black root rot, Fusarium root rot, Pythium root rot
- Dracaena** Fusarium blight, Pythium root rot
- Echinacea (Coneflower)** aster yellows, foliar nematodes, Pythium root rot, viral disease
- Elaeagnus (Autumn olive)** Phytophthora root rot
- Epiphyllum (Cereus)** oedema
- Epipremnum (Pothos)** Phytophthora stem rot
- Erica (Heather)** Phytophthora root rot
- Eucalyptus** anthracnose, Botrytisphaeria dieback, crown gall, Fusarium canker, Phomopsis dieback, *Phytophthora root rot*, powdery mildew, Pythium root rot
- Euonymus** *powdery mildew*
- Euphorbia (Spurge)** anthracnose, Botrytisphaeria dieback canker
- Euphorbia pulcherima (Poinsettia)** bacteria blight, bacterial leaf spot, Botrytis blight, *powdery mildew*, *Pythium root rot*, scab
- Eustoma (Lisianthus)** Botrytis blight, Fusarium root/stem rot
- Exacum (Persian violet)** viral disease
- Fagus (Beech)** anthracnose, Botrytisphaeria canker, Hypoxylon canker, viral disease
- Fatsia** leaf spot
- Ficus (Fig)** anthracnose, Phytophthora root rot
- Ficus benjamina (Weeping fig)** anthracnose, Phomopsis gall

4-4 Home Ornamentals: *Control of Ornamental Diseases*

- Forsythia** *Botrytisphaeria* dieback, crown gall, *Phomopsis* gall, *Phytophthora* root rot, ringer nematodes, *Sclerotinia* twig blight, web blight
- Fraxinus (Ash)** *anthracnose*, ash yellows, *Botrytisphaeria* canker, *rust*
- Gaillardia (Blanket flower)** *Pythium* root rot, white smut
- Galium (Sweet woodruff)** *Rhizoctonia* stem/root rot, Southern blight
- Gardenia** *anthracnose*
- Gerbera (African daisy)** *Pythium* root rot
- Gladiolus** *Botrytis* leaf blight, *Curvularia* leaf blight, *Fusarium* yellows, *Penicillium* corm rot, *Rhizoctonia* corm rot
- Gleditsea (Honeylocust)** *Botrytisphaeria* canker, *Thyronectria* canker
- Gloxinia (Sinningia)** viral disease
- Gomphrena (Globe amaranth)** leaf spot
- Gypsophila (Baby's breath)** bacterial soft rot
- Hamamelis (Witchhazel)** *Botrytisphaeria* dieback, leaf spot, powdery mildew
- Hedera helix (English ivy)** *anthracnose*, bacterial leaf spot, oedema, *Phyllosticta* leaf spot, *Phytophthora* root rot, *Pythium* root rot, *Rhizoctonia* root rot
- Helianthemum (Rock rose)** *Botrytis* blight
- Helianthus (Sunflower)** *Alternaria* leaf/stem spot
- Helichrysum (Strawflower)** *Fusarium* stem rot
- Helleborus (Hellebore)** black leaf spot, *Botrytis* blight, *Pythium* root rot, *Rhizoctonia* root rot, Southern blight
- Hemerocallis (Daylily)** *anthracnose*, *rust*, leaf streak, Southern blight
- Heuchera (Coral bells)** *Pythium* root rot
- Hibiscus** *Phytophthora* root rot, *Pythium* root rot, viral disease
- Hibiscus syriacus (Rose-of-Sharon)** leaf spot
- Hosta** *anthracnose*, *Botrytis* blight, leaf spot, root rot, soft rot, Southern blight, virus X
- Hydrangea** *anthracnose*, *Armillaria* root rot, bacterial leaf spot, *Botrytis* blight, *Cercospora* leaf spot, *Phytophthora* root rot, *Pythium* root rot, powdery mildew
- Hypericum (St Johnswort)** *Phytophthora* stem/root rot, *rust*, *Rhizoctonia* root rot
- Iberis (Candytuft)** *anthracnose*, *Pythium* root rot
- Ilex (Holly)** *anthracnose*, bacterial blight, black root rot, *Botrytisphaeria* dieback, leaf spot, root knot nematodes, oedema, *Phomopsis* dieback, *Phytophthora* root rot, *Pythium* root rot, *Rhizoctonia* root rot, rust, tar spot, web blight
- Ilex glabra (Inkberry)** black root rot, *Phytophthora* root rot
- Impatiens** *Alternaria* leaf spot, bacterial fasciation, *Botrytis* blight, *Fusarium* crown rot, powdery mildew, *Pythium* root/stem rot, *Rhizoctonia* root/stem rot, root knot nematodes, *Verticillium* wilt, viral diseases
- Ipomoea (Morning glory)** rust, white rust
- Iris** *Botrytis* blight, *Heterosporium* leaf spot, soft rot
- Juniperus (Juniper)** *Kabatina* tip blight, *Pestalotia* dieback, *Phytophthora* root rot, *Pythium* root rot, rust
- Juniperus virginiana (Eastern red cedar)** *Cercospora* blight, *Kabatina* tip blight, *Pestalotia* blight, *Phomopsis* tip blight, rust
- Kalmia (Mountain laurel)** *Botrytisphaeria* dieback, *Cercospora* leaf spot
- Lagerstroemia (Crape myrtle)** leaf spot, powdery mildew, sooty mold
- Lamiastrum (Yellow archangel)** *Rhizoctonia* root/stem rot, Southern blight
- Laurus nobilis (Bay laurel)** *Cercospora* leaf spot
- Lavandula (Lavender)** *Phytophthora* root rot, *Pythium* root rot
- Leucanthemum** *Phytophthora* root rot, *Rhizoctonia* root rot
- Leucothoe (Drooping leucothoe)** *Botrytisphaeria* dieback, *Cylindrocladium* leaf spot, *Phyllosticta* leaf spot, *Phytophthora* root rot
- Lewisia** soft rot
- Liatris (Gayfeather)** *Sclerotinia* stem rot
- Ligustrum (Privet)** *anthracnose*, *Cercospora* leaf spot, *Phytophthora* root rot
- Lilium (Lily)** *anthracnose*, *Botrytis* blight, *Pythium* root rot
- Limonium (Statice)** *Phytophthora* root rot, *Pythium* root rot, *Rhizoctonia* root rot
- Liquidambar (Sweetgum)** *Cercospora* leaf spot, *Endothia* canker, *Sphaeropsis* gall
- Liriodendron (Tulip tree)** powdery mildew

