CIR424

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Cannas for the Florida Landscape[1]

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Cannas belong to the Cannaecae family and have leaves resembling those of the banana. They are tropical and sub-tropical perennials that flower twelve months of the year in their native habitat. Present-day cannas have descended from the old-fashioned Indian Shot, *Canna indica*. In tropical and subtropical areas they range from 2.5 feet (75 cm) to 10 feet (300 cm) in height. In temperate regions, where they are handled as tender annuals, cannas rarely exceed 4 feet (120 cm) to 6 feet (180 cm) in height.

Cannas are valued mostly for their large tropical foliage and showy, brilliantly colored flowers. The foliage is as ornamental as the flowers. It may be pure green, greenish blue, coppery to purplish, ruby, or green with white stripes.

Cannas of today bear little resemblance to their ancestors. Their large flowers are available in such colors as ivory, yellow, rose, salmon, crimson and red. Many of their growth characteristics also have been modified to make cannas more suitable for landscape planting. There are dwarf cultivars now that grow only 1.8 feet (45 cm) in height and tall ones that attain a height of 6 feet (180 cm) as well as intermediate ones.

Regretfully, cannas are not widely used by homeowners. Traditionally they have been used in borders, where their colorful foliage provided interesting background material. They have been grown in masses mostly in formal or informal beds and borders, circles and squares in the center of lawns and gardens, public places, parks and gasoline stations. Cannas should be seriously considered for planting in the home landscape. They are not hard to grow, and the rhizomes (fleshy, underground rootlike structures) can be grown easily year-round in south Florida and most of the year in north Florida.

Care and Culture

Cannas thrive best in well-drained, loamy soil rich in organic matter and containing an abundant supply of nutrients. The incorporation of one to two inches of well-rotted manure will help improve the soil in new flower beds. However, cannas will grow in almost any soil, provided good fertilization and irrigation practices are followed religiously.

Cannas are essentially sun plants and will perform well if grown under full sun or semi-shaded areas.

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The rhizomes may be planted 1 foot (.30 m) to 1.8 feet (.45 m) apart, depending upon whether dwarf or tall cultivars are used, two weeks before the last frost in early spring in north Florida.

Rhizomes may also be potted in small pots or wooden flats containing peat moss. They should be potted in early February to allow roots and shoots to grow and develop. These are then transplanted into beds after all danger of frost is past. Transplants handled in this manner will flower earlier than those from rhizomes that are transplanted directly into beds. Adding 1/3 cup of fertilizer such as 12-4-8 and mixing it in with the soil for each rhizome will assure fast-growing specimens.

To assure continuous bloom throughout the summer, remove the part of the stem that bore flowers after the flowers have withered. Usually a second flowering shoot, growing from the node just below the terminal flower, will be halfway in bloom already. Remove this shoot also when its blooms are withered. Another flowering shoot will soon develop on the node below the second shoot.

If the first and second shoots are not removed, all the nutrition will be used for the developing seed pods, and the flower cluster on the third node usually will remain dormant. If spent shoots are removed, the nutrition will be channeled to the young flower clusters on the third or fourth node to develop and bloom. If the removal of spent shoots is followed religiously, cannas will bloom profusely for a long period of time. Finally, when all flowering shoots finish blooming, remove the entire stem and leaves at or slightly above ground level, since no more flowers will grow from these stems. This will reduce the leafy appearance and will permit more light for other developing and flower-bearing stems on the same clump. In addition, this will reduce crowding and competition for nutrients.

Cannas thrive under high summer temperatures. The only limiting factor in their growth at this time usually is lack of adequate moisture and fertilizer. If it doesn't rain, water them generously twice a week.

Cannas respond favorably to high fertility levels. Fertilize them early in the spring and continue monthly to assure prolific blooming.

The rate of fertilizer application is based on the nitrogen that is present in the fertilizer formulation. Generally, for a fertilizer which contains 5 percent nitrogen the recommended rate is 2 lbs (908 g) for each 100 sq ft ($9.3m^2$). When a fertilizer containing 10 percent nitrogen is used instead, since it is twice as concentrated as the 5 percent formulation, the rate of application should be 1 lb (454 g) per 100 sq ft ($9.3m^2$) to give the equivalent of 2 lbs per 100 sq ft for the 5 percent containing nitrogen.

If a 20 percent formulation is used, obviously the rate used should be 1/2 lb (227 g) per 100 sq ft.

If you know how much to apply based on nitrogen percentage, you can use many kinds of fertilizer and won't have to depend on a single forumulation of fertilizer that may not always be available in your locality.

In areas where the soil is thin marly materials overlying limestone, as in Dade and Monroe County, cannas can still be grown successfully. In fact most tropical plants can be grown in these areas without too much dependence on the existing sand or marl.

