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G91-1022 Guide to Growing Houseplants

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Guide to Growing Houseplants

Proper care can extend houseplants' lives. This NebGuide offers hints on conditioning, light, fertilizing and more.

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Many people enjoy houseplants; in fact, raising them is one of the fastest growing indoor hobbies. Caring for houseplants offers opportunities for people who like to work with living things and watch them develop. Today, houseplants are an integral part of indoor decor -- especially in winter.

An artificial indoor environment often hinders plant development. High temperatures, low humidity, lack of sunlight, poor soil conditions, and improper watering contribute to most houseplant problems. In addition, insects or plant diseases occasionally damage houseplants.

While plants last indefinitely, proper care extends their lives. Most houseplants eventually become unattractive, but before discarding, use them for cuttings or divisions for new plants.



Conditioning

Your home usually has a lower light intensity and humidity than the plant experienced before purchase. As a result, houseplants may lose their foliage within a week or two of purchase. Conditioning plants to the home environment extends their useful life, so purchase preconditioned plants whenever possible. Many, but not all, sellers provide this service.

You can condition newly obtained plants as follows:

Initially expose your plants to the maximum amount of available light. This is usually a site close to a south window.

Over a period of four weeks, reduce the available light to the intensity of the location selected for the plant.

Next, leach the soil mixture by allowing water to filter down through the soil and escape through the drainage hole. Repeat this leaching process four or five times. This removes excess fertilizer or salts that can cause leaf drop when light intensities are low.

Avoid moisture stress by maintaining the suggested relative humidity and soil moisture content. Greenhouses are more humid than most living areas. While you cannot duplicate that environment in your home, using a humidifier benefits both you and your plants.

Conditioning, then, is a matter of anticipating the kinds of problems the change in environment creates for the plant. Apply your horticultureicultural skills to minimize the buildup of stresses during the transition period.

Light

Most homes are not well lighted for plants requiring lots of light. Select plants requiring medium to low light unless you can provide supplementary light. Plants such as Chinese evergreen, cast iron plant, philodendrons, Boston fern and *Sansevieria* tolerate very low light intensities.



When plants are located in low light areas (less than the 75-foot candles necessary for reading), use the minimum recommended day-night temperature.

Homes vary in the amount of available light for plant growth. Generally, the brightest location in any home is near a south window, while the darkest is across the room at a north window.

Approximately the same amount of light is received by a houseplant located by an east or west window. However, plants with a western exposure are exposed to a much higher temperature.

Seasonal variations in light intensity occur within a home. Plants located in an east window during the summer may require a south exposure in winter.

Put houseplants outside in summer. Plants often are revitalized by this treatment.

To avoid sun scorch, condition your plants to the higher outdoor light intensities. Do this by initially placing the plant in the shade and then, over a four or five week period, gradually expose the plant to increased light intensity.

Light usually strikes the plant from only one side. Rotate the plant to maintain an upright growth habit.

Symptoms of insufficient light include small leaves, long, thin stems, and a lighter than normal color.

Where light is limiting for plant growth or desired quality, supplement the natural light with fluorescent lamps. Plants that barely existed indoors will thrive with 12 to 16 hours daily of supplemental light. See *Home and Garden Bulletin No. 187* from the U.S. Printing Office for details on indoor lighting.

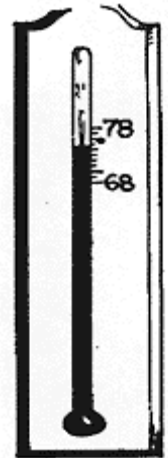
Temperature

Plants vary in their temperature requirements. Most foliage houseplants tolerate day temperatures of between 65 to 75 degrees Fahrenheit. Night temperatures should be 10 to 15 degrees Fahrenheit lower.

On very sunny days, day temperatures can be 10 degrees Fahrenheit higher than normal, while on cloudy days they should be lower. Generally, as temperature increases the requirement for light increases. For most homes, plants are higher quality if day temperatures are in the low 70s rather than the 80s.

Avoid rapid changes in temperature from cold or hot air drafts. Plants on window ledges may be exposed to freezing temperatures in winter. Be especially careful of foliage plants, such as African violet, croton, and prayer plants, which prefer warm night temperatures.

Plants grown at warmer temperatures than recommended produce weak, spindly growth; glassy and translucent leaves that yellow and fall off suddenly may indicate too low a temperature.