- Liriope (Lilyturf)** anthracnose, foliar nematodes, Fusarium wilt, Mycosphaerella leaf spot, Phytophthora root rot, viral disease
- Lobelia** Pythium root rot, viral disease
- Lobularia (Sweet alyssum)** Rhizoctonia stem rot
- Lonicera (Honeysuckle)** Botrytisphaeria dieback, Botrytis blight, *Herpobaisdium leaf blight*, powdery mildew
- Lupinus (Lupine)** anthracnose, brown spot, Pythium root rot
- Lysimachia (Loosestrife)** Rhizoctonia root/stem rot, *Southern blight*
- Magnolia** bacterial leaf spot, *powdery mildew*
- Malus (Crabapple)** Coniothyrium leaf spot, *fire blight*, *frog-eye leaf spot*, *powdery mildew*, *rust*, *scab*
- Malva (Mallow)** rust
- Metasequoia (Dawn redwood)** *Dothiorella canker*, needle blight
- Microbiota decussata (Russian arborvitae)** Phytophthora root rot
- Miscanthus (Ornamental grass, or Maiden grass)** anthracnose
- Morus (Mulberry)** berry blight
- Myosotis (Forget-me-not)** web blight
- Myrica (Bayberry)** Botrytisphaeria dieback, Phytophthora root rot
- Myrica cerifera (Waxmyrtle)** anthracnose, Botrytisphaeria dieback, Phytophthora root rot, Septoria leaf spot
- Nandina (Heavenly bamboo)** Cercospora leaf spot, Phytophthora root rot, Pythium root rot
- Nelumbo (Water lily)** Cercospora leaf spot
- Nerium oleander (Oleander)** bacterial gall
- Nyssa sylvatica (Black gum)** anthracnose, Botrytisphaeria dieback, leaf spot
- Ocimum basilicum (Basil)** Alternaria leaf spot, Fusarium root rot
- Oenanthe javanica (Water celery)** Fusarium crown rot
- Ophiopogon (Mondo grass)** anthracnose
- Oxalis (Wood sorrel)** rust
- Oxydendrum arboreum (Sourwood)** leaf spot
- Pachysandra** leaf spot, Pythium root rot, Southern blight, *Volutella blight*
- Paeonia (Peony)** Botrytis blight, Cercospora leaf spot, *Cladosporium leaf/stem blotch*, Rhizoctonia root rot
- Parthenocissus (Boston ivy)** Phyllosticta leaf spot
- Paxistima** Phytophthora root rot
- Pelargonium (Geranium)** bacterial blight, bacterial leaf spot, bacterial wilt, *Botrytis blight*, oedema, *Pythium root rot/black-leg*, Rhizoctonia root rot, *rust*, viral disease
- Petunia** Botrytis blight, *Fusarium root/crown rot*, *Phytophthora root/crown rot and foliage blight*, *Pythium root/crown rot*, Rhizoctonia root/stem rot, viral disease
- Phalaris (Canarygrass)** web blight
- Phlox** bacterial leaf spot, black root rot, Colletotrichum stem canker, *powdery mildew*, Pythium root rot, southern blight, viral disease, web blight
- Photinia (Japanese photinia red-tip)** Armillaria root rot, bacterial blight, Botrytisphaeria canker, *Entomosporium leaf spot*, *powdery mildew*
- Physocarpus (Ninebark)** powdery mildew, Rhizoctonia root rot
- Picea (Spruce)** Cytospora canker, Phytophthora root rot, Pythium root rot, needle blight, tip blight
- Pieris (Japanese pieris)** Botrytisphaeria dieback, Phomopsis canker, Phytophthora root rot
- Pinus (Pine)** Armillaria root rot, Atropellis twig canker, Cenangium dieback, Cytospora canker, *Diplodia tip blight*, Dothistroma needle blight, Eastern gall rust, Fusiform rust, needle cast, needle rust, Phacidiopycnis canker, Phytophthora root rot, *pine-wood nematodes*
- Pistacia (Pistache)** Verticillium wilt
- Platanus (Sycamore)** *anthracnose*, bacterial scorch, Botrytisphaeria dieback, *powdery mildew*
- Platycodon (Balloon flower)** Rhizoctonia crown rot
- Polygonatum (Solomon seal)** Penicillium rot
- Populus (Poplar)** *Botrytisphaeria canker*, leaf spot
- Portulaca (Purslane)** Rhizoctonia stem rot
- Potentilla (Cinquefoil)** foliar nematodes
- Pratia** Southern blight

