Key Plants / Key Pests

Modified and digitized for the web by:
Juanita Popenoe, Ph.D.
Regional Specialized Extension Agent II
Commercial Horticulture - Woody Ornamentals
UF/IFAS Lake County Extension Service

It is very important that scouts become familiar with the key plant/key pest concept. These are common plant species produced in Florida nurseries that are frequently infested with specific pests or diseases at specific times of the year. Often such key plants have specialized pests, are more preferred cultivars or are plants that are not truly adapted to the location and site conditions. Both scout and management must agree on these key plants to concentrate their scouting efforts. The average nursery has far too many plant species for all to be scouted on each visit.

Key nematodes — where and how to focus

Despite the large number of ornamental species identified as key plants, it is evident from the nematodes column of the table that relatively few nematode genera constitute most of the key nematodes. That simplifies the nursery scout's task, because one can learn to deal with nearly all of the important nematodes by learning relatively few symptoms and scouting procedures. Nematode genera that appear repeatedly in the list are:

- root-knot nematodes, *Meloidogyne spp.*
- reniform nematodes, *Rotylenchulus spp.*
- burrowing nematodes, *Radopholus spp.*
- lesion nematodes, *Pratylenchus spp.*
- dagger nematodes, *Xiphinema spp.*
- foliar nematodes, *Aphelenchoides spp.*

These six genera include ectoparasitic and endoparasitic nematodes, parasites of above-ground parts as well as below-ground parts, a virus-vector group, and tropical as well as temperate climate species. Although they may have very different geographic origins, most of these nematodes can now be found in nurseries almost anywhere in the world.

Root-knot nematodes, *Meloidogyne spp*., are the most widespread nematode pests of plants in the world. Although there are dozens of species, only four are responsible for more than 95 percent of the problems caused by all. For the nursery scout, they all have similar effects on the plants, present the same symptoms, and require the same scouting procedures.

• **Host-parasite relations**. Juvenile root-knot nematodes penetrate into root tips, moving to where new vascular tissues are developing. Chemicals in their saliva stimulate the cells they feed on to grow large and succulent so the nematodes have a permanent source of food without moving (we call these "giant cells" and "nurse cells"). Those same chemicals stimulate other cells around the nematodes to divide and grow much more than normal, creating lumps on the roots that are easy to see and recognize, commonly call "knots" or "galls." Nematologists call root-knot nematodes "sedentary endoparasites" because they can live entirely inside the root tissues, and once they have established giant cells at their feeding site, they cannot move again.

• **Symptoms**. The galls caused on host roots by root-knot nematodes are among the most distinctive symptoms caused by any plant-parasitic nematodes. They are irregular swellings of roots usually somewhat behind the root tips, giving the entire affected area a "lumpy" appearance. The galls are solid outgrowths of the cortex of the root, so removing them actually tears the root apart; the tissues inside should be solid (not hollow like the nodules caused on legume roots by beneficial nitrogen-fixing bacteria).

• **Detection/monitoring**. Examine entire root systems of representative plants if possible, or examine the surface of the root-balls of many plants. The severity of the problem for each plant is often expressed as a root-knot index, usually based on an estimate of the percentage of the root system that has galls. However, quantitative expression of how much of a root system is affected is more information than is needed except as an indication of how difficult the problem maybe to eliminate. Of more value in a nursery is reporting of how many plants are affected and their distribution, since that may

diagnosed on the basis of symptoms, symptomatic roots and soil from around them should be sent to a nematology lab for analysis.

Reniform nematodes, *Rotylenchulus spp*., are found in most warm climates in the world. They feed semi-endoparasitically, seriously stunting the roots of many plants. Equally important, many states and countries have quarantine regulations that prevent entry into their territories any plants that might be contaminated with these nematodes.

• **Host-parasite relations**. Juveniles insert their heads into the root, leaving their posteriors protruding from the root surface; eggs are deposited into a jelly-like substance that remains attached to the female's posterior.

• **Symptoms**. Reniform nematodes rarely cause symptoms that are obvious or that specifically show that reniform nematodes are present. Affected root systems may be significantly smaller (stunted) than those of comparable plants that are not infected, and often appear to be "dirtier" because small soil particles adhere to the sticky, jelly-like egg masses attached to the female nematodes. The adults are very small, so a microscope is needed to see them on the surface of the roots; the nematodes are often stained to make them easier to see.

• **Detection/monitoring**. If root stunting and the "dirty-root" condition often associated with reniform nematodes is observed, samples of roots and soil should be sent to a nematode assay laboratory for analysis.

Burrowing nematodes, *Radopholus spp*., are tropical nematodes that literally burrow through the cortex tissues of the roots in which they live. They are considered to be the most serious root problem of bananas around the world, and cause dramatic damage to roots of many plants, especially in the ginger and banana families and palm species. They also are important because of quarantine regulations against their movement into many places.

• **Host-parasite relations**. Burrowing nematodes normally live in the fleshy tissues of the cortex of the roots of their plant hosts, but can also infect other tender tissues under rare conditions. They kill cells on which they feed, causing them to turn dark, or necrotic. These spots, or lesions, may be much larger within the cortex than they appear from the root surface. As progressively larger areas become affected, they become visible as progressively larger spots of dark tissue (lesions), which may eventually merge to produce very large areas of dead and darkened root tissue. When all or most of the tissue around a particular segment of root becomes involved, all root distal, or toward the root tip, from that area can be lost. This reduces the amount of roots able to absorb water and nutrients for the plant, and may seriously weaken its physical anchorage, making tall plants likely to tip over.

• **Symptoms**. As described above under host-parasite relations.

• **Detection/monitoring**. Examine fleshy areas of roots for spots that are dry, slightly sunken and slightly darker than normal areas. Use a sharp knife to split roots lengthwise in those areas to see if the tell-tale necrosis and decay of the cortex is present. When lesions are freshly cut, their margins may be red or purple. If cortical necrosis is observed, submit samples of affected roots and soil from immediately around them to a laboratory for analysis.

Lesion nematodes, *Pratylenchus spp*., live and feed in the cortex (cylinder of fleshy tissue inside the outer protective layer and that surrounds the central vascular tissues) of the roots of many kinds of plants. Their habits and appearance are much like those of burrowing nematodes, to which they are closely related. There are lesion nematode species adapted to conditions ranging from truly tropical to cold temperate conditions such as those of Canada and northern Europe.

• **Symptoms**. Lesion nematodes normally cause relatively small, dark lesions in the root cortex. Of the many species of lesion nematodes, only a few cause severe damage. One of the exceptions is *P. coffeae*, the coffee lesion nematode, which causes severe necrosis in roots of plants in the banana family, many gingers and aglaonema. Effects of many lesion nematode species can be magnified by the effects of root-rot and wilt fungi that often infect nematode-infected plants earlier and more severely than those without lesion nematodes.

• **Detection/monitoring**. Examine fine feeder roots and larger roots that have relatively large fleshy cortical regions for small dark lesions (these may be so small that they are very hard to see). These sometimes combine to form larger lesions or to give a general impression of darker root color for sections of root or whole root systems. However, it is very easy to overlook or misinterpret lesion nematode symptoms, so laboratory analysis of soil and root samples is usually critical for identifying lesion nematode problems. Because it is common for more than 99 percent of a population of lesion nematodes to reside in the roots, it is especially important that the sample include plenty of the root portions in which lesion nematodes usually live: fine feeder roots and larger fleshy roots.

