



Indoor Plants: Their Care and Feeding

Green thumb, black thumb, or any color in between - many people believe some mystical ability, often inherited, is required to care for plants. But they are wrong; anyone who is interested enough can acquire the ability for the proper care and feeding of plants.

Plants in the home or office are totally dependent on you. Only you can provide water and fertilizer, control pests, and place the plants where they receive correct light and are not in drafts. You can have a green thumb if you want luxuriant plants, understand their requirements, and have a sharp perception of how the plants are doing.

Indoor conditions are not conducive to good, rapid plant growth. You will be pleased longer with the appearance of your indoor plants if you keep them from growing rapidly. The two factors you can control to limit growth are water and fertilizer.

CONTAINERS Plants in containers have special health requirements. Plants are grown in containers because such plants are portable, and their growth is controlled. Since the volume of soil is limited, caution should be exercised to avoid overdoses of fertilizers. The bottoms of each container must be shaped so that all excess water runs out of the drainage holes. Plants in porous containers, such as red clay pots, require more frequent irrigations than those in containers of nonporous materials, such as plastic, glazed ceramic or metal. When irrigating, be sure to apply water so that it thoroughly wets the soil, and some drains away, carrying with it excess soluble salts that may have accumulated. Lastly, container-grown plants also need to be reported from time to time to ensure healthy growth.

You may have some types of containers that are not commonly used for plants. Coat the insides of metal and concrete containers with a nontoxic material like plastic to prevent deterioration of the container and be sure to provide drainage holes. Do not line containers with aluminum foil, because this may deteriorate and harm the plant.

Small containers are often placed in larger containers. It is advisable to use big containers this way so that plants can be easily removed for care or for different arrangements. Gravel, bark, or other substances are often used over and around the smaller pots, mainly for appearance. One word of caution: carefully limit the amount of water applied if the larger container does not have drainage holes.

REPOTTING Repotting is not difficult. After removing a plant from its pot, use a pointed stick or old screwdriver to take off approximately one-third of the soil and roots from the sides and bottom of the root ball. Also prune the top of the plant at this time to balance the leaf surface with the reduced root system. You can remove some unsightly or unnecessary shoots or clip off some of the older leaves.

Before placing the plant in a pot, cover the drainage hole so that water can flow through it without washing away any soil. (Broken pieces of pottery placed with the curved side



upward are commonly used.) Next, pour some soil into the pot so that the plant will be at the correct height. After positioning the plant, fill the empty spaces around it with soil. Finally, without packing the soil tightly, firm it by poking a stick into the newly placed soil, or better still, firmly tap the pot several times on a potting table.

Newly repotted plants need special care. Because many of their root tips have been removed, the plants cannot take up large amounts of water. Put these plants in a shady location, mist them several times a day, and keep their soil moist. New roots will soon form, and the plant can be given its old place and care.

SOIL Soil mixtures for your plants need not be a mystery or a secret formula. All good mixes hold water and contain enough large spaces for water drainage and aeration. Such soils also are free of pests, weeds, and diseases. It is simplest to purchase prepared mixes at garden centers. If you use garden soil, you need to mix in additional substances, such as peat moss, and to treat the soil to kill diseases, pests, and weeds before, it can be safely used in containers.

TEMPERATURE Temperatures inside homes and offices are adjusted for the comfort of people and usually are higher than is best for plants. However, many plants can withstand these temperatures in good health. Lowering temperatures at night and keeping plants out of drafts from heaters or air conditioners help to prevent temperature-related problems.

Plants grow well in air-conditioned spaces, although the humidity usually is low. It is almost impossible to provide additional humidity around plants when forced-air heating or air conditioning is used. Keeping plants on a tray of moist gravel may help to raise or retain humidity if air movement around the plants is controlled. If a plant requires a more humid atmosphere, one answer is to grow it in a terrarium.

WATER Watering and controlling soil water are the two most abused and misunderstood practices in growing plants. Certain basic principles apply to providing a plant's water needs. Soil mixtures do not all hold the same amount of water; each mixture holds a specific quantity. Any excess water percolates downward and out through the pot's drainage holes. The only way to make a soil hold more water than normal is to add a water-holding material, such as peat moss, to the soil. Drainage holes in containers are essential. If excess water is not removed from the soil, or if water stands in the bottom of a large container with a smaller pot inside, a "swamp" is created. Either way, the plant suffers.

The amount of water held by a soil and the speed with which it is used by a plant and evaporates into the air determine how frequently you should water. Watering on a fixed schedule is dangerous, because your plant may receive water too frequently or not often enough as conditions change - such as when your plant is growing larger, the room temperature changes, or your turn on air conditioners. Fortunately, you can let the soil tell you. Feel the soil to ascertain its dryness, and water when necessary.