4-6 Home Ornamentals: Control of Ornamental Diseases

- Prunus (Flowering apricot/cherry/peach/plum)** bacterial blossom blight, bacterial leaf spot, bacterial shot hole, bacterial scorch, black knot, blossom blight/brown rot, *Cytospora canker*, *Nectria canker*, peach leaf curl, *Phomopsis canker*, white rot
- Prunus laurocerasus (Cherry laurel)** anthracnose, bacterial leaf spot, bacterial shot hole, *Botrytisphaeria dieback*, *Phomopsis dieback*, leaf spots, *Phytophthora root rot*, *Pythium root rot*, zonate leaf spot
- Pseudotsuga (Douglas fir)** *Botrytisphaeria canker*, Swiss needle cast
- Pyracantha (Firethorn)** *Botrytisphaeria dieback*, *fire blight*, *Phomopsis dieback*, *scab*
- Pyrus calleryana (Flowering pear)** *Botrytisphaeria canker*, *Entomosporium leaf spot*, *fire blight*, rust
- Quercus (Oak)** *anthracnose*, *Armillaria root rot*, bacterial scorch, *bacterial wetwood*, *Botrytisphaeria canker*, *Cylindrocladium root rot*, *Discula anthracnose*, *Hypoxyylon canker*, *leaf blister*, *Phomopsis dieback*, *powdery mildew*, rust, smooth patch, spot anthracnose, *Tubakia leaf spot*
- Ranunculus (Buttercup)** bacterial blight, web blight
- Rhaphiolepis (Indian hawthorn)** *Entomosporium leaf spot*
- Rhododendron (Azalea)** anthracnose, *Armillaria root rot*, *Botrytisphaeria dieback*, *Botrytis blight*, *Cercospora leaf spot*, *Colletotrichum leaf spot*, *leaf and flower gall*, lesion nematodes, oedema, *Pestalotia leaf spot*, *petal blight*, *Phomopsis dieback*, *Phyllosticta leaf spot*, *Phytophthora dieback*, *Phytophthora root/stem rot*, *powdery mildew*, *web blight*
- Rosa (Rose)** anthracnose, *black spot*, *Botrytisphaeria dieback*, *Botrytis blight*, *crown gall*, *downy mildew*, *Phomopsis canker*, *powdery mildew*, *Pythium root rot*, rose rosette disease, viral disease
- Rosmarinus (Rosemary)** *Botrytis blight*, crown gall, *Phytophthora root rot*, *Pythium root rot*
- Rudbeckia (Black-eyed Susan)** *Pythium root rot*, *Rhizoctonia stem rot*, *Septoria leaf spot*, downy mildew
- Salix (Willow)** *Armillaria root rot*, *Botrytisphaeria dieback*, *Botrytis blight*, black canker, *Cercospora leaf spot*, *crown gall*, rust, scab, white rot
- Salvia** bacterial leaf spot, downy mildew, *Pythium root rot*, *Rhizoctonia stem rot*
- Santolina (Lavender cotton)** *Rhizoctonia root rot*
- Scabiosa (Pincushion flower)** *Botrytis blight*
- Schefflera (Umbrella tree)** oedema, *Pythium root rot*
- Schlumbergera (Thanksgiving cactus)** oedema, *Pythium root rot*
- Sedum (Stone crop)** anthracnose, bacterial soft rot, bacterial stem rot, *Diplodia stem rot*, leaf spot, *Phytophthora stem rot*, *Pythium root rot*, *Rhizoctonia root/stem rot*, root knot nematodes, web blight
