

## Tips on Growing Orchids in Florida <sup>1</sup>

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Floridians have a wide variety of flowering pot plants from which to choose, but few are as beautiful as orchids. Orchid flowers display an almost unlimited range of colors and forms, from the flamboyant *Cattleya* so popular as corsages, to the tiny *Pleurothallis* whose intricate and subtle beauty can be appreciated fully only after being viewed under magnification. Gardeners may choose many species and hybrids from the large and diverse orchid family which grow well and flower profusely with a minimum of care under Florida's conditions. Contrary to common belief, orchid plants may be purchased at prices comparable to other flowering pot plants; and when a few basic cultural requirements are met, any orchid will satisfy the owner for many years.

### Which Orchids to Grow

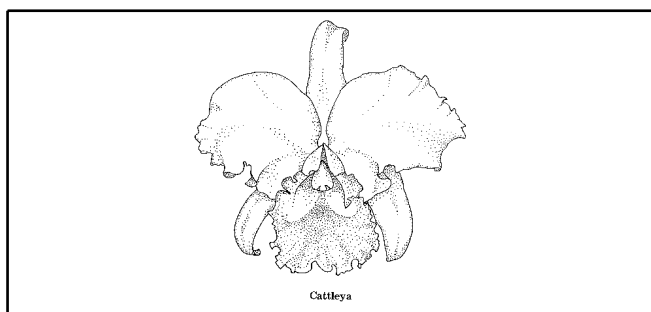
One of the more difficult decisions facing new orchid fanciers is which of the thousands of commercially available species and hybrids should they grow. To answer this question several factors must be considered, including: (1) How much time do you want to spend? (2) How much money is available? (3) Do you have a hobby greenhouse? and (4) Do you have a suitable growing area?

Species and hybrids of six orchid genera are widely recommended to homeowners because of their adaptability, ease of growing, and beautiful flowers. These are: *Cattleya*, *Phalaenopsis*, *Dendrobium*, *Oncidium*, *Vanda* and *Epidendrum*.

*Cattleya*, synonymous with "orchids" to many people is the most popular and widely grown orchid in Florida. Because of their attractive showy flowers and long life, cattleyas have been the subject of intense hybridization for more than 75 years. As a result, hobbyists have an almost unlimited choice of cattleyas from which to choose with respect to size, growth habit and flower color. Flower colors include all of the basic colors and white (excluding only blue), either singly or in various combinations, and intensities ranging from bold to pastel shades. Certain *Cattleya* cultivars produce up to 20 three inch flowers per inflorescence, whereas others yield seven inch flowers in clusters of four or five. The number of flower clusters varies with the size, age and health of the plant. Cattleyas generally flower once a year, usually during the spring or fall, with flowers lasting about six weeks. Cattleyas are readily available from many nurseries in the state and may be purchased at modest prices.

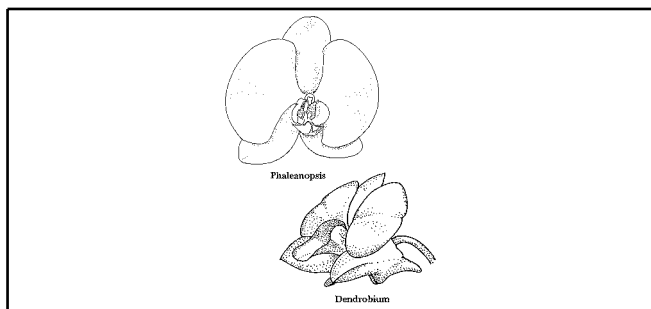
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### Cattleya .

*Phalaenopsis* is an excellent orchid for Florida gardeners. These plants produce long arching sprays of white or pink flowers resembling moths in flight, which explains the common name "moth orchid." *Phalaenopsis* responds vigorously to the warm, humid summer typical of Florida by producing oval, leathery leaves. Inflorescences of 10 - 20 flowers from three to four inches in diameter are produced in winter and early spring. Individual flowers may last for more than one month and continuous flowering may be induced with good culture and judicious pruning of the old flower spikes. As a result to hybridization, gardeners may now choose from white, pink, yellow, orange, peppermint striped and two-toned varieties.

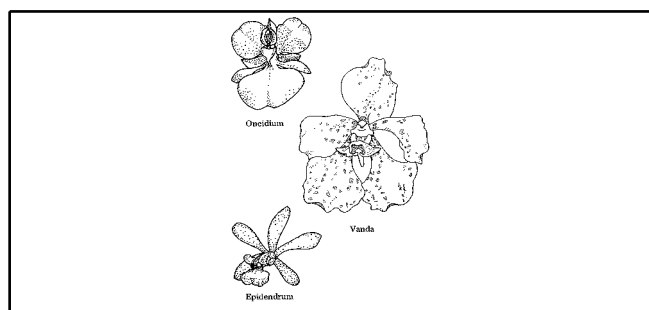


### Phalaenopsis .

*Dendrobium* is a large and diverse genus with many species and hybrids under cultivation in Florida. The species *Dendrobium phalaenopsis* and its hybrids are the most popular because of their ease of culture and prolific flowering habits. The white, lavender, and combination colored flowers are produced on long arching racemes originating from new and old growth. Flowers, which are borne in profusion in the fall and winter, open gradually and may remain open for three to four weeks.

