

Indoor Plants - Cleaning, Fertilizing, Containers & Light Requirements

Indoor plants are widely used in homes and commercial buildings such as offices, restaurants and shopping malls. They help us stay in touch with nature and, in a sense, "bring the outside indoors."

Cleaning

Indoor plants may collect dust or greasy films that dull their appearance, making them less attractive. Clean leaves are favorable to healthy growth. Also, cleaning helps control insects and enhances the plants' attractive-ness. Products that clean and shine leaves are generally not recommended because the waxy coating residue may interfere with air exchange. Never use these products on plants that have hairy leaves, such as African violets.

The best way to clean leaves that are not hairy is to dampen a soft cloth with water and wipe the lower and upper surfaces of each leaf. An alternative is to place the entire plant outdoors or in the shower to rinse it off. Plants with hairy leaves should not be dusted with a wet cloth but with a soft cosmetic brush. A pressure sprayer may be employed.

Fertilizing

All plants require certain essential elements for proper growth. Indoor plants, in low light conditions of the interior environment, have reduced fertilizer requirements.

Observation will guide you in determining a plant's fertilizer needs. As a rule, applications should be more frequent when the plants are in their growth stage(s). This is usually in the spring and summer when sunlight intensities increase and the days are warmer and longer. During the short days of winter, many indoor plants that receive little or no artificial

light enter a "resting stage." If plants go into a winter rest period, do not give them fertilizer.

Frequency of fertilizer application varies somewhat with the vigor of growth and age of each plant. Rapid, new growth is often undesirable, as plants may outgrow their locations. As a rule, fertilizer applications should be more frequent when the plants are growing. Fertilize at the recommended label rate every two or three months, or dilute the fertilizer to about one-tenth the recommended rate and use this solution at every watering during the growing season. An alternative to these methods is to fertilize every seventh watering.

A complete fertilizer (one that contains nitrogen, phosphorous and potassium) is an excellent choice for indoor gardens. Choose a balanced fertilizer for foliage plants, such as 20-20-20, and one that is higher in phosphorous for flowering plants, such as 15-30-15. These numbers represent the percents by weight of nitrogen, phosphorus and potassium in the fertilizer.

Fertilizers are available for indoor plants in liquid form, water-soluble granules and slow-release forms (granules, stick or tablets). Water-soluble fertilizers are often preferred because dilute solutions reduce the potential for fertilizer burn.

Soils that have a white film on the surface or pots with a white crust on the rim or drainage hole may indicate that the plant is being overfertilized and/or possibly overwatered. Salt buildup in the soil can lead to root damage, causing symptoms such as reduced growth, brown leaf tips, dropping of lower leaves and wilting of the plant.

The most effective way to prevent soluble salt injury is to prevent the salts from building up. Water correctly by watering the soil thoroughly and allowing the excess to flow out of the drain holes into a tray which is emptied.

Indoor Containers

Many types of containers can be used for growing plants. Most pots with bottom drainage holes are made of plastic, ceramic or clay, whereas decorative containers without drainage holes may be made of clay, ceramic, plastic, wood, copper, brass and various other materials.

It is important to choose the correct size container for the plant. Containers too small or too large present an unbalanced appearance. An appropriate container should provide room for soil and roots, allow sufficient headroom for proper watering, and be attractive without competing with the plant.

Two methods for potting indoor plants are: (1) planting directly in the container and (2) placing a potted plant in another, more decorative container ("double-potting"). When plants are potted directly in the container, the container should have a drainage hole and a tray to catch the excess water. If the pot does not have a drainage hole, place a layer of coarse gravel in the bottom to allow a space for excess water (it is important not to saturate soil in such containers). The "double-potting" technique can be used with decorative containers with or without drainage holes. The smaller, interior pot should have a drainage hole. If the decorative pot does not have a drainage hole, place a layer of gravel in this pot, and place the potted plant on the gravel layer. No gravel layer is necessary if the decorative pot has a drainage hole. Be sure to place a tray beneath the pot to catch the excess water. Never place pots directly in contact with the carpet, floor or furniture as moisture can damage its surroundings.

Clay pots are porous and allow air movement through the sides of the pot. This allows the soil to dry and oxygen to reach the roots. Nonporous containers prevent water from evaporating through the sides, thus, plants require less frequent watering than those in clay pots.

