

Ancient art and writing provide documentation that some hibiscus varieties have been used in China since the "dawn of history." This showy tropical plant has a number of assets that have contributed to its popularity. It tolerates warm sunny climates and will grow into a large 15-foot shrub in Southern landscapes where temperatures rarely drop below 50°F. In cooler Northern areas, it performs admirably as a patio plant in the summer, and as a houseplant in a sunny window during the winter. Its glossy, green foliage provides an excellent backdrop for the vivid red, yellow, white, or bi-color single or double flowers (Figures 17-1a and 17-1b). Hibiscus are typically produced as 4.5-, 6-, 8-, or 10-inch pots for use as house plants or as flowering plants for patios, window boxes, and even bedding plants.

### Propagation

Propagation of hibiscus is typically done via cuttings, either from stock plants or from pinches of plants already in production. Some growers opt to buy in liners and save one month or more in production time.

Because the demand for hibiscus is high during spring and summer, ensuring cutting supply during the winter and early spring is very important. In Northern areas, this often means using HID supplemental lighting to support stock plant growth and ultimately cutting supply.

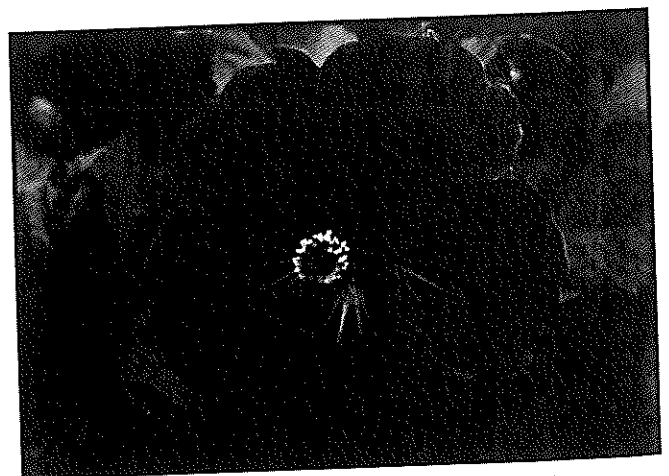
Four- to 5-inch cuttings with three to four internodes are stuck into small pots or even finished pots

filled with a coarse, porous mix and placed under intermittent mist or in a white (summer) or clear (winter) plastic tent. Many growers will remove the largest leaves from the cuttings to minimize leaf overlapping, improve light penetration, and minimize disease problems. Dead leaves should be continually removed. Cuttings started in plastic tents should receive a fungicide spray every two weeks to minimize *Botrytis* problems. A fungicidal drench at the time of sticking is beneficial.

Rooting time will vary from four to eight weeks. Bottom heat of 72 to 75°F will shorten rooting time to the lower end of the scale. Rooting hormones are not required to aid rooting of hibiscus cuttings, but they can hasten the rooting process and are often recommended with some cultivars. These factors, plus those associated with the variability of location and season, result in production time differences (from cutting to finished plant) of 14 to 18 weeks or more.

### Growing On

Because hibiscus require high light and warm temperatures for fastest production and best quality, Northern, Northwestern, Mid-Atlantic, and Mid-Western growers should start production during the spring months of March through June. Southern and Southwestern growers have the opportunity for year-round production since better light and temperature conditions prevail.



Figures 17-1a and 17-1b. Hibiscus bear large showy flowers that are accented by the dark green foliage (left). Individual flowers have five petals with conspicuous reproductive tissues extending from the center (right).

**Root Medium/Irrigation.** Use a well-aerated mix, but be sure that sufficient moisture can be retained since plants should never be allowed to wilt. Wilting will cause leaf yellowing and drop as well as flower bud drop. Most commercial soilless growing media are satisfactory. Soilless media pH should be 5.5 to 6.2. As with all potted plants, use a water quality analysis (e.g. alkalinity, nutrient content) as part of a comprehensive nutrition program.

**Fertilization.** Use a constant fertilization program of 200 ppm N from an N-P-K fertilizer which has the majority of N as the nitrate form and contains extra micronutrients as in the "Peat-Lite Specials." Example formulas are 20-10-20, 15-11-29, 15-16-17, and 20-1-18. During periods of rapid growth, 400 ppm N may be needed to maintain proper leaf color. Plants may also benefit from drench applications of Epsom salts (magnesium sulfate 8 oz. per 100 gal.) every six weeks to prevent lower leaf interveinal chlorosis caused by magnesium deficiency. Chlorosis on upper leaves is likely because of iron deficiency caused by poor roots, low iron supply, or a pH that is too high. Iron chelate drenches (4 oz. per 100 gal.) could be used to alleviate iron deficiency if roots are healthy.

**Light/Temperature.** These two environmental factors greatly affect plant size and production timing. Hibiscus require maximum available light with 65 to 70°F night temperature and 75 to 85°F day temperature for fastest production and best quality. Lower light and lower temperature greatly reduce growth and extend production time.

**Pinching.** Pinching is used to create rounded, bushy plants. The number of pinches depends on the container size, number of plants per container, and desired plant size. The first pinch is made when plants are established, usually 10 to 17 days after planting. Most of the soft new growth should be removed at pinching for best branching. Do not make pinches into harder stem tissue unless needed to control unruly shoots. This will delay branching and flowering.

To create a well-rounded plant, pinches should be made whenever plant height exceeds plant width. Under ideal growing conditions, there will be three to four weeks between pinches. This time will be greatly extended under lower light and temperature. The final pinch should be given 9 to 12 weeks prior to sale.

**Spacing.** Plants can be kept nearly pot-to-pot until the final pinch is given, as long as leaves from adjacent plants do not overlap. Final spacing should be given right after the last pinch.

**Growth Regulators.** Under good growing conditions, plants may stretch excessively between pinches or after the final pinch and will require growth regulators to control this stretch. Cycocel and Bonzi are both labeled for use on Hibiscus. Cycocel is more commonly used since it controls height but also helps provide uniform bud set. Bonzi is useful to control runaway stretch, but it does not have the bud promotion characteristic of Cycocel.

In general, a Cycocel spray of 460 ppm (.5 oz. per gal.) is applied when new shoots after each pinch are 1 to 2 inches long. After the final pinch, the Cycocel spray can be applied every two weeks to control height if needed. Sprays can be continued until flower buds are approximately pea size.

**Insects and Diseases.** The primary insect pests are whiteflies, aphids and spider mites. Do not use Diazinon, Lannate, Malathion, or Plictran on Hibiscus, or leaf damage may occur.

There are few disease problems on Hibiscus. A standard combination drench of Subdue and Cleary's 3336 can be used for root rot protection if needed. Daconil 2787 or Chipco 26019 can be used as foliar fungicides if needed.

Before using any pesticides, be sure they are registered for use in your state. Check with your local county Extension agent or state university Extension Service. Always follow label directions.

**Care and Handling.** Hibiscus should be sold when two to three flower buds show color. The largest buds will open in one to three days. Storage and shipping temperatures should be between 50 and 60°F.

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