In areas such as these, cannas can be planted and grown in inexpensive plastic 4- to 5-gallon pots filled with organic soil. The pots should then be spaced and buried in the ground. The exposed tops and sides are then covered with mulch such as grass clippings or seaweed. No one will ever know that the plants are growing in pots. Growing cannas in this way saves the expense of adding truckloads of soil to flower beds. Obtaining a small amount of good soil amended with adequate fertilizer to fill the pots certainly is a better and less laborious method. Growing cannas in pots confines the root system so that fertility levels can be controlled.

The beneficial effects of growing cannas in pots are as follows:

1. Less fertilizer is used although fertilization frequency may be increased;

2. no pollution will result, since leaching of fertilizers is virtually nil;

3. reduced problems with soil-borne insects and nematodes;

4. less watering, since a good organic soil medium will hold more moisture than marl or sandy soils;
5. growth of excellent flowers where commonly inferior plants have grown, especially around shrubbery and trees;
6. reduced expenses since a good soil medium can be reused year after year; and
7. envious neighbors who wonder why you have such a magical green thumb.

When cannas are grown in pots, the fertilizer used should be one-fourth the rate recommended for plants grown in ground beds. For instance, when a 5 percent nitrogen-containing fertilizer is used, the rate for 100 sq ft (9.3 m^2) should be 1/2 lb (227 g), and this amount should be divided equally among the number of pots occupying 100 sq ft of area.

As mentioned previously, the root system is somewhat restricted for pot-grown plants. For this reason, the rate of fertilizer should be further reduced to half the recommended rate for soil-grown plants, but the frequency of fertilizer application increased, such as biweekly rather than monthly. Thus 1/4 lb (114 g) of 5 percent nitrogen-containing fertilizer applied biweekly should give the homeowner the best results.

Propagation

In milder climates such as southern Florida where heavy frost is seldom encountered, propagation is either by seed or division before planting. Seeds can also be used in northern Florida, usually planted in early January or February. Since the seed has a tough seed coat, steeping the seeds for 24 hours in warm water and notching the seeds before soaking will insure a better germination percentage. Seeds germinate at 75°F (27°C) and, if started early in the greenhouse or house, will flower in the same summer.

In areas where hard freezes are uncommon, as in southern Florida and the Keys, overwintering cannas is not necessary. However, it is a must to dig the clumps each year to rejuvenate plants and assure prolific growth and showy specimens for next year. In the tropics cannas are grown in the same spot year after year. But overcrowding, allowing the plants to set seed, and not removing the old stems causes the appearance to diminish after the first year.

Overcrowding or failure to rejuvenate the bed will result in few blooms, poor nutrition and the development of deficiency symptoms. Deficiency symptoms occur readily in the sandy soils of Florida.

Regardless of whether cannas are planted in flower beds or pots, the clumps need to be dug annually and cleaned and their old rhizomes must be removed and discarded. Spade up the entire clump or remove from pots and divide each clump. Discard those that are old and do not contain meristematic tissue (eyes). The selected rhizomes should be cleaned off and rinsed in a bleach solution (1 part bleach and 9 parts water) to reduce the possibility of disease that may infect the rhizomes. Cleaned rhizomes can be transplanted or repotted right away.

For northern and central Florida, rhizomes should be spread out in a cool place, such as a garage, to dry for a week or so. When the cut ends are dry, remove all the dried roots and place the rhizomes in a flat or box. Cover with dry peat moss and store in a cool place in the garage. Refrigeration of the rhizomes is not recommended because the rhizomes deteriorate when at a temperature of 45°F (7°C) or below.

To avoid excessive drying of the rhizomes, it is customary to cover the flat or box with a layer of clear plastic or a plastic bag. Be sure to make a few holes in the bag to allow some exchange of air for rhizome respiration. Otherwise, the rhizomes, which are live respiring tissue, will be depleted of oxygen and will ferment.

Two weeks before the last frost in the spring, the rhizomes can be transplanted outdoors. They may also be transplanted into clay pots or trays somewhat earlier and kept moist. Placing them in a south window so that they receive maximum light will ensure rapid growth of both roots and stem.

Cannas do well in full sun, and keeping the growing shoots as close to the window as possible

where maximum light intensities will prevail is a must to prevent weak and spindly growth. Transplanting an already actively growing specimen outdoors after danger of frost is past will ensure earlier bloom in mid April or early May.