Light Requirements

The environment in our homes dictates which plants will grow vigorously and which will suffer. The most important environmental factor in growing plants indoors is adequate light.

Light provides the energy source needed for plants to manufacture food. The amount of light is commonly measured in foot-candles (ft-c). The interior of a well-lighted home is often less than 100 ft-c, while outdoor light intensity on a clear sunny day may exceed 10,000 ft-c. Plants differ greatly in their light intensity requirements (see table). Indoor plants are often classified by the amount of light necessary for growth:

- Low (minimum 100 ft-c, 75 to 200 preferred for good growth)
- Medium (minimum 100 to 150 ft-c, 200 to 500 preferred)
- High (minimum 150 to 1000 ft-c, 500 to 1000 preferred)
- Very high (minimum 1000 ft-c, 1000+ preferred)

About 100 ft-c for 12 hours per day are necessary simply to maintain plant quality for one year, and at least 200 ft-c for 12 hours per day are necessary for foliage plants to manifest any benefit from fertilization.

With the exception of homes with a sunroom or greenhouse, few homes have areas with sufficient light levels to grow plants that require very high light (hibiscus, wax begonia, geranium). High light plants (weeping fig, English ivy, schefflera) can usually be grown well near windows or glass doors with western or southern exposures. Medium light plants (African violet, Boston fern, dumb cane) do well if placed within several feet of these light sources or in eastern exposures. Low light plants (peace lily, heart-leaf philodendron, cast-iron plant) can be placed several feet away from eastern exposures or in northern exposures. The amount of light at any given location will vary according to time of year (angle of the sun, day length), outdoor tree shading, window curtains and wall color (light reflection), as well as the location itself.

Inexpensive light meters are available.

Artificial lighting is widely used to supplement or replace natural light. Many indoor plants grow well under artificial light provided by fluorescent lamps

or special incandescent lights. A large variety of fluorescent lamps are available. Generally, ordinary incandescent lamps are not recommended for plants, as plants placed under them tend to stretch or become "leggy." It is possible to make up for lack of sufficient light by increasing the time or duration that the plant is exposed to light. Sixteen hours of light and eight hours of darkness are satisfactory for most plants. Use an electric timer to ensure the correct cycle each day.

While lack of sufficient light results in poor plant growth, too much light can also be harmful. Shade plants cannot tolerate excessively high light levels. When a plant receives too much direct light the leaves bleach or scald, sometimes dying. This often happens after moving a plant outdoors in direct light. Any changes in light intensity should be gradual.

**Light Requirements in Footcandles (Ft-C)
for Some Common Indoor Plants - Low Light (100 ft-c)**

Botanical Name	Common Name
<i>Aglaonema commutatum</i>	Silver Evergreen
<i>Aglaonema commutatum</i> cv. Silver King	Silver King Evergreen
<i>Aglaonema modestum</i>	Chinese Evergreen
<i>Aspidistra elatior</i>	Cast-iron Plant
<i>Aspidistra elatior</i> cv. Variegata	Variegated Cast-iron Plant
<i>Chamaedorea elegans</i>	Parlor Palm
<i>Epipremnum aureum</i>	Golden Pothos
<i>Epipremnum aureum</i> cv. Marble Queen	Marble Queen Pothos
<i>Monstera deliciosa</i>	Split-leaf Philodendron
<i>Sansevieria trifasciata</i>	Snake Plant
<i>Sansevieria trifasciata</i> cv. Laurentii	Goldband Sansevieria