- Sequoia (Redwood)** *Cercospora needle blight*, *Phomopsis needle blight*
- Setcreasea (Purple heart)** leaf spot
- Solidago (Goldenrod)** rust
- Spiraea** leaf spot
- Styrax (Silverbell)** leaf spot
- Syngonium (Nephtytis)** bacterial leaf spot
- Syringa (Lilac)** anthracnose, *bacterial blight*, *Botrytis blight*, *Cercospora leaf spot*, *Phytophthora root rot*, *powdery mildew*
- Tagetes (Marigold)** *Alternaria blight*, *Botrytis blight*, crown gall, *Fusarium stem/root rot*, *Pythium root rot*, *Rhizoctonia stem rot*
- Taxus (Yew)** *Botrytisphaeria dieback*, *Phytophthora root rot*
- Teucrium (Germander)** *Rhizoctonia root rot*, Southern blight
- Thuja (Arborvitae)** *Armillaria root/stem rot*, *Cytospora canker*, *Kabatina tip blight*, *Phomopsis twig/needle blight*, *Phytophthora root rot*, *Pythium root rot*, *Seiridium twig canker*, web blight
- Thymus (Thyme)** *Pythium root rot*
- Tilia (Linden)** spot anthracnose, white rot
- Tradescantia virginica (Spiderwort)** Southern blight
- Tsuga (Hemlock)** *Armillaria root rot*, damping-off, rust
- Tulipa (Tulip)** *Botrytis blight*, *Fusarium basal rot*
- Ulmus (Elm)** *bacterial wetwood*, *bacterial leaf scorch*, *Botrytisphaeria canker*, *Cytospora canker*, *Dutch elm disease*, *Verticillium wilt*
- Verbena (Vervain)** *powdery mildew*, *Pythium root rot*
- Veronica (Speedwell)** *Phytophthora root rot*
- Viburnum (Snowball bush)** spot anthracnose, bacterial scorch, *Botrytisphaeria dieback*, *Botrytis blight*, phoma leaf spot, *Phytophthora root rot*, *Rhizoctonia root rot*
- Vinca minor (Periwinkle)** oedema, *Phoma dieback*, *Phomopsis dieback*, *Phyllosticta stem rot/leaf spot*, *Pythium root rot*, *Rhizoctonia root/stem rot*, Southern blight

Viola (Pansy) anthracnose, black root rot, Botrytis blight, Cercospora leaf spot, Phytophthora root/crown rot, Pythium root/crown rot
Weigela Phytophthora root rot, Pythium root rot
Wisteria Botrytisphaeria dieback
Xanthoceras sorbifolium (Yellowhorn) Botrytis blight
Yucca bacterial soft rot, Mycosphaerella leaf spot
Zephyranthes (Rain lily) anthracnose
Zinnia Alternaria blight, bacterial leaf spot, Botrytis stem canker, powdery mildew, Pythium root rot

When to call a professional

The index of ornamental plants and their diseases is designed to help those who use this PMG to narrow down the targets quickly. It is also the starting point for further research, as gardeners can compare and determine the exact causes of disease problems. Consult a professional when a final diagnosis cannot be determined with the information available online.