Humidity

The amount of moisture in the air affects plant growth. With the exception of succulents, most foliage plants are injured when the humidity is less than 15 to 20 percent. Symptoms of low humidity are leaf drying and curling.

During the winter, when the home is heated, humidities reach very low levels. Some means of increasing the humidity should be used. The best way is to use a home or room humidifier.

Syringing (spraying plants with clean water) removes dirt from the leaves and increases humidity to a degree. Be sure to syringe plants early in the day to allow the leaf surface to dry. Leaf disease can develop if the leaf surface remains wet overnight.

High humidity areas such as bathrooms and kitchens often are ideal for plants.

Grow plants that require high humidities (greater than 50 percent) in terrariums or greenhouses.

Containers

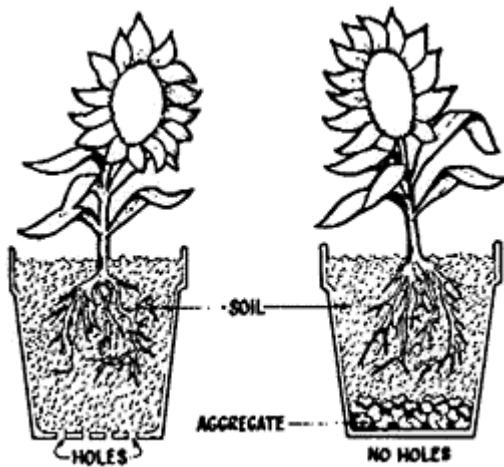
When potting plants use containers with drainage holes. If necessary, to prevent media loss, cover holes with a coarse piece of window screen.

Both plastic or clay pots are available. Media in clay pots dries out faster than in plastic pots, so people who tend to overwater should use clay pots, although that is not a cure-all for incorrect watering. Clay pots are more difficult to clean than plastic pots because clay absorbs chemicals and salts.

To clean pots, soak them in very hot water for 24 hours. Use a stiff brush to remove soil.

To sterilize pots, soak them in a solution of one part chlorox to nine parts water.

Rooting Media



Plants obtain water, oxygen, and nutrients from the rooting media. With few exceptions, a well-drained media is important. Most foliage plants thrive in a 1:3:2 mix of sandy loam:organic matter (peat, bark chips, leafmold, compost):perlite. Mixtures for succulents and cacti require additional coarse-textured material, such as sharp sand.

Fertilizing

The amount and frequency of fertilizing depends on the type of plant, desired growth rate, available sunlight, media mix, frequency of watering, and type of fertilizer. For actively growing plants, fertilize every two months. Don't fertilize dormant plants.

Avoid over-fertilizing -- plants require less fertilizer under low-light intensity. Burned or dried leaf margins and wilted plants often are a sign of excess fertilizer application.

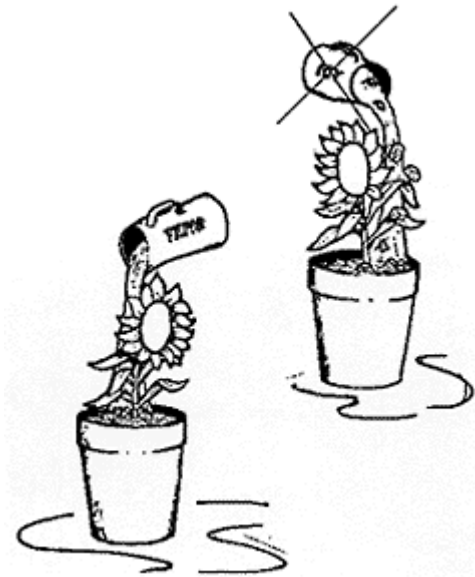
Watering

No exact recommendations can be given for watering plants, but there are some general guidelines.

Thoroughly wet the soil at each watering -- water should drain out the bottom of the pot after watering. Frequency of watering depends on many factors, including plant types or species.

Don't water more frequently than required; wet soils can lead to root rot problems. Excessively wet soils lack the oxygen required for root growth. Yellowing foliage results from poor soil aeration.

Water plants with room temperature water. If possible, use rain water for plants sensitive to fluorides, such as *Draceanas*, *Cordyline*, and *Chlorophytum*.