**Light Requirements in Footcandles (Ft-C)
for Some Common Indoor Plants - Medium light (100 to 150 ft-c)**

Botanical Name	Common Name
<i>Aechmea fasciata</i>	Silver Vase
<i>Asparagus densiflorus</i> cv. Myers	Plume Asparagus
<i>Asparagus densiflorus</i> cv. Sprengeri	Sprengeri Asparagus
<i>Asparagus setaceus</i>	Fern Asparagus
<i>Aucuba japonica</i> cv. Variegata	Gold-dust Plant
<i>Brassaia actinophylla</i> *	Schefflera
<i>Brassaia arboricola</i> *	Dwarf Schefflera
<i>Caryota mitis</i>	Fishtail Palm
<i>Chamaedorea erumpens</i> *	Bamboo Plant
<i>Chlorophytum comosum</i> cv. Variegatum	Spider Plant
<i>Cissus rhombifolia</i>	Grape Ivy
<i>Dieffenbachia amoena</i>	Giant Dumbcane
<i>Dieffenbachia maculata</i>	Spotted Dumbcane
<i>Dizygotheca elegantissima</i>	False Aralia
<i>Dracaena deremensis</i> cv. Warneckii*	Striped Dracaena
<i>Dracaena fragrans</i> cv. Massangeana*	Corn Plant
<i>Dracaena godseffiana</i> *	Gold-dust Dracaena
<i>Dracaena marginata</i> *	Red-margined Dracaena
<i>Dracaena sanderana</i> *	Ribbon Plant
<i>Fatsia japonica</i>	Japanese Fatsia
<i>Ficus benjamina</i>	Weeping Fig

<i>Ficus elastica</i> cv. Decora	India Rubber Plant
<i>Ficus lyrata</i>	Fiddle-leaf Fig
<i>Ficus retusa</i>	Indian Laurel
<i>Gynura aurantiaca</i>	Velvet Plant
<i>Hedera helix</i> and cultivars	English Ivy
<i>Howea forsterana</i>	Kentia Palm
<i>Maranta leuconeura</i> cv. <i>Erythronera</i>	Red-veined Prayer Plant
<i>Nephrolepis exaltata</i> cv. <i>Bostoniensis</i>	Boston Fern
<i>Peperomia caperata</i> *	Emerald Ripple Peperomia
<i>Peperomia obtusifolia</i>	Oval-leaf Peperomia
<i>Philodendron bipennifolium</i> *	Fiddle-leaf Philodendron
<i>Philodendron scandens</i> subsp. <i>oxycardium</i> *	Heart-leaf Philodendron
<i>Philodendron selloum</i>	Tree Philodendron
<i>Pilea cadierei</i>	Aluminum Plant
<i>Pilea involucrata</i>	Friendship Plant
<i>Plectranthus australis</i>	Swedish Ivy
<i>Polyscias balfouriana</i> cv. <i>Marginata</i>	Variegated Balfour Aralia
<i>Saintpaulia</i> species, hybrids and cultivars	African Violet
<i>Spathiphyllum</i> cv. <i>Clevelandi</i>	Cleveland Peace Lily
<i>Spathiphyllum</i> cv. <i>Mauna Loa</i>	Mauna Loa Peace Lily
<i>Syngonium podophyllum</i> cv. <i>Trileaf Wonder</i> *	Trileaf Wonder Nephthytis
<i>Tradescantia fluminensis</i>	Inch Plant
<i>Zebrina pendula</i>	Wandering Jew
*May also be conditioned to grow in low light.	

**Light Requirements in Footcandles (Ft-C)
for Some Common Indoor Plants - High Light (150 to 1000 ft-c)**

Botanical Name	Common Name
<i>Aloe barbadensis</i>	Aloe Vera
<i>Alternanthera ficoidea</i>	Joseph's Coat
<i>Aphelandra squarrosa</i>	Zebra Plant
<i>Araucaria heterophylla</i>	Norfolk Island Pine
<i>Beaucarnea recurvata</i>	Ponytail Palm
<i>Cissus antarctica</i> **	Kangaroo Vine
<i>Citrofortunella mitis</i>	Calamondin Orange
<i>Coffea arabica</i>	Coffee
<i>Coleus blumei</i>	Coleus
<i>Cordyline terminalis</i>	Ti Plant
<i>Crassula argentea</i>	Jade Plant
x <i>Fatshedera lizei</i> **	Botanical Wonder
<i>Hibiscus rosa-sinensis</i>	Chinese Hibiscus
<i>Hoya carnosa</i> **	Wax Plant
<i>Iresine lindenii</i>	Blood Leaf
<i>Podocarpus gracilior</i>	Weeping Pododarpus
<i>Polyscias fruticosa</i>	Ming Aralia
<i>Rhoeo spathacea</i>	Moses-in-the-Cradle
<i>Schlumbergera</i> cv. <i>Bridgesii</i>	Christmas Cactus
<i>Sedum morganianum</i>	Burro's Tail
**May also be conditioned to grow in medium light.	

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