General Chemical Recommendation

Table 4.1 - General Guidelines for Pesticide Selection			
Disease	Common Name	Trade Name	Manufacturer
Oomyceteous diseases			
Phytophthora root rot	Fosetyl-Al	Monterey Aliette	Monterey
Pythium root/crown rot	Phosphorous acid	AGRI-FOS	Monterey
Downy mildew	Fosetyl-Al	Monterey Aliette	Monterey
Phytophthora blight/ dieback	Phosphorous acid	AGRI-FOS	Monterey
	Copper hydroxide	Copper Fungicide	Hi-Yield
	Copper salts	LIQUI-COP	Monterey
		Liquid Copper Fungicide	Bonide
		Copper Fungicide	Dragon
Fungal			
Black root rot	Thiophanate-methyl	Halt Systemic Fungicide	Ferti-lome
Cylindrocladium root rot		Lawn Fungus Control	Scotts
		Systemic Fungicide	Green Light
		Systemic Fungicide 3336WP	Dragon
Rhizoctonia root/stem rot	fludioxonil	Medallion	Southern Agriculture Insecticides
Web blight	Pentachloronitrobenzene	Turf & Ornamental Fungicide	Hi-Yield
Sclerotinia root rot		Terraclor	Southern Agriculture Insecticides
Southern blight		Azalea, Camellia, Crape Myrtle Spray	Ferti-lome
Botrytis blight	Thiophanate-methyl	Halt Systemic	Ferti-lome
Diplodia tip blight		Lawn Fungus Control	Scotts
Kabatina dieback		Systemic Fungicide	Green Light
Phomopsis dieback		Systemic Fungicide 3336WP	Dragon
Phomopsis needle blight			
Sclerotinia stem rot			
Tip blight			

4-8 Home Ornamentals: Control of Ornamental Diseases

Table 4.1 - General Guideline for Pesticide Selection (cont.)

Disease	Common Name	Trade Name	Manufacturer
Fungal (cont.)			
Powdery mildew	Potassium bicarbonate	Remedy	Bonide
	Sulfur	3-in-1 Rose & Flower Care	Ortho
		Garden Fungicide	Safer
		Sulfur 90W	Monterey
		Sulfur Plant Fungicide	Bonide
		Wettable Dusting Sulfur	Hi-Yield
		Wettable or Dusting Garden Sulfur	Dragon
		Neem oil	Powdery mildew killer Ready To Use
		Triple Action Ready-To-Use	Ferti-lome
	Joboba oil	E-Rase RTU	Monterey
	Sesame oil	Organocide	Organic Lab
	Myclobutanil	F-Stop Lawn Fungicide	Ferti-lome
		Fung-Away systemic Granules	Green Light
		Immunox 3-in-1	Spectracide
		Immunox Fungicide	
		Immunox Lawn Disease Spray	
		Immunox Lawn Disease Control Granules	
		Immunox Multi-Purpose Fungicide	
		Immunox Plus Insect and Disease Control	
Triforine	Rose Pride Disease Control	Ortho	
	Orthenex-Garden Insect & Disease Control		
Rust	Myclobutanil	F-Stop Lawn Fungicide	Ferti-lome
		Fung-Away systemic Granules	Green Light
		Immunox 3-in-1	Spectracide
		Immunox Fungicide	
		Immunox Lawn Disease Spray	
		Immunox Lawn Disease Control Granules	
		Immunox Multi-Purpose Fungicide	
		Immunox Plus Insect and Disease Control	
	Triadimefon	Fung-Away Fungicide	Green Light
		Fung-Away Systemic Lawn Spray	
		Fung-Away Systemic Lawn Spray	
		Hose-End Concentrate	
		Lawn Fungicide Granules	Hi-Yield

Table 4.1 - General Guideline for Pesticide Selection (cont.)

