



Department of Horticulture

Purdue University Cooperative Extension Service • West Lafayette, IN

Indoor Plant Care

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Indoor plants help create a pleasant home environment. Small plants add color and scenery to windows or tables, while larger ones soften and blend with groups of furniture. As a part of the "indoor landscape," plants create a cool, spacious feeling, even in the warmest weather.

If you have been puzzled as to why some indoor plants thrive while others refuse to flourish, this publication is for you. Most indoor plant problems can be easily corrected and even more easily prevented.

First, realize that most of the foliage plants known as house plants are native to tropical areas. This is why, for instance, most indoor plants prefer a humid atmosphere and indirect light. Of course, there are exceptions, and these are also discussed. Keep in mind that sound cultural methods, preventive care, knowing your plant's requirements, and careful attention are the best substitutes for a green thumb.

Light

This publication includes a partial guide to the light requirements of some common indoor plants. Use it as a guide for the selection and placement of your plants. See Tables 2-4.

Plants vary considerably in their light requirements. For example, plants such as the croton need direct sunlight, while philodendrons will grow under lower light intensities. If plants are not receiving enough light, their leaves turn yellow and die.

Most people depend on natural window light for the growth of their plants. Natural light may be adequate if plants are close to windows. However, the amount of natural light a plant receives, decreases dramatically the farther it is placed from the window or its source of light. Usually, plants must be located close to windows to receive enough light for them to grow and flourish.

If window sill space is in short supply, hang basket planters, make glass shelves, or build a "bay window greenhouse" by extending the window and adding

shelves for plants that require higher light intensities. Light from reading lamps is also beneficial, but the new "broad spectrum" fluorescent lights are usually better. Generally, artificial, fluorescent light 10 to 14 inches above the plants will provide sufficient light for plants requiring medium light intensity, such as the pothos. A combination of one warm white to one cool white light is best. If your plants appear spindly, they need more light, should be closer to artificial light, or your fluorescent light bulbs are too old to produce the proper wavelength for growth and should be replaced. For even growth, turn the plants once a week so they receive light on all sides.

Temperature and Ventilation

Most indoor plants grow well between 60 and 75°F. They may become spindly if kept warmer. Always keep plants away from hot or cold drafts, warm appliances, and heat registers. Flowering plants will retain blossoms longer if lower temperatures are provided. Temperatures above 75°F hasten the death of flowers and make plants spindly as well as less resistant to disease and insect attack.

Some plants will thrive in hot and dry conditions. Table 1 cites examples of such plants.

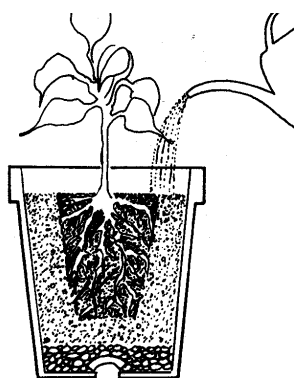
Proper ventilation is necessary for good plant growth. In most homes, ample fresh air is provided. However, guard against escaping fumes from gas appliances or furnaces.

Humidity

Most plants require a higher humidity than that of the average home. Any means of increasing humidity will be beneficial to your plants. Today many heating systems are provided with humidifiers, which should be kept full of water. Sprinkling or syringing plants with water is not effective as the water evaporates rapidly. Fittonia (*Fittonia verschaffeltii*), baby's tears (*Helxine soleirolli*), and strawberry begonia (*Saxifraga sarmentosa*) will tolerate high humidity conditions. Growing plants together in a terrarium or setting them on a tray of gravel with moisture in the tray are good ways to raise humidity.

Watering

Improper watering is the cause of most house plant problems. Both under- and over-watering can cause leaves to yellow and fall. Check plant soil daily to see if they need water (soil dry 1/4 inch down and tapped pot sounds hollow). If needed, add water until moisture drips out of the drainage hole of the pot. Wait a few minutes and water the plant again until moisture drips out of the drainage hole. Be sure to discard drainage water. Do not allow the bottom portion of the pot to stand in water.



With small plants, weight is a good indicator of when water is needed. Drier plants feel lighter than those with moist soil.

If you prefer, water from the bottom. Place the plant in a saucer of water until the top of the soil is moist. Then remove the plant and let excess moisture drain away. Never keep ordinary indoor plants standing in water continuously.

A well-drained soil mixture is essential for ease of watering. Heavy soil mixes hold too much water and often cause the plant to rot at the crown.

When watering, the water should be visible on the surface for not more than a few seconds. If it tends to stand on the surface, mix perlite or sand into the soil to improve drainage.

Note: Water all plants from the top once a month to prevent mineral or salts build-up, and be sure to water any plant before it wilts. A build-up of white or brown crusty material on the soil or rim of the pot indicates salt accumulation.

