

Hibiscus in Florida¹

D. L. Ingram and L. Rabinowitz²

The Chinese hibiscus, *Hibiscus rosa-sinensis* L., is probably the most popular and widely planted shrub of the tropics. This colorful shrub has been grown in Florida for many years, but it is believed to be native to China and was introduced to Florida by way of the South Pacific and Hawaii.

Little is known about the early history of tropical hibiscus. Early Chinese hibiscus may have been hybrids involving two or more species from areas adjacent to the Indian Ocean. Today, most of the varieties that are commonly grown in Florida and known as *Hibiscus rosa-sinensis* L. are probably hybrids. Other *Hibiscus* species such as *H. schizopetalus* and *H. tiliaceus* are used limitedly in south Florida. The Florida Exotic Pest Council has reported *H. tiliaceus* to be an invasive plant.

Most hibiscus varieties have one-day flowers; the blossoms open early in the morning and wilt late that afternoon. Flowers of a few varieties remain open for two days. Although individual flowers do not last long, the flowering season is nearly all year in southern Florida. Most hibiscus are odorless, but a few varieties are slightly fragrant.

Selection of Varieties

Hibiscus varieties are selected on the basis of plant growth habit and size, the form and color of the flowers, and adaptability to specific environmental conditions. Plants range from low, spreading forms to upright varieties reaching 20 feet (6 meters) in height. Some are compact and dense while others are open and thin.

Tremendous flower variations exist between varieties. Although the six basic colors are red, orange, yellow, white, lavender, and brown, there is a broad range of color combinations, color shades, and flower forms. Hibiscus flowers are basically characterized as single or double forms with variations in the number and arrangement of petals.

Hibiscus flowers are often used in flower arrangements. Picked flowers do not have to be placed in water but should be kept in a reasonably cool place. Hibiscus flowers may be saved for evening use if picked just after they have opened in the morning and refrigerated until needed.

Hibiscus are used in the landscape as informal hedges or screens, foundation plants, or background

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 2. D. L. Ingram, former professor and extension horticulturist; L. Rabinowitz, former horticulture agent, Sarasota County, Environmental Horticulture Department, Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida, Gainesville FL 32611.
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for other garden plants. They do not perform well as formal sheared hedges. The repeated use of a single variety in hedges and other mass plantings is usually more effective than a mixture of several varieties. Selected varieties may be trained to grow with a single trunk and are called "standards." Standards make attractive specimen plants for patios, terraces, and flower gardens.

Hibiscus breeders are still active in Florida as evidenced by the hundreds of named varieties found today. In general, the older varieties that grow well on their own roots are the most desirable for use in the landscape. Many of the newer varieties grow well only as grafted plants and are not widely available. All varieties can not be listed in this publication, but a few common varieties are presented in Table 1.

General Culture

The use of hibiscus as an evergreen shrub in Florida is limited to the southern half of the peninsula. The limiting factor for growing hibiscus in north Florida is low temperatures. Plants will be killed to the ground by 28 to 30°F (2 to 1°C) temperatures, but established plants may come out in the spring and bloom on new growth that summer. Hibiscus should be protected from cold northern winds by fences, buildings, screens, or trees. Hibiscus are not tolerant of salt spray or saline irrigation water.

The amount of sun required for optimal hibiscus growth and flowering differs with variety. Generally, half a day of direct sunlight is the minimum requirement.

Soils

A wide range of well-drained soils is suitable for hibiscus if proper fertilization is provided. A soil pH of 5.5 to 6.5 is preferred. Hibiscus grown on alkaline soils may suffer from micronutrient deficiencies and these are discussed in the fertilization section.

Planting and Transplanting

Container-grown hibiscus can be planted any time during the year, but transplanting in the yard is best done during the cooler months.

The planting hole should be one foot (30 cm) wider than the root ball and as deep as the root ball is tall. Hibiscus should be planted at the same depth as they were in the container or field. Staking may be necessary.