Dagger nematodes, *Xiphinema spp*., are relatively large ectoparasitic nematodes that cause significant direct damage to

tips to swell to many times their normal diameters, and there sometimes is proliferation of small lateral roots near the injured root tips. Dagger nematodes and their near relatives transmit plant viruses classified as nepoviruses; these include grapevine fanleaf, arabis mosaic, tobacco ringspot, tomato ringspot, and raspberry ringspot viruses.

• **Detection/monitoring**. Symptoms of root damage such as terminal swelling or symptoms of virus diseases that can be transmitted by dagger nematodes may or may not be visible. If symptoms or any other reason lead you to suspect presence of dagger nematodes, samples of soil or medium from immediately around the roots of suspect plants should be sent to a nematode diagnostic laboratory.

Foliar nematodes, *Aphelenchoides spp*., are small (adults mostly 0.5 - 1.5 mm long and very slender), very active nematodes. They can live in soil but prefer to feed above-ground in the tender tissues inside buds and leaves of many plant species, feeding on and killing the succulent cells there. When they feed in buds, foliar nematodes can distort and retard leaf growth. Their feeding in inner tissues of leaves causes blotches which turn tan, then dark brown or black.

• **Host-parasite relations**. Foliar nematodes are too delicate to penetrate directly through the tough cells on the outside of a leaf. Instead, when there is free moisture, they "swim" on the outside of stems and leaves to reach stomates or other openings for easy entry into the more tender center of the leaf.

Infected leaves often die, dry up and fall from the plant, so heavily infected plants often have a dense litter of dried foliage under them. Foliar nematodes can survive in dried leaves in a state of "suspended animation" for a long time — one species survived at least three years in dry leaves. Dry leaves beneath infected plants may contain thousands of nematodes that can initiate new infections.

• **Symptoms**. Examine leaves for lesions on leaves that reflect the vein pattern of the leaf: leaves with parallel veins, such as birdsnest fern, have stripes or rectangles; those with net-like venation such as chrysanthemum will have spots outlined by the particular pattern of the veins. There may be large numbers of fallen leaves under severely affected plants.

• **Detection/monitoring**. Leaves showing symptoms and/or loose leaves recently fallen from the plants should be sent to a nematology lab for analysis. If there is a microscope available to the scout, it often is relatively simple to confirm a diagnosis of foliar nematodes by placing small pieces of symptomatic leaves in clean water; if active foliar nematodes are present, they usually emerge from the edges of lesions and swim freely and actively in the water, where they may be seen easily at 30X to 45X magnification.

The plants in the following table are some of the most frequently produced in Florida. Also listed are the most common plant diseases, insects, mites and nematodes infesting these plants.

Key Plants	Key Diseases	Key Insects/Mites	Key Nematodes
African daisy *Gerbera jamesonii*	Bacterial leaf spot - *Pseudomonas cichorii* Botrytis blight - *Botrytis cinerea* Corynespora leaf/flower spot - *Corynespora cassiicola* Powdery mildew - *Oidium sp.*	Aphids Armyworms (beet and southern most common) Leafminers Silverleaf whitefly Spider mites Thrips	Root-knot nematodes *Meloidogyne spp.* (Serious and widespread problem.)
African violet *Saintpaulia ionantha*	Botrytis blight - *Botrytis cinerea* Powdery mildew - *Oidium sp.* Ring spot - Impatiens necrotic spot virus Root/Crown rot - *Phytophthora, Pythium spp.*	Cyclamen mites Fungus gnats Thrips	Burrowing nematode *Radopholus similis* Foliar nematodes *Aphelenchoides ritzemabosi, A.fragariae* Lesion nematode *Pratylenchus brachyurus* (Causes serious deterioration of crowns and petioles.) Root-knot nematodes

	Bacterial soft rot - *Erwinia spp.* Myrothecium leaf spot - *Myrothecium roridum*	aglaonema most common) Spider mites	*Pratylenchus coffeae*
Allamanda *Allamanda spp.*	Anthracnose - *Colletotrichum sp.* Leaf spots - *Cercospora, Corynespora spp.* Mosaic - Cucumber mosaic virus Root rots - *Pythium spp., Rhizoctonia solani*	Caterpillars Scale, 11 species (white peach most common) Two-spotted spider mite Whiteflies (silverleaf most common)	No important nematode problems known.
Aluminum plant *Pilea spp.*	Bacterial spot - *Xanthomonas campestris* Myrothecium spot - *Myrothecium roridum* Rhizoctonia aerial blight - *Rhizoctonia solani* Root and stem rots - *Phytophthora, Pythium spp.; Rhizoctonia solani*	Mealybugs Root mealybugs Spider mites Tarsonemid mites	Reniform nematode *Rotylenchulus reniformis* (Lives on Pilea; damage level unknown.)
Anthurium *Anthurium spp.*	Anthracnose - *Colletotrichum sp.* Bacterial leaf spot - *Pseudomonas, Xanthomonas spp.* Bacterial soft rot - *Erwinia sp.* Ring spot - Impatiens necrotic spot virus Root rots - *Phytophthora, Pythium* and *Rhizoctonia spp.*	Aphids Armyworms Mealybugs Scale, seven species (brown soft and hemispherical most common) Spider mites Tarsonemid mites Thrips	Burrowing nematodes *Radopholus similis, R. citrophilus* Root-knot nematodes *Meloidogyne spp.*
Areca palm *Chrysalidocarpus spp.*	Anthracnose - *Colletotrichum sp.* Fusarium root rot - *Fusarium oxysporum* Gliocladium blight - *Gliocladium vermoeseni* Leaf spots - *Bipolaris, Exserohilum spp.*	Caterpillars Mealybugs Root mealybugs Scale, 21 species Slugs and snails Spider mites Thrips	Root-knot nematode *Meloidogyne spp.*
Asparagus fern *Asparagus spp.*	Anthracnose - *Colletotrichum sp.* Bacterial spot - *Xanthomonas campestris* Fusarium root and stem blight - *Fusarium spp.* Fusarium tip blight - *Fusarium spp.* Leaf spots - *Bipolaris, Drechslera,* etc. Rhizoctonia stem rot - *Rhizoctonia solani*	Chaff scale Citrus mealy bug Dictyospermum scale Fern scale Green peach aphid Longtailed mealybug Soft brown scale White magnolia scale	Root-knot nematodes *Meloidogyne spp.* Spiral nematode *Scutellonema brachyurum*
Azalea *Rhododendron spp.*	Bud/leaf gall - *Exobasidium vacinii* Cercospora leafspot - *Pseudocercospora sp.* Flower blight - *Ovulinia sp.* Leaf blights - *Phytophthora, Cylindrodadium spp.* Root rots - *Phytophthora, Pythium, Cylindrodadium, Rhizoctonia spp.* Web blight - *Rhizoctonia solani*	Azalea caterpillar Azalea eriococcin Azalea lacebug Azalea leafminer Azalea whitefly Southern red mite Spider mites (false, six-spotted and two-spotted) Thrips	Foliar nematodes *Aphelenchoides spp.*, especially *A. fragariae* Stunt nematode *Tylenchorhynchus daytoni* Stubby-root nematodes *Trichodorus* or