Fertilizing

Water your house plants with a dilute fertilizer solution, especially during the summer. Prepare a solution by mixing one teaspoon of soluble fertilizer in 1 gallon of water. Such fertilizer analyses as 20-20-20, 5-10-5, 4-12-4, or 7-7-7 may be used. Apply once a month during

the growing season. Often a grower will purchase a commercially prepared soluble fertilizer. He should then use it according to the directions on the container.

Slow release fertilizers save time. Follow the label directions. Apply amounts (usually given in teaspoons or tablespoons) to the soil. Each time you water, some nutrients are released. A new application can be given when recommended on the label. If you have fertilized plants through the summer months, little or no fertilizer is necessary during the winter. Plants should be allowed to become dormant at this time and produce little growth.

Soil Preparation

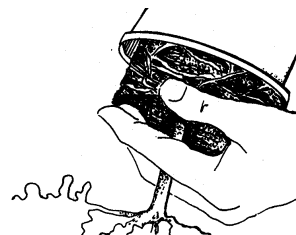
Adequate water drainage is essential for plants growing in containers. Ensure good drainage by mixing soil with liberal amounts of sand or perlite. These materials help aerify the soil, improve root growth, and allow water to easily penetrate the mixture.

A good soil mix includes two parts peat moss, one part sand, and one part perlite; or one part silt or clay loam garden soil, one part organic matter (peat moss), and one part coarse sand or perlite. Commercial potting soils can also be used. These usually require the addition of one part sand or perlite to improve drainage and plant growth.

Sterilize the soil mix to remove weed, insect, and disease organisms. Place the soil mix in an oven and heat to 180°F for 20-30 minutes. Tools and containers should also be sterilized. Wash equipment in a chlorine bleach-water solution (1:10 by volume) to kill disease organisms.

Repotting

In the spring when new growth starts, turn each of your plants upside down, tape the edge of the pot, and remove the plant. If the roots are in a solid mass, they need to be repotted. Shift the plant to a pot (with a drainage hole) 1 or 2 inches larger in diameter.



Fast-growing plants may need an even larger pot. Add new soil to the container. For most plants, use 1/3 sphagnum peat moss, 1/3 garden soil (loam), and 1/3 sand or perlite. For cactus, use 1/2 quartz sand and 1/2 garden soil. After adding soil, water as usual. You may

need to repot fast-growing plants more often than once a year. Usually you will not need to water as frequently for a few months after repotting.

When an indoor plant has reached a desirable size, do not repot it. Instead, remove some of the soil at the top of the pot at least once a year and replace with fresh soil.

Additional Care

Most plants, except those with hairy leaves, respond to an occasional bath. Syringing the plants occasionally with a fine spray of clean water removes accumulated dust and keeps the stomates (pores) open.

Some broad-leaved plants, such as palms, may be cleaned by rubbing with a soft cloth. Never use an oiled cloth. However, special leaf waxes, available in many florist shops, may be used on glossy-leaved plants without causing harm.

Use a fine, soft brush, such as camel's hair, to clean hairy-leaved plants. Never use leaf wax on these plants.

Climbing plants may be trained to make them attractive and easier to care for.

Summer Care

Many house plants can be invigorated by growing them outside during the summer. Remove all dead leaves and prune where necessary. Place the plants in a location suitable for their light requirement, e.g., low light requiring plants should be placed on a shady porch.

For minimum summer care, dig a hole, put gravel or cinders in the bottom, and set the pot so the top is at the original soil line. Mulch with peat moss, and water. Usually these plants need watering more often than when indoors.

During the summer, lift or twist the pot at least every month to prevent roots from growing through the drainage hole in the pots.

Lift the plants with their pots before they are endangered by autumn frosts and repot if necessary. Inspect the plants for any insect or disease infestations before returning indoors. A shower with plain water or insecticidal soap may take care of most insect problems. Contact your local county Extension agent for further advice, if needed. Be sure to follow all directions when using any pesticide.

Before you vacation, water all indoor plants well. Either have a "baby-sitter" water your indoor plants or move them out-of-doors as suggested. However, drying out can be delayed for a while if pots are sunk in moist vermiculite or peat moss and kept in a cool spot away from direct sun.

Table 1. Plants which will grow in hot and dry conditions.

Common Name	Scientific Name
Aeonium	<i>Aeonium arboreum</i>
Tiger Aloe	<i>Aloe variegata</i>
Zebra Plant	<i>Aphelandra squarrosa</i>
Echeveria	<i>Echeveria gigantea</i>
Mother of Thousands	<i>Kalanchoe daigremontiana</i>
Air Plant	<i>Kalanchoe pinnata</i>
Lamb's Ear Kalanchoe	<i>Kalanchoe tomentosa</i>
Sedum	<i>Sedum</i> sp.

Table 2. Plants which will grow in low, indirect light, such as sunlight filtered through a curtain to shadowless light from a north window. Location usually more than 8 feet from windows, no direct light - dull hallways.