The novice hibiscus gardener often plants the hibiscus too close together. Plants should be spaced on the basis of their mature size. A three and one-half to four feet (one meter) spacing is recommended for a hedge, but four and one-half to five feet (one and one-half meters) is appropriate in garden areas and foundation plantings.

Plants should be watered thoroughly immediately after planting and frequently enough to prevent wilting until they are well established. However, the soil should not be kept continuously wet. The proper frequency will depend upon soil characteristics, rainfall, air temperature, and degree of cloud cover.

An organic mulch will conserve water, reduce weed problems, and help control nematodes. Good mulches include cypress or pine bark, oak leaves, or pine needles. Do not place mulch in contact with the hibiscus stem.

Watering

Hibiscus require well-drained soils and do not tolerate saturated soils or "wet feet." However, they do require adequate water and will need regular irrigation during periods of drought. Hibiscus should be watered heavily about once a week during dry periods. Apply enough water to wet the soil to a depth of 12 to 18 inches (30 to 45 cm).

Fertilization

Regular fertilization of hibiscus is essential to maintain healthy and vigorous plants. Hibiscus bloom best when fertilized lightly and often. Three or four applications per year have proven satisfactory: 1) early spring, 2) after first growth flush, 3) midsummer, and 4) early winter. The amount of fertilizer per application depends on frequency of fertilization and size of the plants.

The rate may range from one-half ounce of 15510 or 15515 fertilizer for a small plant, up to

one-half or one pound (225 to 450 grams) for a mature plant per application. Some hibiscus growers fertilize once a month all year round, applying from a small handful to one-half cup of fertilizer per plant, depending upon the size of the plants. Spread the fertilizer beneath the canopy to slightly beyond the branches and avoid fertilizer placement on or near the stem. Irrigation after fertilizer application will help prevent fertilizer burn.

An ample supply of micronutrients is essential for proper growth of hibiscus. Iron and manganese are often limiting on alkaline soils. Manganese sulfate at a rate of one to two ounces (28 to 57 grams) per plant has proven helpful. Some iron chelates, such as Sequestrene 138[®], are designed for alkaline soils and will often correct iron deficiencies. Commercial mixtures (Perk, Stem, Esmigram) containing many micronutrients have proven to be effective and convenient for the home gardener. Extreme soil conditions, such as the lime-rock soils of the Miami-Homestead area, may limit the effect of soil applications of micronutrients. Foliar sprays of micronutrients applied two or three times per year may be the only way to reduce symptoms in these conditions.

Pruning

Heavy pruning is best done in the early spring (February or March) and should not be done late in the fall or in the winter. Light maintenance pruning may be done any time of the year to remove diseased or dead wood, rubbing branches, and weak or droopy growth.

Hibiscus blooms are produced on new growth, so blooming is delayed and reduced if the plants are pruned heavily during the active growing season. Plants can be pruned to maintain a desired size and shape without disrupting their blooming or appearance by cutting only the longest one-third of the branches at one time. The next longest third of the branches may be cut 30 days later, and the remaining third cut 30 days after that. Light, periodic pruning avoids the need for heavy pruning.

Propagation

Hibiscus can be propagated from seed or cuttings, or by air layering, budding, or grafting. Seedlings are quite variable and are never identical to the parent plants, so seedlings are grown primarily by hibiscus breeders.

Cuttings are taken from softwood or new growth in the spring and summer and placed in a well-drained medium, such as equal volumes of fibrous peat and coarse builders' sand. These cuttings will usually root in about six weeks and the plants produced will begin to flower in about nine months. When hibiscus are propagated commercially, the cuttings are usually treated with a rooting hormone and rooted under a mist system. Intermittent mist is the best method for maintaining cuttings in high humidity during rooting.

Some varieties do not root readily from cuttings and air layering becomes a useful alternative. Branches one-half inch or larger are girdled by removing a one-half-inch-wide to one-inch-wide band of bark (1.3 to 2.5 cm). Moist sphagnum moss is placed around the wound, sealed with a plastic wrapper, and secured with rubber bands, tape, or string. Newspaper or aluminum foil can be wrapped around the plastic to shade the newly formed roots and prevent birds from pecking through the plastic.

