



Beautify your environment with a window box like the one here. Above are Potato Vine, two types of Coleus, and some Licorice plant.

Plant Selection Guide Ornamentals



African violets (*Saintpaulia*) are the most popular flowering perennial houseplants. With proper care, they bloom almost continuously. Most are hybrids developed

from several East African natives. Leaves form rosettes of velvet green leaves that are roundish or pointed. Blossoms of original species range from pale blue to lavender and purple. Hybrid flowers range in color: blue, purple, white, many shades of pink, and burgundy. Yellow flowers are available, but they change back to pink or purple after blooming several times. A few hybrids have bands of colors. Flowers can be single, semi-double, or double, and can have ruffled petals.

These plants grow best in a fast-draining, moisture-retentive potting soil. A popular mix is three parts peat moss or coco peat, one part well-rotted compost, and one part perlite. Use small pots. Crowded roots make African violets bloom best.

African violets require low levels of light and grow very well under fluorescents and

compact fluorescent bulbs. Place close to fluorescents—two to six inches (5–10 cm) and in a dim area of the indoor garden lit with HID light. Give parent plants and cuttings of this short-day plant 18 hours of light a day at a level of 6000 (miliwatts per square meter) mWm². Flowering is induced with a short 12- to 14-hour photoperiod.

A temperature range of 60–70°F (16–21°C) and high humidity, above 70 percent, are best. In low humidity conditions, place a saucer filled with expanded clay or gravel below the container. Keep the plate wet to increase humidity around plants. Apply water from below or above, but be careful to not let water sit on leaves or stand around rosette center, which will cause leaves to rot. Irrigate with tepid water to avoid shocking plants. Water until soil is soaked, and do not water again until soil is dry to touch. Fertilize only when soil is moist. Use a slightly acidic fertilizer once every two to four weeks. Plant seeds, or propagate via leaf cuttings or plant division. Common pests include aphids, mites, thrips, and mealybugs.



Begonia

Begonias (*Begoniaceae*) need filtered sunlight and can be placed under the HID in low-light areas of the garden room. These perennials grow textured, multicolored foliage with colorful flowers. Flowers are edible, with a subtle citrus flavor. They are native to numerous subtropical and tropical regions around the globe. They grow very well in hanging baskets around the indoor garden, in greenhouses or lath houses, and can be moved outdoors into filtered shade. They need nutrient-rich, fast-draining soil and bloom best when they receive consistent, light feeding. Keep the soil moist but not soggy. Humidity should be at or in excess of 40 percent but less than 80 percent for best results. In dry areas, fill trays below pots with expanded clay, and keep water in the trays. Begonias are easy to propagate asexually by leaf, stem, or rhizome cuttings.

Supplemental lighting promotes cuttings for the varieties 'Rieger', 'Elatior', and 'Lorraine' when natural light is lacking. A light level of 6000 mWm² is the norm. Use 6000 mWm² for 18 hours a day to nurture young seedlings and to speed flowering. Rooting is stimulated in begonia cuttings by artificial light.

There are many different kinds of begonias including cane-type, hardy, *Hiemalis*, *Multiflora*, *Rex*, *Rhizomatous*, *Semperflorens*, shrub-like, trailing, climbing, and tuberous. There is one to fit your needs. Check your local nursery for available varieties.

Impatiens (*Balsaminaceae*) are native to regions from the Himalayas to New Guinea. They are one of the most popular blooming shade plants found in gardens today. Most are annuals or tender perennials that are grown as annuals.

Impatiens are revered for their long blooming season outdoors in summer. Indoors under lights, the blooming season can be extended. Foliage ranges in shape from pointed to somewhat round leaves and height from less than a foot to more than eight feet (2 m) tall and ten feet (2.5 m) wide. Impatiens are easy to grow. They grow best in moist, relatively fast-draining soil mix, moderate temperatures 60–80°F (15–22°C), and humidity that ranges from 40–80 percent. Grow in hanging baskets or around the indoor garden where they receive less intense HID light.



Impatiens

Of the hundreds of impatiens species, only the following are found in most gardens: *I. balforii*, *I. balsamina*, *I. glandulifera*, *I. roylei*, *I. holstii*, *I. walleriana*, and the relatively new *I. New Guinea* hybrids. The New Guinea hybrids can be upright or spreading and grow from one to two feet (25–50 cm) tall or taller and about the same width. Large, pointed leaves are often variegated with creamy or reddish spots. Large 2.5-inch-wide (10–15 cm) flowers on stems above foliage range

in colors from lavender, purple, pink, orange, red, and white. Check with your local nursery for the varieties of the above species that grow best in your area.



The **cactus** (*Cactaceae*) family includes many succulents. Most often leafless, cactus and succulents have stems that are adapted into barrel-like cylinders, pads, and joints that bank water during drought. Their thick skin decreases evaporation. Most species of cactus have spines to protect them against animal pests. Flowers are often brightly colored and large. Fruit is generally colorful and may be edible.

Virtually all cacti are native to the Americas. They can be from a few inches tall to as much as 50 feet (12 m). Smaller cacti are popular for indoor and greenhouse gardens. Most are very easy to grow and require fast-draining soil.

Give newly planted cacti and succulents very little water to avoid root rot until roots start strong active growth in four to six weeks. Once roots start active growth, drench soil and wait until soil is dry before watering again. Reduce watering in autumn to promote dormancy. Feed monthly during active growth.

One of my friends who lived in a rainy climate always dominated cactus competitions because his plants were grown under HID lights. Cacti and succulents—jade; miniature crassulas; Christmas, Easter, and Thanksgiving cacti, etc.—are some of the easiest to care for under lights. They require minimal care and infrequent watering but need lots of bright light.

In winter when the days are short, cacti greatly benefit from intense supplemental light. A lighting level of 9000 mWm² for 18 hours a day will produce phenomenal results in seedlings, cuttings, and adult cacti. Some varieties of cactus respond more favorably to 24 hours of light.



Calceolaria (*Scrophulariaceae*) are native from Chile to Mexico. Flowers form in loose clusters and are small and pouch-like. Flowers are most often yellow but can be bronze, red, and orange-brown. Numerous branches support dark green, wrinkled leaves. The *C. Herbeohybrida* Group and *C. integrifolia* are the most

popular varieties of this soft perennial and are normally grown as annuals.

Early flowering is achieved by applying supplemental lighting (3000 mWm²) for 24 hours a day from flower bud induction until flowering. Maintain the temperature between 60°F and 65°F for maximum productivity.



Carnations are in the **Dianthus** (*Caryophyllaceae*) family. More than 300 species and numerous hybrids are available. Flowers are single, semi-double, and double in white or different shades of orange, pink, red, and yellow, many of which are quite fragrant. The highly prized carnation is a very popular cut flower.

Members of the *Dianthus* family thrive in light, fast-draining soil. Some, such as carnations, sweet William, and cottage pinks need rich soil. Do not overwater. Carnations and sweet William are prone to rust and *Fusarium* wilt.

Carnations are propagated very successfully from cuttings and by using supplemental light. Side shoots from cut flowers make excellent cuttings. Cuttings are taken, then given 16 hours of light (6000 mWm²). Excessive flowering may occur if more than 16 hours of light per day is permitted. The carnation is a long-day plant. It is possible to light it 24 hours a day to grow more and more profuse flowers. However, after 18 hours of light