Insects and Related Pests

Insects, mites, and a number of other related pests occasionally damage the flowers and foliage of houseplants. The most common are aphids, mealybugs, whiteflies, scale insects and spider mites. Pests such as fungus gnats, caterpillars, ants, millipedes and slugs usually cause more alarm than they do damage.

The best way to prevent pest damage to houseplants is to avoid the initial infestation. Carefully inspect leaves, stems, and soil of newly acquired plants for the presence of insects, mites, and other unwanted guests.

Similar inspections should be carried out before moving plants back into your home for the winter. Always isolate these plants for a week or two and watch them closely for signs of developing pest

infestations.

If plants are to be repotted, use a commercially prepared, pasteurized potting soil to avoid introducing sowbugs, fungus gnats, springtails, and other soil inhabitants. Removing dead leaves and debris from plants and pots helps eliminate hiding places used by many pests. When handling infested plants, be extremely careful not to accidentally transfer insects and mites from one plant to another.

There are a number of non-chemical ways to eliminate unwanted pests.

If only a few leaves or stems are infested, remove and discard them. Soil insects are effectively eliminated by repotting plants, using a pasteurized potting soil. Large pests such as beetles, caterpillars and slugs can be picked off by hand and destroyed.

Gently wiping the leaves and stems with cotton swabs dipped in rubbing alcohol is an effective means of controlling aphids or mealybugs, especially if they are not too abundant.

Another useful technique involves washing plants with soapy water. Always rinse the plants a few minutes after treatment to avoid soap injury to the foliage. For best results, repeat the washing procedure two or three times at five- to seven-day intervals to destroy any pests (especially eggs) missed during earlier washings.

When plants have extremely heavy pest infestations, disposal may be the best solution. If possible, take a cutting and start over again.

In many cases, pesticide sprays offer the most practical way to control pests on houseplants. When treating plants, be certain the product is specifically labeled for both the pest and plant species. This is important because not all pesticides kill all insects, and some materials can damage plants.

The pesticide label provides a list of plants and pests for which it is recommended. In many cases it also includes those plants known to be injured by the product. To be safe, test-treat a few plants and look for signs of plant injury after two to three days.

If only a few plants are to be treated, a commercial, ready-to-use insecticide spray specifically labeled for controlling insects on houseplants is probably the best choice. Materials labeled for control of houseplant pests include insecticidal soaps, pyrethrins, diazinon, Cygon, Sevin, malathion, and Kelthane for spider mites.

Diseases

The diseases of houseplants can be frustrating problems to overcome. In spite of proper care, houseplants are subject to numerous plant diseases. The four major groups of pathogens causing plant diseases are fungi, bacteria, viruses, and nematodes. Fortunately, the dry home or office environment is usually not favorable to many diseases that plague foliage and flowering plants grown in a more humid greenhouse environment.

Many houseplants already are infected with disease-causing pathogens when they are purchased. Poor management at the home or office often aggravates the pre-existing disease problem.

Some diseases are introduced at the home or office. Over-watering, excessive misting, and insect injury often provide the necessary conditions for disease to develop.

Diagnosis of houseplant diseases can be misleading if based primarily on symptoms. The symptoms of nonpathogenic distress such as fertilizer or insecticide burn, water-logged soils, dry air, etc. often are similar to those caused by one or more pathogens.

One helpful way to distinguish between disease and cultural or chemical injury is to look at the line between healthy and diseased tissue. Usually, if this line is sharply delineated, the cause is of a nonpathogenic nature.

Houseplant diseases caused by bacteria usually produce angular lesions frequently surrounded by yellow halos or water-soaked areas. Fungi produce a wide variety of symptoms including root rots, stem lesions, leaf spots, mildews and rusts. Diseases caused by viruses often appear as abnormal or distorted growth. Nematodes are microscopic worms that mostly feed on roots, causing the plant to become stunted, yellowed, and generally unthrifty.

Most diseases of houseplants in the home or office can be prevented or, at least, the effect minimized, by following a few simple precautions:

- Know and observe the proper growing conditions for that plant.
- Do not over-water or over-fertilize; this stimulates root rot diseases.
- Avoid over-misting to prevent powdery mildew and leaf spots.
- Grow houseplants in clean containers and in well- drained and "pasteurized" or "sterilized" commercial potting media.
- Purchase healthy, vigorous appearing plants. Beware of bargain plants.

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