Gardeners seeking something different in orchid flowers, but still requiring an easy to grow plant,

should try Oncidiums . These dainty yellow and brown or white and brown "dancing lady" flowers are produced in profusion at various times of the year. 'Equitant' oncidiums are miniature plants which grow and flower well outdoors, in a Florida room, or on a windowsill. As a general rule, oncidiums are rugged orchids and will flower even under adverse growing conditions, but more flowers will be produced when they are given proper care.



### Oncidiums .

*Vanda* and closely related *Ascocenda* are two genera which are recommended for and widely grown in Florida. Vandas produce sturdy racemes of a dozen or more flowers in the warm months. Flowers vary in size from two to four inches across and in color from white to variegated patterns of brown, green, and pink to blue and purple. Mature vandas are often too large for the hobby greenhouse. However, one need not forsake their beauty because of limited space. In *Ascocenda* , the intergeneric hybrid between *Vanda* and *Ascocentrum* , a fancier may find vanda-shaped flowers borne on plants about half the size of *Vanda* plants. Additionally, ascocendas are free-flowering in the warm months and possess flower colors ranging from lavender and purple to fiery yellow, orange and red.

*Epidendrum* is, without a doubt, among the easiest and most prolific orchids to grow. Reed-stem types are excellent outdoor garden plants in south Florida and may be grown as attractive pot plants elsewhere. One inch pastel flowers are produced in profusion most of the year. *Pseudobulbous epidendrums* are also popular and hardy and have the advantage of producing larger flowers than the reed-stem types. Both types of *Epidendrum* frequently are crossed with cattleyas resulting in hybrids called "Epicats" which often display the better qualities of both parents.

The genera described above are the most common and can be grown successfully in Florida, but they represent only a minority of orchid genera available. With experience comes confidence and often the desire to branch out and try new types. Choose those orchids which tolerate Florida's long, warm seasons and follow the few basic cultural tips described below.

## Potting Media and Propagation

Florida gardeners have a number of choices when considering how their orchids should be grown. Traditionally, plants were grown in osmunda fiber in clay pots. As osmunda became scarce and somewhat expensive, other media such as chopped tree fern fiber, certain bark materials, porous stone (volcanic stone), peat, charcoal and combinations of these materials were used successfully. Plastic pots and other containers have replaced clay in some instances. Experience has shown that most species and hybrids of the seven genera described earlier will grow well and produce flowers in any of the above media and pot types by adjusting fertilizer and watering practices. Osmunda fiber and peat have the greater water holding capacity and, therefore, plants grown in these media need to be watered less frequently than those grown in coarser media such as tree fern, stone, charcoal and bark.

Nurseries and retail outlets have a variety of containers from which to choose in addition to clay and plastic pots. Wire and redwood baskets are popular and versatile. Orchids may also be mounted on slabs of tree fern, corkbark, or cypress branches or knees. In many cases, plants may then be suspended from pipework or supports within the growing area or from tree branches outdoors. In frost-free areas, plants may be established on tree trunks.

Repotting is perhaps the least enjoyed chore in the orchid hobby. As a general rule, cattleyas, oncidiums, dendrobiums and epidendrums need to be repotted every two to three years as the medium decomposes or when new growth extends over the edge of the container. Repotting can be done by transplanting to a larger pot, or by division. When repotting or rejuvenating these orchids, count from the new growth back to four pseudobulbs, cut the

rhizome, and remove the clump. This "lead division" is the most vigorously growing part of the plant and will flower within a year after repotting. Back divisions may take several years to attain flowering size; therefore, they are often kept as seconds, traded off to fellow hobbyists, or discarded. To repot, position the plant in a new pot with the oldest pseudobulb touching the back of the pot and fill in with medium around the roots. As a final step, secure the plant with rhizome clips or tie leaves to an upright support.

*Phalaenopsis* and *Vanda* require potting less often because of their single-stem growth habit. The decision to repot is made because the plant has become "leggy" or the medium has deteriorated. Tip cuttings of vandas, including aerial roots, are made and potted in the center of a pot. Potting medium is then placed around the roots.

Raising orchids from seed is both fascinating and rewarding; however, the process requires expertise and special equipment. Orchid seed, unlike seed of other plants, contains no stored food materials; therefore, seed must be germinated on an agar nutrient medium in sterile glass containers. Many commercial orchid nurseries in Florida offer seed germination services to customers.

