



Oleanders for Florida¹

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Oleanders are evergreen shrubs or small trees native to the Mediterranean regions of southern Europe and southwest Asia. *Nerium oleander* L. has been cultivated in Florida since 1565 and its popularity in the southern tier of the United States continues today because of its bountiful flowering habit. It grows well on sandy soils near the coast and is widely cultivated near roadsides, edges of woods, lawns and gardens.

Sometimes called the "Rose Bay," oleander has become associated in this country with tropical gardens. This plant derives its common name from **oleandra** which means olive-like in Greek. Oleanders belong to the Apocynaceae or "Dogbane" family which includes Allamanda, Mandevilla, Carissa or Natal Plum, Frangipani, Confederate Jasmine, and Madagascar Periwinkle (*Catharanthus roseus*). **All parts of the oleander are poisonous, because of this, the plant should be restricted to locations where direct contact with people will be limited.**

DESCRIPTION

This familiar Florida exotic is an ornamental shrub or small, densely branched tree, 3 to 30 feet tall. The many branches form a vertically upright shrub with smooth bark varying in color from pale green to light gray. Two or three leaves with short petioles grow from each node. The foliage is evergreen, leathery, narrowly elliptic to linear elliptic,

4 to 12 inches long, and a ½ to 1 inch wide, with entire margins. Foliage is dark green above and lighter in color below and will turn yellow before dropping. Some cultivars have variegated foliage.

Flowering occurs on oleander the year round, with the most profuse flowering occurring during the warmer months. Each cluster of flowers (botanically called a cyme) develops on the tips of branches and is composed of several 3- to 4-inch red, pink, salmon, yellow or white flowers. The petals on each flower are about 1 inch long and have a fringed appendage at the base. Flower type may be single, with five petals; intermediate, with 2 superposed sets of petals (corollas); or double, with 2 or more whorls of petals.

Fruits on oleander are uncommon, but when present the long narrow pods usually occur in pairs. Many tufted seeds are contained in the green to yellow fruits, which will be released when the brown pod splits open lengthwise. The foliage, flowers and fruit are shown in Figure 1.

LANDSCAPE USE

Oleander is one of our most versatile landscape plants for sunny seaside locations. Few evergreen shrubs are available for use in Florida that offer the fast growth, showy everblooming habit, and adaptation to full sun and poor soil conditions that oleander provides. Even fewer choices exist if high

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The term "plates," where used in this document, refers to color photographs that can be displayed on screen from CD-ROM. These photographs are not included in the printed document.

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Figure 1. Foliage, Flower and Fruit of Oleander.

Selection and hybridization have resulted in cultivars of various plant size, different flower colors and shapes, and longer bloom persistence.

Oleanders are available for use as small "standard" trees, shrubs, ground covers, large fencing or screening shrubs, and as potted patio plants. Dwarf forms are available as large ground covers or container plants providing vivid, summer-flowering interest. For best results and minimum maintenance, be sure to choose a cultivar whose growth characteristics and ultimate size fit your intended landscape use. Table 1 lists common cultivars used in Florida.

GENERAL CULTURE

Oleander is adapted to climatic conditions throughout Florida. However, this plant may experience injury in cold weather. In northern and western Florida, it should be used where it can be protected from freezing conditions. While it is highly salt tolerant, it does not do well when directly exposed to salt spray. Plant it behind the dune lines for best results.

Full sun is necessary for best flowering and for development of a full, fountain-shaped crown. In

shade, it will grow lanky and produce few flowers. Oleander is tolerant of a wide range of soil types and grows well in sandy dry areas. It is adaptable to a pH range of 5.0 to more than 8.3.

Oleander transplants easily. For best results, plant container-grown oleanders during early summer when in active growth. Plants should be mulched to a depth of 3 inches.

Newly planted oleanders should be irrigated regularly for the first few months to aid in establishment. Standards or larger specimens with stem diameters greater than 1-inch benefit from regular irrigation for one year. Oleander is very drought tolerant once established, but moist soils or irrigation stimulate growth.