	Crown rot - *Colletotrichum spp.* Root and crown rot - *Phytophthora, Pythium* and *Rhizoctonia spp.*	most common) Leaf miners Spider mites Thrips	
Bald cypress *Taxodium distichum*	Needle blights - *Asperisporium, Pestalotia, Phoma spp.*	Bald cypress scale Cypress leaf beetle Fall webworm Mealybugs	No important nematode problems known.
Begonia *Begonia spp.*	Anthracnose - *Colletotrichum sp.* Bacterial leaf spot - *Xanthomonas sp.* Bacterial soft rot - *Erwinia carotovora* Powdery mildew - *Oidium sp.*	Aphids (green peach most common) Armyworms (beet and southern most common) Mealybugs (citrus and Mexican most common) Thrips Whiteflies	Foliar nematodes *Aphelenchoides fragariae, A. ritzemabosi* Root-knot nematodes *Meloidogyne spp.*
Bird-of-paradise *Strelitzia spp.*	Anthracnose - *Colletotrichum gloeosporioides* Bacterial spots and streaks - *Pseudomonas, Xanthomonas spp.* Cylindrocladium root rot - *Cylindrocladium spp.* Pseudostem rot - *Fusarium spp.* Root rot - *Phytophthora and Pythium spp.* Stem rot - *Rhizoctonia solani*	Aphids (green peach most common) Longtailed mealybug Scale (seven species, white magnolia most common) Thrips Whiteflies Scale, 10 species (magnolia white most common)	Burrowing nematode *Radopholus similis* Root-knot nematodes *Meloidogyne spp.*
Black olive *Bucida spp.*	Algal spot - *Cephaleuros virescens*	Eriophyid mite Scale, five species Thrips	No important nematode problems known.
Boston fern *Nephrolepis sp.*	Bacterial spot - *Pseudomonas gladioli, P. cichorii* Botrytis blight - *Botrytis cinerea* Cercospora leaf spot - *Cercospora sp.* Root rot - *Pythium spp.* Web blight - *Rhizoctonia solani*	Scale, several species (fern and wax most common) Spider mites Mealybugs (longtailed and root) Whiteflies	Foliar nematode *Aphelenchoides fragariae*
Bougainvillea *Bougainvillea spp.*	Bacterial leaf spot - *Pseudomonas sp.* Leaf spots - *Cercosporidium sp.* Root/stem rots - *Phytophthora, Pythium spp.; Rhizoctonia solani*	Bougainvillea caterpillar Scale, 10 species	No important nematode problems known.
Boxwood *Buxus spp.*	Dieback - *Diplodia, Phoma, Phomopsis spp.* Fusarium root rot - *Fusarium oxysporum, F. solani* Pink limb blight - *Erythridum salmonicolor* Root and crown rot - *Phytophthora, Pythium* and *Rhizoctonia spp.*	Black citrus aphid Boxwood leafminer Dictyospermum scale Florida red scale Hemispherical scale Magnolia white scale Peony scale Two-spotted spider mite	Lesion nematode *Pratylenchus vulnus* Root-knot nematodes *Meloidogyne spp.*
Button wood	Root rots- *Phytophthora, Pythium*	Scale, four species (*Philephedra*	No important

	Bacterial soft rot - *Erwinia carotovora* Fusarium corm rot - *Fusarium solani* Mosaic - Dasheen mosaic virus Root rot - *Pythium spp.*	Whiteflies	Sting nematode *Belonolaimus longicaudatus*
Calathea *Calathea spp.*	Alternaria spot - *Alternaria alternata* Bipolaris spot - *Bipolaris setariae* Mosaic - Cucumber mosaic virus Root rots - *Phytophthora, Pythium* and *Rhizoctonia spp.*	Aphids Spider mites Tarsonemid mites	Burrowing nematode *Radopholus similis* Root-knot nematodes *Meloidogyne spp.*
Calendula *Calendula officinalis*	Alternaria leafspot - *Alternaria spp.* Botrytis blight - *Botrytis cinerea* Fusarium root rot - *Fusarium oxysporum f. sp. dianthi* Root rot - *Phytophthora and Pythium spp.*	Aphids (spirea most common) Corn earworm Leafminers Mealybugs Southern armyworm Thrips Yellow-striped armyworm	Root-knot nematodes *Meloidogyne spp.*
Camellia *Camellia spp.*	Algal spot - *Cephaleuros virescens* Anthracnose/dieback - *Colletotrichum sp.* Flower blight - *Ciborinia camelliae* Root rots - *Phytophthora, Pythium spp.; Rhizoctonia solani*	Aphids Scale, 30 species (tea scale most common) Southern red mite Two-spotted spider mite	No important nematode problems known.
Carnation *Dianthus caryophyllus*	Alternaria leaf spot - *Alternaria spp.* Botrytis blight - *Botrytis cinerea* Fusarium root rot - *Fusarium oxysporum f. sp. dianthi* Root rot - *Phytophthora and Pythium spp.* Rust - *Uromyces spp.* Stem and root rot - *Rhizoctonia solani*	Aphids (green peach most common) Army worms (beet and southern most common) Mexican mealybug Spider mites Thrips (flower and western flower most common)	Cyst nematodes *Heterodera spp.* Lesion nematodes *Pratylenchus spp.* Root-knot nematodes *Meloidogyne spp.*
Celosia *Celosia spp*	Botrytis blight - *Botrytis cinerea* Root rots - *Pythium sp., Rhizoctonia solani*	Thrips (Florida flower most common) Whiteflies	Root-knot nematodes *Meloidogyne spp.*
Christmas, Thanksgiving, Easter cacti *Schlumbergera, Hatiora spp.*	Bacterial soft rot - *Erwinia spp.* Drechslera stem rot - *Drechslera cactivora* Fusarium stem rot - *Fusarium oxysporum* Phytophthora stem rot - *Phytophthora sp.*	Scale, several species (cactus most common) Root mealybugs	Cactus cyst nematode *Cactodera (Heterodera) cacti*
Chrysanthemum *Chrysanthemum sp.*	Bacterial leaf spots - *Pseudomonas, Xanthomonas spp.* Bacterial wilt - *Erwinia chrysanthemi* Fusarium wilt - *Fusarium oxysporum* Leaf spots - *Alternaria,*	Aphids Armyworms (beet and southern most common) Cabbage looper Leafminers Spider mites Thrips	Foliar nematodes *Aphelenchoides spp.*, especially *A. ritzemabosi* Lesion nematodes *Pratylenchus spp.* Root-knot nematodes

