

The Basics

Lighting

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Lighting is a very important facet of indoor gardening. It is essential to the growth and development of healthy plants. During the process known as photosynthesis, light allows the plant to incorporate carbon dioxide from the air with water and nutrients to produce carbohydrates on which the plant feeds. Oxygen, on which we thrive, is then released from the plant. This stockpiling of food takes place only when there is adequate light and the food is then utilized by the plant during darkness.

Most of the houseplants that we grow today were derived from areas all around the world and have evolved under diverse conditions. Many are lowlight plants which live under the underbrush of the tropical rainforest, while others are accustomed to direct sunlight. Plants, however, are adaptable, and can be grown quite successfully on the windowsill or under fluorescent lights which, at this time, are still our best substitute for sunlight.

If growing on the windowsill, plants should be placed in such a position that they will not scorch in the summertime, nor freeze in the winter months. This can be accomplished by wide windowsills, by adding an extension to the windowsill, or by placing a table (the same height) in front of the window. In order to maintain a well-balanced plant, the onerous task of turning the plant one-half turn twice weekly is a requirement.



You should always provide your plants with the best light possible, and this may be a reason for people living in the northern climes to switch their plants from the north- and east-facing (less sunny) windows in

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the summer to the south- and west-facing (more sunny) windows in the winter months. Direct sun may harm some of your houseplants while being beneficial to others. Read all that you can find on your plants' requirements, and do not fail to ask your friends for advice. Join a plant club and take advantage of its resources.

For those who wish to grow under fluorescent lights, the most popular size is a 48" fluorescent fixture equipped with a reflector and two 40W cool white fluorescent bulbs. This will provide adequate spectrum for an area of 24" x 48" and the outer perimeters may be used for low-light plants or for propagating. A cool-white tube and a warm-white tube will increase the spectrum and improve the growing conditions. There are also other "grow" bulbs on the market which are very efficient but rather expensive.

Plants should be placed about 20 to 30 cm (8" to 12") from the light, keeping in mind that the highest intensity of light is at the center of the shelf. As you move away from the center, the intensity decreases. Plants requiring high light should be placed in the center while those with a lesser demand can be placed at the two ends.

Plants in smaller pots can be adjusted to the correct level by inverting an empty pot and using it as a pedestal for the plant, being careful not to place it too near to the lights so as to avoid scorched foliage. Lights should be operative for at least 10 to 12 hours per day and may be increased to 14 hours to induce blooming. Timers are imperative and should be installed in order to ensure that adequate periods of light and darkness are afforded.

Reflectors and lamp bulbs should be kept clean, keeping in mind that light output weakens with age of the bulb. Lower-light affect can be solved by either replacing the bulb or increasing the duration of light to 14 hours. If you listen your plants will tell you if they are receiving the correct measure of light. For instance, if the leaves are inclined to grow towards the light, it is a sign of insufficient light. On the other hand, a plant whose leaves are pointed down and hugging the sides of the pot is receiving more than an adequate supply of light. Lack of bloom and pale or yellowing leaves may also act as an indicator of low light.

Light also has a dramatic effect on variegated plants (those whose green leaves are marked with paler areas of light green, yellow, or white). Strange as it may seem, variegated plants will do best in high light. Light is absorbed by the chlorophyll (green) in a leaf. If a plant is placed in a low light area it will immediately receive a signal to produce more chlorophyll to supplement the light intake. Hence the leaves become greener and the variegation is re-

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duced. Heat is also a factor in increasing chlorophyll so it is advisable to keep your variegates in the coolest, high-light area of your plant room. This can be a challenge, as high light levels are usually the warmest. For that reason, many of us have great difficulty in growing and maintaining variegates. These may not be the best plants for beginners.