Hibiscus can also be propagated vegetatively by grafting or budding. The techniques result in plants that combine two different varieties, the entire top portion being one variety and the root stock another. Grafting or budding is used primarily to propagate varieties that are highly susceptible to nematodes or do not produce strong plants on their own roots.

Pests and Problems

Pests

Several types of chewing pests feed on hibiscus leaves, buds, or flowers at one time or another. These include caterpillars, grasshoppers, snails and slugs, beetles, cutworms, and leaf miners.

Pests that damage hibiscus by sucking plant juices can also be a problem. These include scale, mealybugs, spider mites, aphids, whiteflies, and

thrips. These pests are generally more of a problem in areas with poor air circulation. Control of these pests can be difficult if large populations are allowed to develop. Thrips generally feed on flower buds and may produce distorted flowers or cause flower bud drop.

Generally, pests can be controlled with applications of contact or systemic pesticides. Routine inspections instead of routine spray schedules may reduce the quantity of pesticides required. Hibiscus are sensitive to many pesticides and this sensitivity can be increased by improper use. The safest time to spray is early morning and not in the middle of a hot sunny day. Specific recommendations for control of a given insect on hibiscus can be obtained from your local county extension office. Always read the label before applying a pesticide.

Common diseases of hibiscus include leaf spot, canker, and mushroom root rot. Canker is a fungus disease which causes twigs and branches to die back and sometimes the entire plant is killed. Reddish-orange fruiting bodies can often be found on diseased bark. The best control is to prune off and destroy all diseased wood.

Hibiscus infected with mushroom root rot usually wilt suddenly and die a short time later. Poorly drained soils and buried tree stumps or roots encourage this disease. Dead or dying plants should be removed with as much of the root system as possible, and the soil should be replaced or sterilized before replanting.

Leaf spots caused by various fungi and bacteria can occur on hibiscus. These diseases may cause the death of affected leaves, but usually the spotting is minor and little cause for alarm. The primary control of these diseases is to pick off or rake up diseased leaves and destroy them.

Nematodes are microscopic round worms that feed on plant roots and can cause severe plant injury. Sometimes the only symptom is a decrease in plant vigor. Visual symptoms also include frequent wilting, poor growth, small leaves, and nutritional deficiencies. Soils can be sterilized before planting, but no chemical control measures are available to

treat established plants. Mulching can reduce nematode damage by encouraging their natural enemies.

Problems

Premature flower bud drop is often a problem with hibiscus. Some varieties, especially some doubles, are characterized by premature bud drop. Some varieties bloom well during one period of the year and consistently drop their buds at other times. The importance of variety selection is illustrated by this point.

Bud drop can be caused by insects such as thrips or caterpillars. Nematodes, nutritional deficiencies, overfertilization, and environmental factors such as poor drainage and excessive water, drought, or salt spray can cause flower buds to drop.

Table 1. Common varieties of hibiscus.