When water is placed on the surface of the soil in a pot, the topsoil layer must be wetted to its holding capacity before any remaining water percolates to the soil beneath. This process is repeated until all the soil is wetted to capacity. Then, the excess water drains away. If you place



one cup of water on the surface of the soil is wetted and the lower portion of the plant's root system remains dry.

When all the soil is wetted to capacity, and the excess water drains away, water is held on the surfaces of soil particles and in the small, capillary spaces between. The larger spaces between particles are filled with air. Because air is necessary for healthy root growth, the soil moisture must contain large (non-capillary) spaces or pores. Usually about 25 percent of the volume of a mass of soil should be large pores.

Water may contain substances harmful to plants. Water treated with chlorine and fluorides for human consumption does not have enough of either to harm plants. Softened water for domestic use contains injurious amounts of sodium. Swimming pool water contains chlorides in sufficient amounts to harm plants. When in doubt, or when you know the water is harmful, use bottled water or that sold for use in steam irons.

You may have been told you have given plants too much or too little water. Too much means you watered too frequently. Too little water means that not enough was applied to wet all the soil, or water was not applied frequently enough. Most people err on the "too much" side. Inside, plants do better on the "too little" side.

Advice to keep the soil dry or moist is a guide to how often to water. For dry soil, let it dry out more before watering than you would for moist soil. Feel the soil to find out how dry it is. With experience you can also judge the right time to water by other means - the appearance of the plant, the weight of the potted plant, the pitch of the sound made by sharply tapping a clay pot with a metal tool. In all cases, apply enough water so that some drains out, and avoid too frequent watering. Plants look better if you do not try to force rapid growth.

FERTILIZER Apply fertilizer sparingly and infrequently to plants grown indoors. Many plants can be injured by an overdose of fertilizer. Roots can withstand only specific concentrations of chemicals in the surrounding soil water; higher concentrations injure or kill the roots.

If you must fertilize, you have several choices. You may use a liquid fertilizer; read the directions on the package, and then use one-half the amount of fertilizer recommended. Or you may use a small amount of controlled-release fertilizer. Specialized plant pills may also be used. In all cases, use less than recommended.

LIGHT Light intensities indoors are too low for plants to grow normally unless they are next to windows. However, do not place plants in direct midday sunlight, because it heats the leaves and injures or kills them.

Plants grown in low light have thin stems and widely spaced, small or poorly developed leaves. In dark locations, electric lights may be used to give plants enough light for survival. But use a type of bulb that provides the proper *color balance*. Plants must have red and some blue light for best performance, some lights, such as daylight fluorescent fixtures, have better color balance for plant growth. If the color is not objectionable, special plant-growing fluorescent lights may be used.



Select plants for their ability to grow well in the different light conditions within your home or office.

WHAT'S WRONG? "If only my plant could speak to me and tell me what is wrong, I could take care of it. Plants do give many signs when their health is failing: droopy leaves, color changes, weaker stems. Each sign tells something about the plant's needs.

Despite the best of care, insects, diseases, and other troubles may attack your plant. These problems exist in nature, but we tend to overlook them, unless they afflict our plants indoors. You can often avoid or minimize these problems with some common-sense precautions. The right surroundings, proper and timely applications of water and fertilizer, and the isolation or disposal of infected plants will help keep a plant healthy.

Plants should be sprayed with clear water at regular intervals. Spray both the upper and lower sides of the leaves. Occasionally spraying with a mild soap solution is helpful but keep excess soap out of the soil. Washing the leaves and stems not only improves their appearance by washing away dust but also removes some insects. Make certain that the plants dry rapidly, or diseases may develop. Also, remember that many plants suffer when sprayed with cold water.

Insects to watch for include mites, aphids, scale, and mealy bugs. Mites are tiny spiders that are barely visible and usually are found on the undersides of leaves; infested leaves may look spotted, and when the infestation is severe, webs are visible. Aphids of various colors appear on the tips of tender shoots. Scales are generally found on stems; they look like tiny shells stuck onto the stem or leaves. Mealy bugs are also found on stems, usually appearing as a small cottony mass. Whiteflies are tiny flies with white powdery wings. They cluster on the undersides of leaves and fly up in great numbers when disturbed.

Despite all precautions, the use of pesticides will occasionally be necessary. Before using a pesticide, however, decide whether it would be wiser to discard the plant. If you do use a pesticide, follow the label and manufacturer's instructions carefully.

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