Coleus *Coleus x hybridus*	Botrytis blight - *Botrytis cinerea* Leaf spots - *Alternaria, Corynespora spp.* Rhizoctonia root and stem rot - *Rhizoctonia solani* Root and crown rots - *Phytophthora, Pythium spp.*	Cabbagelooper Citrus mealybug Greenhouse orthezia Mexican mealybug Southern armyworm Two-spotted spider mites Snails	Burrowing nematode *Radopholus similis* Root-knot nematodes *Meloidogyne spp.*
Cordyline,Ti plant *Cordyline sp.*	Anthracnose - *Colletotrichum sp.* Bacterial soft rot - *Erwinia spp*. Leaf spots - *Fusarium, Cercospora spp.* Phyllosticta leaf spot - *Phyllosticta sp.* Root rots - *Phytophthora, Pythium* and *Rhizoctonia solani*	Aphids Banana moth (S. Fla.) Mealybugs (citrus and longtailed most common) Root mealybugs Spider mites Thrips	Reniform nematode *Rotylenchulus reniformis* Root-knot nematodes *Meloidogyne spp.*
Cornflower *Centarea cyanus*	Root rot - *Pythium and Rhizoctonia spp.* Rust - *Puccinia cyani*	Aphids Florida flower thrips	Foliar nematodes *Aphelenchoides spp.* Root-knot nematodes *Meloidogyne spp.*
Crape Myrtle *Lagerstroemia indica*	Cercospora leaf spot - *Cercospora sp.* Powdery mildew - *Oidium sp.*	Crape myrtle aphid Leaf beetle - *Altica sp*.	No important nematode problems known.
Croton *Codiaeum variegatum* *Codiaeum sp.*	Algal leaf spot - *Cephaleuros virescens* Anthracnose - *Colletotrichum sp.* Crown gall - *Agrobacterium tumefaciens* Bacterial spots - *Pseudomonas, Xanthomonas spp.* Gall - *Kutilakesa pironii* Root rot - *Phytophthora, Pythium spp.* Pseudomonas blight - *Pseudomonas sp.* Stem gall- *Kutilakesa/Nectriella sp.*	Fungus gnats Mealybugs (citrus, longtailed and striped) Scale, 28 species (*Philephedra tuberculosa* most common) Slugs and snails Striped mealybug Thrips (greenhouse most common) Two-spotted spider mite	Lesion nematode, also called coffee nematode *Pratylenchus coffeae* (Supports large populations, but no obvious lesions on roots.) Root-knot nematode *Meloidogyne incognita*
Cycads *Cycas, Zamia spp.*	No important diseases known.	Cycad Aulacaspis Scale Mealybugs Scale, 26 species (Florida red, hemispherical and magnolia white most common)	No important nematode problems known.
Daisy *Chrysanthemum spp.*	Alternaria leaf spot - *Alternaria spp.* Bacterial spots - *Pseudomonas spp.* Fusarium wilt - *Fusarium oxysporum* Root rots - *Phytophthora, Pythium spp.; Rhizoctonia solani*	Aphids (chrysanthemum, cotton and green peach most common) Beet armyworm Leafminers Thrips Two-spotted spider mites	Foliar nematodes *Aphelenchoides spp.*, especially *A. ritzemabosi* Lesion nematodes *Pratylenchus spp.* Root-knot nematodes *Meloidogyne spp.* Sting nematode *Belonolaimus*

	Root and crown rots - *Phytophthora, Pythium and Rhizoctonia spp.* Southern blight - *Sclerotium rolfsii* Daylily rust - *Puccinia hemerocallidis*	Florida flower thrips Two-spotted spider mite Western flower thrips	damage, but possible regulatory problem.) Root-knot nematodes *Meloidogyne spp.* Spiral nematode *Scutellonema brachyurus*
Delphinium *Delphinium ajacis*	Botrytis blight - *Botrytis cinerea* Powdery mildew - *Oidium sp.* Root rot - *Pythium and Rhizoctonia spp.* Root and stem rot - *Sclerotinia sclerotiorum*	Armyworms Citrus mealybug Saltmarsh caterpillar Snails Thrips	Root-knot nematodes *Meloidogyne spp.*
Dieffenbachia *Dieffenbachia spp.*	Anthracnose - *Colletotrichum sp.* Bacterial leaf spot - *Xanthomonas sp.* Bacterial soft rot - *Erwinia spp.* Leaf spot - *Myrothecium roridum* Mosaic - Dasheen mosaic virus Root rots - *Phytophthora, Pythium* and *Rhizoctonia spp.* Stem rot - *Fusarium solani*	Aphids Fungus gnats Longtailed mealybug Scale (brown soft and hemispherical most common) Slugs and snails Spider mites Thrips	Root-knot nematodes *Meloidogyne spp.*
Dogwood *Cornus florida*	Cercospora leaf spot - *Cercospora sp.* Powdery mildew - *Oidium spp.* Phytophthora blight - *Phytophthora sp.* Root rots - *Phytophthora, Pythium spp.* Spot anthracnose - *Elsinoe sp.*	Aphids Borers (twig and trunk) Mulberry whitefly Scale, 15 species (English walnut most common)	Foliar nematodes *Aphelenchoides spp.* Root-knot nematodes *Meloidogyne spp.*
Dracaena, corn plant *Dracaena spp.*	Anthracnose - *Colletotrichum sp.* Bacterial soft rot - *Erwinia spp.* Leaf spot - *Fusarium spp.* Root rots - *Phytophthora, Pythium; Rhizoctonia spp.*	Banana moth (S. Fla.) Caterpillars Diaprepes weevil Fungus gnats Longtailed mealybug Scale, 14 species (Florida red most common) Scolytid beetle (on dracaena cane) Spider mites Thrips	Root knot nematodes, *Meloidogyne spp.*, especially *M.javanica*
Elm *Ulmus spp.*	Anthracnose - *Colletotrichum sp.* Powdery mildew - *Oidium sp.* Trunk canker - *Phytophthora sp.*	Borers (trunk) Eriophyid mites Leaf beetles Scale, 16 species (European fruit lecanium most common)	No important nematode problems known.
Eucalyptus *Eucalyptus spp.*	Botryosphaeria canker - *Botryosphaeria spp.* Leaf spot - *Cylindrocladium spp.* Root rot - *Phytophthora, Pythium spp.*	Scale (Florida red most common) Thrips	No important nematode problems known.

Euonymus japonica	Crown gall - *Agrobacterium tumefaciens* Scab - *Sphaceloma euonymi-japonici*	problems known.	*Meloidogyne spp.*
False aralia *Dizygotheca sp.*	Alternaria spot - *Alternaria panax* Anthracnose - *Colletotrichum sp.* Root rots - *Phytophthora, Pythium* and *Rhizoctonia spp.*	Mealybugs (longtailed and citrus most common) Root mealybugs Scale (brown soft, Florida red and Florida wax most common) Two-spotted spider mite	No important nematode problems known.
Fatshedera *Fatshedera lizei*	Alternaria leaf spot - *Alternaria panax* Anthracnose - *Colletotrichum gloeosporioides* Bacterial spot - *Xanthomonas campestris* Root rot - *Phytophthora, Pythium spp.* Root/stem rot - *Rhizoctonia solani*	Aphids (cotton and spirea most common) Florida wax scale Mealybugs Whiteflies	No important nematode problems known.
Fatsia *Fatsia japonicum*	Alternaria leaf spot - *Alternaria panax* Anthracnose - *Colletotrichum spp.* Bacterial spot - *Pseudomonas, Xanthomonas spp.* Root/stem rots - *Phytophthora, Pythium spp.* Stem gall - *Kutilakesa pironii*	Aphids Mealybugs (longtailed most common) Scale, seven species (pyriform most common)	Root-knot nematodes *Meloidogyne spp.* (Not known to be a serious problem)
Fig *Ficus spp*	Anthracnose - *Colletotrichum sp.* Leaf spots - *Cercospora, Corynespora spp.* Crown gall - *Agrobacterium tumefaciens* Branch diebacks - *Botryosphaeria, Phomopsis spp.* Phomopsis canker - *Phomopsis sp.* Stem gall - *Kutilakesa/Nectriella sp.* Southern blight - *Sclerotium rolfsii*	Mealybugs (longtailed, coconut and citrus most common) Scale, 25 species (green, mango shield, mining and nigra most common) Thrips (*Gynaikothrips ficorum*, Fretusa) Whiteflies (fig most common)	Dagger nematodes *Xiphinema spp.* Lesion nematodes *Pratylenchus spp.* Root-knot nematodes *Meloidogyne spp.*
Firecracker-flower *Crossandra infundibuliformis*	Botrytis blight - *Botrytis cinerea* Myrothecium stem rot - *Myrothedum roridum* Root/stem rots - *Phytophthora, Pythium spp.; Rhizoctonia solani*	Aphids (green peach most common) Thrips Whitefly (silverleaf most common)	Foliar nematodes *Aphelenchoides spp.*, especially *A. ritzemabosi* Lesion nematodes *Pratylenchus spp.* Root-knot nematodes *Meloidogyne spp.*
Firethorn *Pyracantha cocinea*	Dieback - *Botryosphaeria sp.* Scab - *Spilocaea pyracanthae*	Hawthorn lacebug Scale, 11 species Southern red mite Tussock moth larva	No important nematode problems known.
Gardenia *Gardenia spp.*	Anthracnose - *Colletotrichum sp.* Bacterial spot - *Xanthomonas*	Citrus whitefly Citrus mealybug	Root-knot nematodes *Meloidogyne spp.*