| Variety Name | Flower Color | Flower Type | Flower Size* | Plant Form |
|-----------------------------------------------------------------|-----------------------------------|-------------|--------------|-----------------|
| White Flowers | | | | |
| Elephant Ear | Ivory | Double | L | Upright |
| <i>Comment: Good grower</i> | | | | |
| Ruth Wilcox | Pure white | Single | M | Upright, full |
| <i>Comment: Flower open 2 days, fragrant</i> | | | | |
| White Dainty | Pure white | Single | S | Open |
| Pink to Rose Flowers | | | | |
| American Beauty | Deep rose | Double | L | Upright, dense |
| <i>Comment: Good for hedge</i> | | | | |
| Dainty (La France) | Light pink | Single | S | Open |
| <i>Comment: Free bloomer</i> | | | | |
| Flamingo Plume | Flamingo pink | Double | L | Spreading, full |
| <i>Comment: Free bloomer</i> | | | | |
| Kona | Bright pink | Double | L | Spreading, full |
| <i>Comment: Free bloomer</i> | | | | |
| Mary Morgan | Light pink | Double | L | Tall, full |
| <i>Comment: Good for hedge</i> | | | | |
| Miami Lady | Carmine pink, with reddish center | Single | L | Tall, full |
| <i>Comment: Good for larger hedge, fair bloomer</i> | | | | |
| Minerva | Rose pink | Single | L | Upright |
| <i>Comment: Good for hedge and standard, free bloomer</i> | | | | |
| Mrs. Mary Johnson | Creamy pink with lighter center | Single | XL | Spreading |
| <i>Comment: Medium size plant</i> | | | | |
| Peachblow | Peach-pink | Double | M | Upright, dense |
| <i>Comment: Medium size plant, good bloomer, good for hedge</i> | | | | |
| Ross Estey | Pink and buff | Single | L | Upright, open |
| <i>Comment: Flower open 2 days</i> | | | | |
| Red Flowers | | | | |
| Anderson's Double Yellow Red (Celia, Red Dragon) | Scarlet | Double | M | |
| <i>Comment: Good for hedge, free bloomer</i> | | | | |
| Brilliant (Single Scarlet) | Scarlet | Single | L | Tall, full |
| <i>Comment: Well-branched, good for hedge, good bloomer</i> | | | | |
| Florida Sunset | Red with yellow edge | Single | M | Compact |
| <i>Comment: Medium-small plant, free bloomer</i> | | | | |
| Lamberti | Blood red | Double | L | Upright |
| <i>Comment: Good specimen plant, shiny foliage</i> | | | | |
| Psyche | Dark red | Single | S | Open |
| <i>Comment: Ruffled, reflexed petals, free bloomer</i> | | | | |
| Scarlet giant | Scarlet | Single | XL | Tall, open |
| <i>Comment: Good specimen plant</i> | | | | |
| Yellow Flowers | | | | |
| Crown of Bohemia | Golden yellow with bronze center | Double | L | Compact |

Table 1. Common varieties of hibiscus.

| Variety Name | Flower Color | Flower Type | Flower Size* | Plant Form |
|------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|-------------|--------------|---------------|
| <i>Comment: Good winter bloomer</i> | | | | |
| Hilo Island | Pale yellow | Double | L | Upright |
| <i>Comment: Good specimen plant, fragrant</i> | | | | |
| Jim Hendry (Hula Girl) | Yellow with red throat | Single | L | Upright |
| <i>Comment: Flower open 2 days</i> | | | | |
| Mrs. James E. Hendry (Full Moon) | Light yellow with white center | Double | L | Upright |
| <i>Comment: Fragrant</i> | | | | |
| Old Gold | Golden yellow with rose | Single | L | Large, full |
| <i>Comment: Well-shaped, good bloomer</i> | | | | |
| Peggy Hendry | Yellow | Double | L | Upright, full |
| <i>Comment: Free bloomer</i> | | | | |
| Penny's Sunset (Delight) | Yellow | Single | L | Upright, open |
| <i>Comment: Good for hedge, free bloomer</i> | | | | |
| Veronica | Saffron yellow with rose throat | Double | XL | Upright, open |
| <i>Comment: Good specimen plant</i> | | | | |
| Orange Flowers | | | | |
| All Aglow | Orange with yellow spots and pink center | Single | L | Upright, open |
| <i>Comment: Multi-colored flower, good specimen plant</i> | | | | |
| Euterpe | Salmon-orange with reddish center | Single | M | Upright, full |
| <i>Comment: Good for hedge or background</i> | | | | |
| Senorita | Orange | Double | L | Upright |
| <i>Comment: Free bloomer, good specimen plant</i> | | | | |
| *Small (S) = 3 inches (8 cm); Medium (M) = 4-5 inches (10-13 cm); Large (L) = 5-6 inches (13-15 cm); Extra Large (XL) = 6-7 inches (15-18 cm). | | | | |