Common Name	Scientific Name
Chinese Evergreen	<i>Aglaonema commutatum</i>
Pewter Plant	<i>Aglaonema crispum</i>
Chinese Evergreen	<i>Aglaonema simplex</i>
Birds-nest Fern	<i>Asplenium nidus</i>
Cast-iron Plant	<i>Aspidistra elatior</i>
Bamboo Palm	<i>Chamaedora erumpens</i>
Parlor Palm	<i>Chamaedora elegans</i>
Corn Plant	<i>Dracaena fragrans</i> 'Massangeana'
Pleomile	<i>Dracaena reflexa</i>
Heart-leaf Philodendron	<i>Philodendron scandens</i> subsp. <i>oxycardium</i>
Snake Plant	<i>Sansevieria trifasciata</i> 'Laurentii'
Birds-nest Sansevieria	<i>Sansevieria trifasciata</i> 'Hahnii'
Asia Umbrella Tree	<i>Brassaia arboricola</i>
Pothos	<i>Epipremnum aureum</i>

Table 3. Plants requiring more than 4 hours of direct sun or bright, indirect light. Location usually brightly-lighted offices - areas with 4 feet of large south, east, or west-facing windows.

Common Name	Scientific Name
Croton	<i>Codiaeum variegatum</i>
Coffee	<i>Coffea arabica</i>
Jade Plant	<i>Crassula argentea</i>
Wax Plant	<i>Hoya carnosa</i>
Shrimp Plant	<i>Justicia brandegeana</i>
Sea Teak	<i>Podocarpus macrophylla</i> 'Maki'
African Violet	<i>Saintpaulia ionantha</i>
Christmas Cactus	<i>Schlumbergera bridgesii</i>

Table 4. Plants requiring 4 hours of direct sunlight or bright, indirect light. Location usually 4 to 8 feet from windows - average well-lighted area.

Common Name	Scientific Name
Air Plant	<i>Aechmea fasciata</i>
Zebra Plant	<i>Aphelandra squarrosa</i>
Norfolk-island Pine	<i>Araucaria heterophylla</i>
Fern Asparagus	<i>Asparagus setaceus</i>
Sprengerii Asparagus	<i>Asparagus densiflorus</i> 'Sprengerii'
Gold Dust Tree	<i>Aucuba japonica</i> 'Variegata'
Rex Begonia	<i>Begonia</i> spp.
Caladium	<i>Caladium bicolor</i>
Peacock Plant	<i>Calathea makoyana</i>
Spider Plant	<i>Chlorophytum comosum</i>
Areca Palm	<i>Chrysalidocarpus lutescens</i>
Ti Plant	<i>Cordylone terminalis</i>
Umbrella Plant	<i>Cyperus alternifolius</i>
House Holly-Fern	<i>Cyrtomium falcatum</i>
Dumbcane	<i>Dieffenbachia maculata</i>
False Aralia	<i>Dizygotheca elegantissima</i>
Janet Craig Dracaena	<i>Dracaena deremensis</i> 'Janet Craig'
Warneckii Dracaena	<i>Dracaena deremensis</i> 'Warneckii'
Red Edge Dracaena	<i>Dracaena marginata</i>
Sander's Dracaena	<i>Dracaena sanderiana</i>
Gold Dust Plant	<i>Dracaena surculosa</i>
Flame Violet	<i>Episcia cupreata</i>
Crown-of-Thorns	<i>Euphorbia milii</i>
Fatshedera	<i>Fatshedera lizei</i>
Weeping Fig	<i>Ficus benjamina</i>
Rubber Plant	<i>Ficus elastica</i> 'Decora'
Fiddle-leaf Fig	<i>Ficus lyrata</i>
Velvet Plant	<i>Gynura aurantiaca</i>
English Ivy	<i>Hedera helix</i>
Nerve or Prayer Plant	<i>Maranta leuconeura</i> 'Kerchoviana'
Cut-leaf Philodendron	<i>Monstera deliciosa</i>
Tricolor Bromeliad	<i>Neoregelia caroliniae</i>
Boston Fern	<i>Nephrolepis exaltata</i> 'Bostoniensis'
Peperomia	<i>Peperomia obtusifolia</i>
Japanese Pittosporum	<i>Pittosporum tobira</i> 'Variegata'
Philodendron	<i>Philodendron domesticum</i>
Fiddle-leaf Philodendron	<i>Philodendron bipennifolium</i>
Self-heading Philodendron	<i>Philodendron wendlandii</i>
Climbing Philodendron	<i>Philodendron</i> Red Princess'
Aluminum Plant	<i>Pilea cardierei</i>
Staghorn Fern	<i>Platynerium</i> spp.
Pteris Fern	<i>Pteris</i> spp.
Spathiphyllum	<i>Spathiphyllum clevelandii</i>
Nepthytis	<i>Syngonium podophyllum</i> 'Emerald Green'
Nepthytis	<i>Syngonium podophyllum</i> 'Green Gold'
Vriesea	<i>Vriesea carinata</i>
Australia Umbrella Tree	<i>Brassaia actinophylla</i>

For more information on the subject discussed in this publication, consult your local office of the Purdue University Cooperative Extension Service.