	Root rots - *Phytophthora, Pythium spp.; Rhizoctonia solani* Stem canker - *Phomopsis gardeniae*	Thrips	
Gayfeather *Liatris spicata*	Leaf spot - *Cercospora spp.* Powdery mildew - *Oidium sp.* Root rot - *Pythium and Rhizoctonia spp.*	Aphids Eriophyid mite Mealybug Plant bugs Snails Spider mites	No important nematode problems known.
Geranium *Pelargonium spp.*	Bacterial leaf spots - *Acidovorax, Pseudomonas spp.* Bacterial stem rot - *Xanthomonas campestris* Black leg - *Pythium sp.* Botrytis blight - *Botrytis cinerea* Rust - *Puccinia sp.*	Aphids Armyworms (beet and southern most common) Cabbage looper Whiteflies	Root-knot nematodes *Meloidogyne spp.*
Ginger Various genera	Anthracnose - *Colletotrichum gloeosporioides* Bacterial spot - *Pseudomonas sp.* Root rot - *Pythium and Rhizoctonia spp.*	Aphids (cotton and banana most common) Armyworms Mealybugs (pineapple most common) Scale, Five species Spider mites	Burrowing nematode *Radopholus similis* Lesion nematodes *Pratylenchus spp.* Root-knot nematodes *Meloidogyne spp.*
Gladiolus *Gladiolus x hortulanus*	Botrytis blight - *Botrytis cinerea* Corm decay - *Fusarium* and *Stromatinia spp.* Curvularia leaf spot - *Curvularia spp.* Fusarium wilt - *Fusarium oxysporum* Mosaic - Bean yellow and cucumber mosaic viruses Root rot - *Pythium and Rhizoctonia spp.*	Armyworms (beet and fall most common) Bulb mite Cabbage looper Corn earworm Thrips (gladiolus and flower most common)	Dagger nematodes* *Xiphinema spp.* Reniform nematode *Rotylenchulus reniformis* Root-knot nematodes *Meloidogyne spp.* Sting nematode *Belonolaimus longicaudus* Stubby-root nematodes *Trichodorus* and *Para-trichodorus spp.* (Are reported as virus vectors in Europe)
Gloxinia *Sinningia speciosa*	Botrytis blight - *Botrytis cinerea* Crown rots - *Phytophthora spp., Rhizoctonia solani* Ring spots - Impatiens necrotic spot virus	Armyworms (beet and southern most common) Tarsonemid mites Thrips (western flower most common)	Foliar nematodes *Aphelenchoides fragariae, A. ritzemabosi*
Grape ivy *Cissus sp.*	Botrytis blight - *Botrytis cinerea* Downy mildew - *Piasmapora viticola* Powdery mildew - *Oidium sp.* Root rots - *Phytophthora, Pythium spp.*	Caterpillars (armyworms most common) Tarsonemid mites Thrips	No important nematode problems known.
Heather	Root rots - *Phytophthora, Pythium*	Flea beetle (Altica sp.)	Root-knot nematodes

	Bacterial spots - *Pseudomonos, Xanthomonas spp.* Blossom blight - *Choanephora spp.* Leaf spots - *Pseudocercospora sp.* Root/stem rots - *Phytophthora, Pythium spp.; Rhizoctonia solani* Rust - *Kuehneola, Puccinia spp.*	False spider mite Mealybugs Scale, 24 species (lesser snow, nigra and white peach most common) Southern red mite Thrips Whiteflies	*Meloidogyne spp.* Burrowing nematode *Radopholus similis*
Holly *Ilex spp.*	Leaf spot - *Cercospora sp.* Pink limb blight- *Erythricium salmonicolor* Root rots - *Phytophthora, Pythium spp.; Rhizoctonia solani* Stem gall/witch's broom - *Sphaeropsis tumefaciens*	Aphids Blotch leafminers Holly whitefly Scale, 27 species (Florida red, Florida wax and tea most common) Southern red mite Two-spotted spider mite	Root-knot nematodes *Meloidogyne spp.* (Susceptibility varies among holly species and varieties.)
Holly fern *Cyrtomium falcatum*	Bacterial spot - *Pseudomonas sp.* Root rot - *Pythium, Rhizoctonia spp.*	Longtailed mealybug Scale (fern and brown soft most common)	Foliar nematodes *Aphelenchoides spp.*
Impatiens *Impatiens spp.*	Bacterial leaf spots - *Pseudomonas, Xanthomonas spp.* Cercospora leaf spot - *Cercospora sp.* Root rots - *Phytophthora, Pythium spp.; Rhizoctonia solani* Ring spot - Impatiens necrotic spot virus	Armyworms (beet and southern most common) Spider mites Tarsonemid mites Thrips (Florida flower and western flower most common)	Lesion nematodes *Pratylenchus spp.* (Serious pests themselves; also increase *Verticillium* wilt disease.) Root-knot nematodes *Meloidogyne spp.*
India(n) hawthorn *Rhaphiolepis spp.*	Leaf spots - *Cercospora, Entomosporium spp.* Scab - *Sphaceloma sp.* Web blight - *Rhizoctonia solani*	Bagworms Scale, seven species (Florida wax most common)	No important nematode problems known.
Ivy *Hedera spp.*	Anthracnose - *Colletotrichum spp.* Bacterial leaf spots - *Pseudomonas, Xanthomonas* Root rots - *Phytophthora, Pythium* and *Rhizoctonia spp.* Web blight - *Rhizoctonia solani*	Citrus mealybug Scale, 25 species (Florida red, magnolia white and pyriform most common) Tarsonemid mites Two-spotted spider mites	No important nematode problems known.
Ixora *Ixora coccinea*	Anthracnose - *Colletotrichum sp.* Bacterial spot - *Xanthomonas campestris* Root rots - *Phytophthora, Pythium spp.*	Aphids Bagworms Minute whitefly Scale, 21 species (green most common)	Burrowing nematode *Radopholus similis* Root-knot nematodes *Meloidogyne spp.* (Susceptibility varies.)
Jade Plant *Crassula sp.*	Stem rot - *Fusarium solani*	Cotton aphid Mealybugs (longtailed and citrus most common) Root mealybugs	No important nematode problems known.
Jasmine *Jasminum spp.*	Bacterial spots - *Pseudomonas, Xanthomonas spp.* Infectious chlorosis - (Unknown cause)	Thrips (star jasmine most common) Scale, 10 species Whitefly (jasmine most	Burrowing nematode *Radopholus similis* Reniform nematodes *Rotylenchulus*