Disease	Common Name	Trade Name	Manufacturer
Fungal (cont.)			
Rust (cont.)	Triforine	Rose Pride – Rose & Shrub Disease Control	Ortho
		Orthenex-Garden Insect & Disease Control	
	Tebuconazole	Disease Control for Roses, Flowers, and Shrubs	Bayer
		All-In-One Rose and Flower Care	
Alternaria leaf spot	Propiconazole	Lawn & Garden Disease Control	Bonide
Anthracnose		Lawn Disease Control	Ortho
Black spot (rose)		Liquid Systemic Fungicide	Ferti-lome
Cercospora leaf spot		Chlorothalonil	Lawn & Garden Fungicide
Curvularia leaf blight		Daconil	Hi-Yield
Cylindrocladium leaf spot		Daconil 2787	Dragon
Entomosporium leaf spot		Daconil Fungicide Ready-to-Use	Garden Tech
Gnomonia leaf spot		Fung-Onil Multi-Purpose Fungicide	Bonide
Heterosporium, Leaf streak (daylily)		Garden Disease Control	Ortho
		Multipurpose Fungicide	Tiger Brand
Macrophoma leaf spot	Mancozeb	Mancozeb Disease Control	Dragon
Mycosphaerella leaf spot		Mancozeb Flowable	Bonide
Phyllosticta leaf spot	Maneb	Maneb Garden Fungicide	Hi-Yield
Purple-eye leaf spot	Captan	Captan	Bonide
Scab		Captan Wettable Powder	Dragon
Septoria leaf spot	Copper hydroxide	Copper Fungicide	Hi-Yield
Spot anthracnose	Copper salts	LIQUI-COP	Monterey
Volutella blight		Liquid Copper Fungicide	Bonide
Web blight		Copper Fungicide	Dragon
Zonate leaf spot	Thiophanate-methyl	Halt Systemic	Ferti-lome
		Lawn Fungus Control	Scotts
		Systemic Fungicide	Green Light
		Systemic Fungicide 3336 WP	Dragon
	Tebuconazole	Disease Control for Roses, Flowers, and Shrubs	Bayer
		All-In-One Rose and Flower Care	
Leaf/flower gall	Chlorothalonil	Broad Spectrum Liquid Fungicide	Ferti-lome
		Daconil	Hi-Yield
		Daconil	Garden Tech
		Daconil 2787	Dragon
		Fungicide Disease Control	Garden Tech
		Fung-Onil Multi-Purpose Fungicide	Bonide
		Garden Disease Control	Ortho
		Multipurpose Fungicide	Tiger Brand
		Tebuconazole	Advanced Garden Disease Control

4-10 Home Ornamentals: Control of Ornamental Diseases

Table 4.1 - General Guideline for Pesticide Selection (cont.)			
Disease	Common Name	Trade Name	Manufacturer
Fungal (cont.)			
Leaf/flower gall (cont.)	Mancozeb	Mancozeb Disease Control	Dragon
		Mancozeb	Bonide
Flower/petal blight	Myclobutanil	F-Stop Lawn Fungicide	Ferti-lome
		Fung-Away systemic Granules	Green Light
		Immunox 3-in-1	Spectracide
		Immunox Fungicide	
		Immunox Lawn Disease Spray	
		Immunox Lawn Disease Control Granules	
		Immunox Multi-Purpose Fungicide	
		Immunox Plus Insect and Disease Control	
	Chlorothalonil	Lawn & Garden Fungicide	Ferti-lome
		Daconil	Hi-Yield
		Daconil	Garden Tech
		Daconil 2787	Dragon
		Daconil Fungicide Ready-to-Use	Garden Tech
		Fung-Onil Multi-Purpose Fungicide	Bonide
Garden Disease Control	Ortho		
Bacterial			
Fire blight	Copper	Copper Spray or Dust	Bonide
Soft rot	Copper hydroxide	Copper Fungicide	Hi-Yield
	Copper salts	LIQUI-COP	Monterey
	Copper ammonium	Liquid Copper Fungicide	Southern Agriculture Insecticide
	Copper oxinate	Copper Soap	Concern
	Copper octanoate	Garden Disease Control	Ortho
	Fosetyl-Al	Monterey Aliette	Monterey
	Streptomycin sulfate	Fire Blight Spray	Bonide, Ferti-lome
Crown gall	Purchase healthy plants		
Nematode - No nematicide available for homeowner use.			
Viral - No chemicals for control of viral diseases.			