Oleander has low fertility requirements. Established plants usually do not need fertilizer because root systems extend into lawns where they can absorb nutrients from turf fertilizers. Growth of small plants may be stimulated with up to 3 applications per year of a complete fertilizer. Use a rate of 1 pound nitrogen per 1000 square feet applied to the area within 1½ to 2 times the canopy diameter. Organic sources of nutrients and slow-release inorganic fertilizers will provide for longer periods of fertilizer availability.

Pruning

Young oleanders characteristically develop multiple stems. If a plant is to be grown as a "standard," the smallest stems should be removed leaving one main stem for a single-trunk specimen.

Oleanders generally require some pruning for best flowering. "Suckers" or water sprouts may develop along the lower portions of main stems or from roots. Excessive suckering, especially with young plants, will inhibit flowering. Tip pruning to remove old flower clusters will increase the number of blooming tips.

Dwarf cultivars occasionally grow tall shoots that must be removed to maintain the planting as a ground cover. Shoots of some dwarf and miniature cultivars occasionally die to the ground, and this dead wood should be removed when noticed.

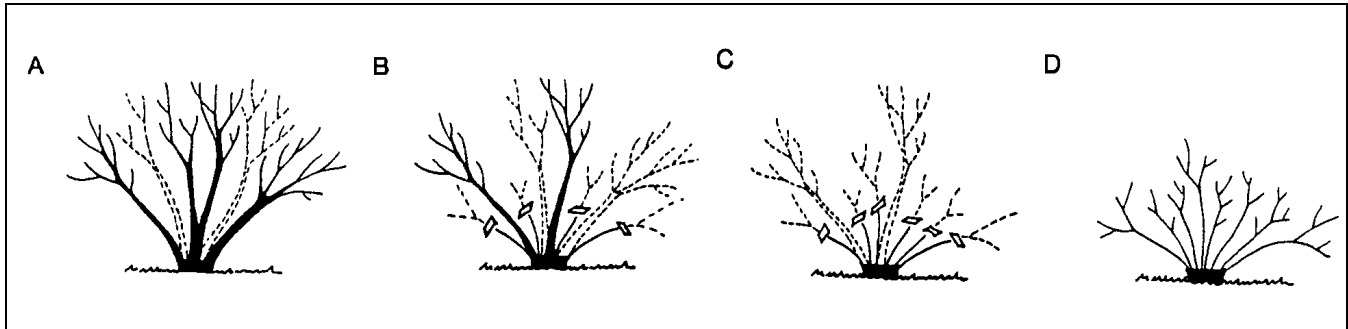


Figure 2. Rejuvenation pruning for oleanders: A) First year, B) Second year, C) Third year, D) Result

If severe pruning is necessary to improve plant shape or form, prune oleanders anytime after the rate of flowering has fallen. Oleanders are often pruned hard on an annual or regular basis. Such severe pruning can induce excess vegetative growth, basal sprouting, and fewer, but larger, flower clusters.

Generally, the natural clumping type shape is preferred in hedges and screen plantings. Removal of one-third of the older stems or canes in successive pruning over three years is preferred to a complete cutting back of the plant to ground level. This is called rejuvenation pruning, as illustrated in Figure 2. Here are the steps:

- A) First year: Remove one-third of old mature stems near ground level.
- B) Second year: Remove one-half of the remaining old stems and head back long new shoots from last year's growth.
- C) Third year: Remove the remaining old stems and head back the long new shoots.
- D) The desired Result will be apparent at the end of the third year of growth.

The time to prune may be dictated by personal preference, but avoid late fall or winter pruning which encourages frost sensitive new growth.

Pests

Oleanders can be one of the most pest-free landscape plants with proper placement and pest monitoring. Primary pests are the oleander caterpillar, oleander scale, and occasionally aphids. Witches' broom is a serious plant disease of oleander. Bacterial gall and mushroom root rot are other plant diseases that may be encountered. For current pesticide recommendations, please contact your county's Cooperative Extension Service.

The **Oleander caterpillar** (Plate 1) is the most significant insect pest of oleanders. The caterpillar is an immature (larval) phase of the Oleander Moth, *Syntomeida epilais jucundissima*. The adult female moth lays clusters of 25 to 75 orange eggs under leaves. Young larva will skeletonize the leaves, while the more mature, orange-colored caterpillar with black spots and hairs will eat the entire blade. By biting the veins, the caterpillar drains the toxic sap before consuming the leaf.