	Rhizoctonia solani Stem canker - *Kutilakesa/Nectriella sp.*		
Juniper *Juniperus spp.*	Needle blight - *Pestalotiopsis sp.* Root rots - *Phytophthora, Pythium spp. Rhizoctonia solani* Tip blight - *Phomopsis sp.* Web blight - *Rhizoctonia solani*	Bagworms Eriophyid mites Scale, nine species (maskell and minute cypress most common) Southern red mite Spruce spider mite (San Jose and similar cultivars)	No important nematode problems known.
Lantana *Lantana spp.*	Bacterial spot - *Xanthomonas campestris* Cercospora leaf spot - *Cercospora sp.* Root rots - *Pythium sp., Rhizoctonia solani* Rust - *Puccinia lantanae* Web blight - *Rhizoctonia solani*	Lantana lacebug Plant hoppers Thrips Whiteflies (silverleaf most common)	Root-knot nematodes *Meloidogyne spp.*
Larkspur *Consolida ambigua*	Botrytis blight - *Botrytis cinerea* Powdery mildews - *Oidium sp.* Root rot - *Pythium* and *Rhizoctonia spp.*	Citrus mealybug	Root-knot nematodes *Meloidogyne spp.*
Leatherleaf fern *Rumohra adiantiformis*	Anthracnose - *Colletotrichum acutatum* Cylindrocladium leaf spot - *Cylindrodadium spp.* Rhizoctonia stem rot - *Rhizoctonia solani* Root rots - *Phytophthora, Pythium spp.*	Florida fern caterpillar Flower thrips Mites Slugs and snails	Lesion nematode *Pratylenchus penetrans* (This nematode is found in nearly all leatherleaf fern plantings in Florida. Its importance as a pest is controversial. It often causes severe necrosis of fine feeder roots.)
Ligustrum *Ligustrum spp.*	Anthracnose - *Colletotrichum sp.* Leaf spots - *Corynespora, Cercospora spp.* Root rots - *Phytophthora, Pythium spp.; Rhizoctonia solani*	False spider mite Privet mite Scale, 27 species (plumose and white peach most common) Two-spotted spider mite Whiteflies (citrus most common)	Root-knot nematodes *Meloidogyne spp.*
Lily *Lilium spp.*	Botrytis blight - *Botrytis cinerea* Fusarium bulb rot - *Fusarium oxysporum* Phytophthora top rot - *Phytophthora nicotianae* Root rots - *Phytophthora, Pythium spp.; Rhizoctonia solani*	Aphids Armyworms (beet and southern most common) Leafroller (Canna species) Thrips	Lesion nematodes *Pratylenchus spp.* Root-knot nematodes *Meloidogyne spp.*
Lily-turf *Liriope muscari*	Anthracnose - *Colletotrichum sp.* Root rots - *Fusarium, Phytophthora spp.; Rhizoctonia*	Scale, six species (fern and proteus most common)	Root-knot nematodes *Meloidogyne spp.*

Eustoma grandiflorum	Crown and root rot - *Fusarium solani*	Thrips (Florida flower and western flower)	problems known.
Loquat *Eriobotrya japonica*	Diebacks - *Botryodiplodia, Botryosphaeria spp.* Fire blight - *Erwinia amylovora* Leaf spot - *Entomosporium mespili*	Aphids (cotton and spirea most common) Scale, 15 species (latania most common)	No important nematode problems known.
Magnolia *Magnolia spp.*	Algal spot - *Cephaleuros virescens* Anthracnose - *Colletotrichum sp.* Bacterial spots - *Pseudomonas, Xanthomonas spp.*	Black twig borer Magnolia borer Magnolia leaf miner Scale, 33 species (banana shaped, magnolia white and tulip tree most common) Thrips	No important nematode problems known.
Mahogany *Swietenia sp.*	Leaf spots Nectria canker - *Nectria sp.* Root rots - *Pythium spp., Rhizoctonia solani*	Leafminers Mahogany tip moth Mahogany webworm Scale, four species	No important nematode problems known.
Mandevilla *Mandevilla spp.*	Leaf spots - *Cercospora, Corynespora spp.* Root rots - *Phytophthora, Pythium spp.; Rhizoctonia solani*	Aphids Mealybugs Oleander caterpillar Thrips Whiteflies	No important nematode problems known.
Marigold *Tagetes spp.*	Alternaria leaf spot - *Alternaria spp.* Bacterial spots - *Pseudomonas, Xanthomonas spp.* Botrytis blight - *Botrytis cinerea* Root rots - *Pythium spp., Rhizoctonia solani*	Armyworms (beet and southern most common) Leafminers Thrips (Florida flower most common) Two-spotted spider mite	Awl nematode *Dolichodorus heterocephalus* Sting nematode *Belonolaimus longicaudatus* Stubby-root nematode *Paratrichodorus christiei*
Ming aralia *Polyscias spp.*	Alternaria spot - *Alternaria panax* Anthracnose - *Colletotrichum sp.* Bacterial spots - *Pseudomonas, Xanthomonas spp.* Cercospora spot - *Cercospora spp.* Rhizoctonia blight - *Rhizoctonia solani*	Scale, three species (green most common) Spider mites	No important nematode problems known.
Monstera *Monstera spp.*	Bacterial soft rot - *Erwinia spp.* Bacterial spot - *Pseudomonas sp.* Root rot - *Phytophthora, Pythium* and *Rhizoctonia spp.*	Scales, four species (black thread most common) Whiteflies	Burrowing nematode *Radopholus similis* Root-knot nematodes *Meloidogyne spp.*
Nandina	Leaf spot - *Cercospora sp.* Mosaics - Cucumber mosaic and nandina mosaic viruses Root rots - *Phytophthora, Pythium spp.* Stem gall - *Kutilakesa/Nectriella sp.* Web blight - *Rhizoctonia solani*	No important insect or mite problems known.	No important nematode problems known.
Natal plum *Carissa sp.*	Root rots - *Phytophthora, Pythium spp.; Rhizoctonia solani* Stem gall - *Kutilakesa/Nectriella*	Large milkweed bug Root mealybugs Scale, 20 species (Florida red	No important nematode problems known.