## Fertilization

Fertilization is a controversial issue among orchid growers. Many debate the merits of inorganic and organic fertilizers and some even question the need for fertilizer. However, most growers use fertilizer and obtain excellent results. Research and experience have shown that if orchids are grown in tree fern, osmunda, peat, charcoal, or stone (which are slow to decompose or inert) a complete fertilizer with a 1-1-1 ratio should be used. However bark decomposes rapidly because it supports high populations of wood decaying microorganisms. These microbes do not injure plants but compete for available nitrogen; therefore, a 3-1-1 ratio fertilizer is recommended to compensate for this problem. Both 1-1-1 and 3-1-1 fertilizers are available in soluble, dry or slow release formulations. Fertilizers with the same basic ratio may be interchanged, but be sure to adjust for changes in concentration. For instance, a

recommendation may be given in terms of 20-20-20, i.e. 1 or 1-1/2 tsp./gallon, but a 10-10-10 fertilizer may be all that is available. Use the 10-10-10, but keep in mind that this material is half as concentrated as 20-20-20 and compensate by using 2 to 3 tsp./gallon.

Soluble fertilizers are dissolved in water and applied in place of a normal watering. If 20-20-20 is used to fertilize orchids growing in osmunda, tree fern, charcoal, stone or peat, mix at the rate of 1 to 1-1/2 tsp./gallon of water. Plants grown in bark should be fertilized with a 30-10-10 or similar high nitrogen material at the same rate. Apply soluble fertilizers at monthly intervals.

Slow release type fertilizers, such as Osmocote, MagAmp, Pro-Gro. etc., release nutrients very slowly, the rate of release being dependent on temperature. Although their initial cost is higher, one application every two to three months is adequate and plants will be continuously fertilized during that time. Osmocote 14-14-14 should be applied at rates of 1 tsp. per 6" pot every two to three months.

Dry materials, such as 20-20-20 garden fertilizer, can also be used for orchids at rates of 1 tsp. per 6" pot applied monthly. Again additional nitrogen is needed for plants growing in bark.

## Watering

How often should orchids be watered? This is a common question to which there is no one set answer. Watering frequency depends on such factors as pot size and type (plastic or clay), medium, location of the pot (hanging or bench), size of the plant in the pot, air circulation, shade levels, and general environment in the growing area. As a general rule, plants grown in small pots dry more rapidly than those grown in large pots, thus requiring water more frequently. Also plants grown in porous clay pots should receive water more often than those grown in plastic pots. When watering, saturate each pot so that moisture drains from the bottom of the pot and then do not water again until the surface of the medium becomes dry.

Water quality concerns many orchid growers, particularly those living in coastal areas. Salt water

intrusion into freshwater wells is common along both coasts. Orchid growers should be aware that water with salt levels in excess of 875 ppm is detrimental to the growth of orchids and should not be used. Water is of good quality when the salinity level is less than 500 ppm and no special precautions are needed. However if salt levels range between 525 and 875 ppm, be sure to water thoroughly and leach heavily at each watering to wash residual salts from the medium. Use rainwater collected by placing large containers under downspouts from roofs.

## Light

Most orchids require partial shade for optimum growth and flowering. High light intensities degrade chlorophyll causing the foliage to yellow, and frequently may burn the leaves. Recommended light levels for many varieties of *Cattleya*, *Dendrobium*, *Oncidium*, *Vanda* and *Epidendrum* range between 2000 and 3000 footcandles (21.6-32.4 K. Lux), or 70-80% shade. These shade levels may be obtained by several means including: (1) growing plants under saran cloth, (2) growing plants in the shade of trees, (3) shading the greenhouse with whitewash, and (4) growing under eaves of houses. *Phalaenopsis*, however, thrives when light levels are 1000-1800 footcandles (10.8-19.4 K. Lux), or 85-90% shade. *Phalaenopsis* leaves burn easily when subjected to high light intensities so shade should be provided at all times. Reed-stem epidendrums and terete leaved vandas grow in full sun and in south Florida are planted in open beds outdoors.

## Temperature

Orchids need to be protected from cold temperatures. Generally 50°F (10°C) is considered the minimum temperature to which tropical orchids can be subjected without exhibiting symptoms of cold damage. *Phalaenopsis* and *Vanda* prefer night temperatures of 65-70°F. (18-21°C). *Cattleya*, *Epidendrum*, *Oncidium* and *Dendrobium* generally grow best when the night temperature is maintained between 60-65°F. (15-18°C), although these may recover when exposed to temperatures in the mid-30s (2-5°C) for short durations.

Few hobbyists are concerned with maximum temperatures. However, if orchids are grown in a greenhouse, be aware that temperatures of 110°F. (43°C) can occur under glass during the hot summer months and two hours exposure to 110°F. (43°C) and 10 minutes to 120°F. (40°C) will burn leaves and flowers.

### **Insects and Diseases**

Orchids, like other plants, are susceptible to a number of insect and disease problems. However, in comparison with other ornamental pot plants, orchids are surprisingly less affected by them. Should pest problems arise, contact your local county extension office for a diagnosis and control.