When it reaches a mature size of about 2 inches long, the insect pupates. The silk-covered cocoon yields a purple-black winged moth that has several white dots on the wings. With a sixty-day life cycle, this pest can have three generations in a year. Scouting for the eggs and young caterpillars in March, July and December will enable control measures to reduce feeding damage. *Bacillus thuringiensis* insecticides can provide environmentally safe yet effective control. Chemical insecticides also can be used.

Oleander scale, *Aspidiotus nerii*, are common on many plants in our subtropical area. These small (1-2 mm) whitish insects are found on either the top or bottom surface of the leaf, and are round in shape. Their hard, armored shell makes them difficult to control. Other scales that may be found on oleander include the black, dictyospermun, false oleander (Plate 2), Florida wax (Plate 3), hemispherical (Plate 4), nigra, and plumose scales.

Other sucking insects affecting oleander may include the **Oleander aphid**, *Aphis nerii*, and the **Longtailed Mealybug**, *Pseudococcus longispinus* (Plate 5). Aphids are yellow, soft-bodied insects which damage oleanders by inserting mouthparts into soft tissue and extracting plant sap. Aphids can reproduce rapidly. Heavy infestations distort leaves and stunt new growth.

One or more insect population peaks may occur at any time between May and September. Although many predatory insects feed on aphids, they usually cannot control the aphids. Regular scouting, removal of branches with high levels of infestation, and sprays of insecticidal soaps or horticultural oils are the most environmentally safe pesticides. Persistent problems may indicate a need for chemical insecticides.

During feeding, aphids secrete droplets of a sugary solution called "honeydew." Drops of honeydew fall from the aphids onto leaves and stems below. This sugary solution promotes the growth of **sooty mold fungi** (Plate 6), *Capnodium* species. Sooty mold appears as a black staining or powdery coating on leaves and stems. The blackened leaves and stems are often the most obvious sign of aphid infestation.

Although unsightly, sooty mold itself does not directly harm oleanders. However, the black fungus shades the leaves and reduces photosynthesis, potentially effecting the long-term vigor of the plant. Control of sucking insects will halt further development of sooty mold. Existing sooty mold on leaves will wear off through the actions of sun, rain and wind. Sprays of insecticidal soaps and horticultural oils for control of aphids and scales also help to loosen and remove sooty mold.

Witches' Broom is the most serious plant disease of oleanders. It is caused by a fungus, *Sphaeropsis tumefaciens*, which causes tip die back and the formation of a tight cluster of shoots from below the affected area. These shoots will grow only a few inches, turn brown and die. Infectious symptoms can appear in two to fifteen weeks after the infection occurs, and seem to be more common during cooler months. The fungus can be spread by wind, insects, or by infected pruning tools.

No chemical fungicides are available to control witches' broom, and no oleander cultivars are known to be resistant to this affliction. Affected stems should be pruned back at least 6 inches into unaffected wood. Look at the cut end of the stem to see if any discoloration from the systemic fungal growth is present, and prune back further if this is noticed. To prevent infection of unaffected plant parts, dip pruning tools in rubbing alcohol before using them on another branch or plant.

Bacterial Gall is a plant disease occasionally seen as wart-like growths on oleanders. Spongy growths on leaves and longitudinal swellings on the stems result

from the bacteria *Pseudomonas syringae tonelliana* entering wounds caused by insects or other agents. As with witches' broom, prune out affected parts and sterilize pruning tools.

Another plant disease of oleanders that is sometimes encountered is **Mushroom Root Rot**, which may be caused by the fungus *Armillaria mellea* or other fungal organisms. The plant appears to wilt because the crown areas have been damaged by the fungus, preventing the movement of moisture into the tops of the plant. Wet soil conditions encourage the fungus. Avoid over-watering and limit the use of heavy clay or muck soils; excessive mulching which covers up the crown also should be avoided.