	Root rots - *Pythium, Rhizoctonia solani* Twig blight - *Cylindrocladium sp.*	Scale, five species (Araucaria most common)	known.
Orchid *Orchidaceae*	Anthracnose - *Colletotrichum sp.* Bacterial soft rot - *Erwinia spp*. Black rots - *Phytophthora, Pythium spp.* Fusarium pseudobulb rot - *Fusarium oxysporum* Mosaic - Cymbidium mosaic virus, Odontoglossum ringspot virus	Mealybugs (orchid most common) Scale, several species (boisduval and proteus most common) Snails	Foliar nematodes *Aphelenchoides spp*. (found on Cattleya and Dendrobium orchids) No important nematode problems known on Cymbidium orchids.
Orchid tree *Bauhinia spp.*	Leaf spots - *Phyllosticta, Pseudocercospora spp.* Root rots - *Pythium spp.; Rhizoctonia solani*	Acacia whitefly Black twig borer Cotton lacebug Scale, 24 species (magnolia white and Philephedra sp. most common)	Dagger nematode *Xiphinema americanum* (No evidence of damage is published.)
Oregon grape *Mahonia spp.*	Algal leaf spot - *Cephaleluros virescens* Root rot - *Pythium spp.* Stem gall - *Kutilakesa pironii*	Longtailed mealybug Scales, two species	No important nematode problems known.
Palms Various genera	Bud rot - *Phytophthora spp.* False smut - *Graphiola phoenicis* Leaf spots - *Cercospora, Cylindrocladium, Exserohilum, Pestalotiopsis* and *Stigmina spp.* Rachis blights - *Pestalotiopsis sp., Diplodia, Phomopsis and Serenomyces* Tar spot - *Phyllachora sp.*	Coconut mealybug Giant palm weevil Palm aphid Palm leaf skeletonizer Scale, many species (black thread, coconut, Florida red and magnolia white most common) Thrips	Palm genera and species vary widely in susceptibility to nematodes. Some palm species are subject to damage and/or quarantines that limit exports because of the nematodes listed. Burrowing nematode *Radopholus similis* Lesion nematodes *Pratylenchus spp.* Root-knot nematodes *Meloidogyne spp*. (Especially on several New World palms.) Reniform nematode *Rotylenchulus reniformis* (Quarantine pest to many species; serious production pest to few.)
Pansy *Viola sp.*	Anthracnose - *Colletotrichum sp.* Black root rot - *Thielaviopsis basicola* Botrytis blight - *Botrytis cinerea* Powdery mildew - *Oidium sp.* Root/stem rots - *Phytophthora, Pythium, Rhizoctonia spp.*	Armyworms (beet and southern most common) Spider mites Thrips	Lesion nematodes *Pratylenchus spp*. Root-knot nematodes *Meloidogyne spp*. Stunt nematodes *Tylenchorhynchus spp*.

	Leaf spots - *Bipolaris, Exserohilum spp.* Root rots - *Phytophthora,Pythium spp.*	thread, Florida red and magnolia white most common; latania, lesser snow and palm less common) Thrips Two-spotted spider mites Whiteflies (palm most common)	markets.)
Peperomia *Peperomia spp.*	Myrothecium spot - *Myrothecium roridum* Root/stem rot - *Phytophthora sp.*	Caterpillars Root mealybugs Thrips (banana most common)	Burrowing nematode *Radopholus similis* Lesion nematodes *Pratylenchus spp.*
Periwinkle, Madagascar *Cathamnthus roseus*	Alternaria leaf spot - *Alternaria sp.* Phytophthora blight - *Phytophthora nicotianiae* Root/stem rots - *Phytophthora, Pythium, Rhizoctonia spp.* Tomato spotted wilt virus	Aphids (cotton most common) Thrips (Florida flower and western flower most common)	No important nematode problems known. Growing this plant 45 days reduced populations of several nematodes in India.
Petunia *Petunia x hybrida*	Botrytis blight - *Botrytis cinerea* Damp-off - *Rhizoctonia solani* Leaf spots - *Alternaria, Phyllosticta spp.* Root rots - *Phytophthora, Pythium spp.*	Armyworms Leafminer (serpentine most common) Thrips (Florida flower and western flower most common)	Dagger nematodes *Xiphinema spp.* (Direct pests and virus vectors.) Root-knot nematodes *Meloidogyne spp.* (Susceptibility varies.) Stubby-root nematodes *Paratrichodorus spp.*, etc. (Direct pests and virus vectors.)
Philodendron *Philodendron spp.*	Bacterial soft rot - *Erwinia spp.* Bacterial spot - *Pseudomonas sp.* Gray mold - *Botrytis cinerea* Mosaic - Dasheen mosaic virus Red edge- *Xanthomonos campestris* Root rot - *Phytophthora, Pythium* and *Rhizoctonia spp.*	Cotton aphid Thrips (banded greenhouse most common) Mealybugs (longtailed most common) Scale, 12 species (brown soft, Florida red and hemispherical most common) Whiteflies	Burrowing nematode *Radopholus similis* Root-knot nematodes *Meloidogyne spp.*
Pittosporum *Pittosporum tobira*	Leaf spots - *Alternaria, Cercospora spp.* Pink limb blight - *Erythricium salmonicolor* Root rots - *Phytophthora, Pythium spp.* Stem gall - *Kutilakesa/Nectriella sp.* Web blight - *Rhizoctonia solani*	Aphids (cotton and spirea most common) False spider mite Scale, 15 species (cottony cushion most common) Slugs and snails Two-spotted spider mite	Root-knot nematodes *Meloidogyne spp.* Sting nematode *Belonolaimus longicaudatus*
Podocarpus *Podocarpus spp.*	Root rots - *Phytophthora, Pythium spp., Rhizoctonia solani*	Aphids (podocarpus most common) Eriophyid mite	No important nematode problems known.

Delonix, Caesalpinia spp.	Diebacks - *Botryosphaeria, Phomopsis spp.* Root rot - *Rhizoctonia solani* Rust - *Ravenelia sp.*	Poinciana caterpillar Scale, seven species Thrips	nematode problems known.
Poinsettia *Euphorbia pulcherrima*	Alternaria leaf spot - *Alternaria sp.* Bacterial spot - *Xanthomonas campestris* Botrytis blight - *Botrytis cinerea* Root/stem rots - *Phytophthora, Pythium spp.; Rhizoctonia solani* Scab - *Sphaceloma poinsettiae* Whisker rot - *Choanephora cucurbitarum*	Thrips Whiteflies (silverleaf most common)	Root-knot nematodes *Meloidogyne spp.* (Rarely infect poinsettia.)
Pothos *Epipremnum spp*.	Bacterial spots - *Pseudomonas, Xanthomonas spp.* Bacterial soft rot - *Erwinia spp.* Gray mold - *Botrytis cinerea* Rhizoctonia leaf spot - *Rhizoctonia solani* Root rots - *Phytophthora, Pythium and Rhizoctonia spp.*	Leafhoppers Longtailed mealybug Scale, five species Thrips (greenhouse most common)	Burrowing nematode *Radopholus similis* Root-knot nematodes *Meloidogyne spp.*
Prayer plant *Maranta spp*.	Alternaria spot - *Alternaria alternata* Bipolaris spot - *Bipolaris setariae* Mosaic - Cucumber mosaic virus Root rots - *Phytophthora, Pythium* and *Rhizoctonia spp*.	Citrus mealybug Privet mite Tarsonemid mites Two-spotted spider mite	Burrowing nematode *Radopholus similis* Foliar nematode *Aphelenchoides fragariae* Root-knot nematodes *Meloidogyne spp.*
Privet *Ligustrum spp*.	See Ligustrum		
Red tip *Photinia sp.*	Bacterial spot - *Xanthomonas sp.* Branch dieback - *Botryosphaeria sp.* Leaf spots - *Entomosporium, Pestalotia spp.* Root rots - *Phytophthora, Pythium spp.; Rhizoctonia solani* Web blight - *Rhizoctonia solani*	Aphids (cotton and spirea most common) Scale, ten species (San Jose most common) Southern red mite	Root-knot nematodes *Meloidogyne spp*. (May gall roots, but are not known to cause serious damage in most circumstances.)
Roses *Rosa spp*	Black spot - *Diplocarpon rosae* Botrytis blight - *Botrytis cinerea* Cane dieback - *Coniothyrium sp.* Crown gall - *Agrobacterium sp.* Cylindrocladium leaf spot, crown rot - *Cylindrocladium sp.* Downy mildew - *Peronospora sparsa* Powdery mildew - *Oidium sp.* Root rots - *Phytophthora, Pythium spp.*	Aphids (yellow rose most common) Beetles (Anomola sp. and Euphoria sp. most common) Scale, several species Thrips (Florida flower and western flower most common) Two-spotted spider mite	Dagger nematodes *Xiphinema*, especially *X. diversicaudatum*, which can be a serious pest in its own right and also can vector serious viruses to rose. Lesion nematodes *Pratylenchus spp*. Root-knot nematodes *Meloidogyne spp*.
Salvia *Salvia spp.*	Bacterial spot - *Xanthomonas sp.* Cercospora leaf spot - *Cercospora*	Aphids Thrips (Florida flower most	Root-knot nematodes *Meloidogyne spp.*