The storing of canna rhizomes for next seasons's growth is a common practice. However, cannas are tender perennials and are everblooming. No amount of storage, dormancy, or rest period is actually necessary for next seasons' growth. What this means is that when a growing facility such as a hobby greenhouse is available, cannas can be overwintered in pots and allowed to grow during the winter season. Properly cared for, they will continue to grow and bear flowers in the middle of winter. When the winter season is over they can be divided with the stems left intact and transplanted directly in flower beds in late spring.

Selection

The cannas used in gardens today are mostly *Canna generalis*, not the Indian shot, *Canna indica*. Today's cannas have two basic kinds of flower forms. Those flower spikes that are arranged close together on the stalk and have wide petals are often known as the gladiolus flowering cannas. Flowers that are arranged somewhat loosely, with narrow petals, are called the orchid flowering cannas.

Classification

Cannas are classified according to their height at maturity. They are divided into three distinct groups.

Group I - Very Tall Growing

Very tall growing cannas (also known as the "giant cannas") require some room to grow and display their flowers and foliage. Space them 2 feet (60 cm) apart. The older choices that are still popular are listed in Table 1 .

The newer cultivars introduced in the '50s belong to the "opera series." These cannas are exceptionally uniform in height, 4 feet (120 cm). They bear very large spikes of huge satiny flowers, and all possess green foliage. Their cultivar names are all operatic (Table 2).

Group II - Low Growing

The latest and most useful introductions and also the most expensive come from the famous Pfitzer Nursery in Stuttgart, Germany. These cannas never exceed 36 inches (90 cm) tall in open gardens, and 24 inches (50 cm) in containers. They are perfectly suited to small gardens, apartments, terraces, roof gardens or any other area with limited space. They grow very well in tubs on porches and patios. The leaves are all green and the flower spikes are large with well proportioned flowers. The colors are unusual, and the cultivars bear descriptive names, (Table 3).

Group III - Dwarfs

The dwarf cannas are usually restricted in their use to borders, accents in front of shrubs, or in beds with mixed annuals and perennials. They grow 16 inches (40 cm) to 18 inches (45 cm) tall. All have green foliage and "dwarf" names (Table 4).

Problems

Cannas generally do not have the many problems so common to other annuals or perennials. Canna leaves are covered with a waxy substance that repels water. It is for this reason that diseases on cannas cannot establish themselves even though the relative humidity is high and rainfall very high. Diseases develop on occasion, and these are usually restricted to dead tissues where withered flowers have been allowed to remain on the flower stalk (*Botrytis* sp.). The removal of spent flowers consequently will remove the disease organism.

The most troublesome insects that infest cannas are grasshoppers and caterpillars. Results of heavy infestations will render the canna worthless as an ornamental plant. Caterpillars will infest the young uncurling growing points and chew through them.

Small holes straight across the developing leaf blade are a sure sign of caterpillar infestation, and in severe infestations half of the leaf blade may disappear. Observing plants carefully for chewing insects and applying the appropriate insecticide at once will ensure beautiful plants all summer.

Another problem frequently mistaken as insect damage is parallel tears in the leaves. When leaves are examined closely, the insects are nowhere to be seen and there are none of the droppings so typical of insect infestation. This problem is not caused by insects but by water stress followed by an abundance of water. Once this happens, there is not much that can be done. The problem, however, can be prevented by periodically supplying water during dry spells.

Table 1. Very tall growing cannas.

Cultivar	Flower Color	Foliage	Height	
			ft	cm
Red King Hubert	scarlet	copper bronze	4.5	135
Yellow King Hubert	golden yellow	green	4.5	135
King Midas	golden yellow	green	3.0	90
Mrs. Alfred F. Conrad	salmon yellow	green	4.0	120
Rosamund	red with dark border	green	3.0	90
Orange Hubert	orange	bronze	4.5	135
The presidents	scarlet	green	4.0	120
Richard Wallace	golden yellow	green	4.0	120
Wyoming	orange bronze	bronze	6.0	180
City of Portland	deep pink	green	4.0	120
The ambassador	salmon pink	ruby red	4.0	120

Table 2. Cannas in the "opera series".

Cultivar	Flower Color
Aida	salmon
La Boheme	peach-pink
La Traviata	old rose
Madame Butterfly	yellowish-pink
Rigoletto	bright yellow

Table 3. Low growing cannas.

Cultivar	Flower Color
Rosen Kavalier	coral rose
Stadr Fellbach	gold orange
Shell pink	pink
Cherry red	red
Porcelain rose	rose
Primrose yellow	yellow
Chinese coral	coral
Scarlet beauty	scarlet
Salmon pink	salmon pink
Tiger lily	yellow petals splotched with red

Table 4. Dwarf cannas.

Cultivar	Flower Color
Doc	deep red
Grumpy	rose red
Happy	yellow
Seven dwarfs	mixed
mixed	(rose, red, orange, yellow and salmon)