Propagation

Oleander can be propagated vegetatively by softwood, semi-hardwood, or tip cuttings. Cuttings root easily when taken in early summer. Use of rooting hormone improves rooting percentages. Tip or air layers also may be taken to propagate oleanders. Because of the ease of vegetative propagation, use of seed to grow new oleanders can not be recommended except for plant breeders.

Cultivars

Many cultivars of oleanders have been selected and developed by private individuals, nurseries and public institutions. A tentative checklist of oleander cultivars lists 401 entries; of these about 175 are said to be currently available for horticultural use. Selected oleander cultivars are listed and described in Table 1.

TOXICITY

According to the *American Medical Association Handbook on Poisonous and Injurious Plants*, all parts of the oleander plant contain two toxic principles. These toxic principles, oleandroside and nerioside, both have been identified as glycosides. This extremely toxic plant can poison livestock and humans at any time of the year. Lethal doses of leaves for livestock have been established for horses (15-30 grams), cows (10-25 grams), and sheep (1-5 grams).

Many people in the landscape industry have spent years working with oleander without experiencing oleander poisoning from landscape workers or from plants in the landscape. A 1961 report exists of flamingos being killed by oleander poisoning. There

are also reports that children in India died from eating the flowers and a report from Florida that persons using oleander sticks to cook hot dogs were poisoned.

Symptoms

Action of the poisons in oleander is similar to the action of the heart drug known as digitalis. The usual symptoms are severe gastroenteritis, diarrhea, abdominal pain, sweating and weakness. These signs appear within a few hours after eating the leaves. Cardiac irregularities are common, often characterized by increased heart rate. However, a slower heart rate is often detected in the later stages. Symptomatic treatment is suggested but is usually unsuccessful. Contact a physician, hospital, or poison control center if ingestion is suspected.

Precautions with Oleander

Because of its poisonous nature, the placement of this plant in a landscape should be carefully considered. The best use of this plant may be in areas where people will not come in direct contact with it. Parents should avoid planting oleander in their home landscape where there is a potential for small children to consume parts of this plant. When disposing of branches pruned from oleanders, do not burn the branches: the volatile oils that make the plant poisonous will become airborne and may cause respiratory difficulties if the smoke is inhaled. Pet owners and livestock producers also are cautioned to place this plant out of the reach of animals who may graze on it.

It is not recommended that oleanders be eliminated from all Florida landscapes. To do so would limit our choices of colorful flowering shrubs that thrive in adverse environmental conditions with minimal care. A better approach is to educate persons, workers and residents to treat them with respect and to place them where the danger of poisoning will be limited.

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Table 1. Characteristics of Selected *Nerium oleander* Cultivars.

Size Group and Cultivar	Flower Color	Flower Type	Origin	Comments
DWARF (mature height 3-5 feet)				
Petite Salmon	orangish-pink	single	1973 Los Angeles Arboretum	may be hedged to 3 feet; will grow to 6 feet, tightly branched.
Petite Pink	pink	---	1973 Los Angeles Arboretum	well suited for residential landscapes
TALL (mature height 10-25 feet or more)				
Sister Agnes or Soeur Agnés	white, cream throat	single	1868 France	hardy, fragrant, large flowers, favored in California because spent blooms readily drop
Atropurpureum	dark purple-red	single	1835 Belgium	hardy, large blooms
Calypso	deep pink	single	1975 Florida	very hardy and vigorous, good blooming
Carneum Plenum or Mrs. Roeding	salmon-pink	double	1854 Germany	somewhat weaker growth, persistent blooms slightly weeping growth habit
Comfe Berthelemy or Commandant Berthelemy	red and pink with yellow margins	superposed corollas	1898 France	large flower
Common	dark pink to red	single	79 A.D. Mediterranean	an unimproved natural variety, unscented
Hardy Red	bright red	single	1965	large flowers and inflorescences
Isle of Capri	light yellow	single	1963	tender
Pink Hawaii	salmon pink, yellow throat	single	1965	vigorous growth; an introduction used at Disney World
Roseum	rose pink	single	1872 Italy	profuse flowering, vigorous
Variegatum	pink	single	1822 France	vigorous; narrow gray green foliage with marginal variegation.
Variegatum plenum	pink with rose throat	double	1978	Dark green foliage with marginal variegation
White	white	single	1874	---