Schefflera *Brassaia, Schefflera spp.*	Alternaria spots - *Alternaria spp.* Bacterial spots - *Pseudomonas, Xanthomonas spp.* Root rots - *Phytophthora, Pythium* and *Rhizoctonia spp.*	Aphids (cotton most common) Armyworms Mealybugs (longtailed and citrus most common) Scale, eight species (Florida red, Florida wax, brown soft and pyriform most common) Thrips Two-spotted spider mite	Reniform nematode *Rotylenchulus reniformis* Root-knot nematodes *Meloidogyne spp.*
Sea grape *Coccoloba sp.*	Algal spot - *Cephaleuros virescens* Anthracnose - *Colletotrichum sp.* Leaf spots - *Cercospora, Pestalotia spp.* Rust - *Uredo sp.* Tar spot - *Phyllachora sp.*	Aphids (cotton and black citrus most common) Sea grape borer Sea grape gall midge Sea grape weevil Scale, 18 species (green shield and *Philephedra tuberculosa* most common) Whiteflies (wooly and Keys most common)	No important nematode problems known.
Selloum *Philodendron selloum*	Bacterial soft rot - *Erwinia spp.* Mosaic - Dasheen mosaic virus Root rots - *Phytophthora, Pythium spp.; Rhizoctonia solani*	Armyworms Fleahoppers Scale, 11 species (brown soft and long brown most common) Slugs and snails Thrips	Burrowing nematode *Radopholus similis* Root-knot nematodes *Meloidogyne spp.*
Snake plant *Sansevieria spp.*	Bacterial soft rot - *Erwinia spp.* Fusarium leaf spot - *Fusarium spp.* Root rots - *Phytophthora, Pythium* and *Rhizoctonia spp.*	Scale (lesser snow most common) Slugs and snails	Reniform nematode *Rotylenchulus reniformis* Root-knot nematodes *Meloidogyne spp.*
Snapdragon *Antirrhinum sp.*	Cercospora leaf spot - *Cercospora antirrhini* Powdery mildew - *Oidium sp.* Root/stem rots - *Phytophthora, Rhizoctonia spp.* Rust - *Puccinia antirrhini* Tomato spotted wilt virus	Aphids Armyworms Leafminers Thrips (Florida flower and western flower most common)	Root-knot nematodes *Meloidogyne spp.*
Spathiphyllum, peace lily *Spathiphyllum spp.*	Anthracnose - *Colletotrichum sp.* Bacterial leaf spot - *Pseudomonas cichorii* Bacterial soft rot - *Erwinia spp.* Cylindrocladium rots - *Cylindrodadium spathiphylli* Leaf spot - *Myrothecium roridum* Phytophthora leaf spot - *Phytophthora sp.* Root/stem rots - *Pythium and Rhizoctonia spp.*	Scale, two species (long brown most common) Slugs and snails Thrips Whiteflies	Burrowing nematode *Radopholus similis*
Stock *Matthiola sp.*	Botrytis blight - *Botrytis cinerea* Damp-off - *Rhizoctonia solani* Root rot - *Pythium spp.*	Diamondback moth Green peach aphid Turnip aphid	No important nematode problems known in Florida.

	Phyllosticta spp. Root rots - *Phytophthora, Pythium spp.; Rhizoctonia solani*	Wooly whitefly	
Sword fern *Nephrolepis exaltata*	See Boston Fern		
Sycamore *Platanus sp.*	Anthracnose - *Colletotrichum sp.* Bacterial spot - *Pseudomonas, Xanthomonas spp.* Branch dieback - *Botryosphaeria sp.* Leaf scorch - *Xylella fastidiosa* Powdery mildew - *Oidium sp.* Spot anthracnose - *Sphaceloma sp.*	Cotton aphid Sycamore lacebug	Root-knot nematodes *Meloidogyne spp.* (Galling rare; not serious).
Syngonium,Nephthytis *Syngonium sp.*	Bacterial blight - *Xanthomonas sp.* Bacterial spots - *Pseudomonas spp.* Bacterial soft rot - *Erwinia spp.* Gray mold - *Botrytis cinerea* Leaf spot - *Myrothecium roridum* Root rots - *Phytophthora, Pythium spp.; Rhizoctonia solani* Stem rot - *Ceratocystis sp.* Web blight - *Rhizoctonia solani*	Mealybugs Root mealybugs Silverleaf whitefly Spider mites Thrips	Burrowing nematode *Radopholus similis* Root-knot nematodes *Meloidogyne spp.*
Tabebuia *Tabebuia spp.*	Algal spot - *Cephaleuros virescens* Leaf spots - *Cercospora, Corynespora spp.*	Black twig beetle Scale, several species Tabebuia leafhopper *Holopothrips* near *inquilinus*	Root-knot nematodes *Meloidogyne spp.*
Tibouchina *Tibouchina sp.*	Leaf spots - *Cercospora, Phyllosticta spp.* Root rots - *Fusarium, Pythium spp.; Rhizoctonia solani*	Florida wax scale Hemispherical scale	No important nematode problems known.
Viburnum *Viburnum spp.*	Anthracnose - *Colletotrichum sp.* Diebacks - *Botryosphaeria, Phomopsis spp.* Downy mildew - *Plasmapora viburni* Leaf spots - *Cercospora, Pseudocercospora spp.* Root rots - *Pythium spp.; Rhizoctonia solani*	Citrus whitefly False spider mite Scale, 22 species (chaff most common) Southern red mite Aphids (spirea most common) Two-spotted spider mite Thrips	Burrowing nematode *Radopholus similis* Foliar nematodes *Aphelenchoides spp.* Root-knot nematodes *Meloidogyne spp.*
Wax myrtle *Myrica cerifera*	Bacterial spot - *Xanthomonas sp.* Leaf spots - *Septoria sp.* Witch's broom - *Sphaeropsis tumefaciens*	Caterpillars Scale, 22 species Striped mealybug	Root-knot nematodes *Meloidogyne spp.*
Yucca *Yucca spp.*	Anthracnose - *Colletotrichum sp.* Bacterial cane rot - *Erwinia spp.* Leaf spots - *Coniothyrium, Fusarium, Phyllosticta spp.* Root/stem rots - *Phytophthora, Pythium spp.; Rhizoctonia solani* Southern blight - *Sclerotium rsolfsii*	Scale, 17 species Yucca weevil	No important nematode problems known

	Stem rots - *Phytophthora, Rhizoctonia spp*.	Scale (hemispherical most common)	