

## WATER REQUIREMENT FOR FOLIAGE INDOOR PLANTS

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### Introduction

The Indoor foliage plants have become a necessity in the homes for their interior decoration attractive leaves rather than flowers. Plants also helps to absorb Carbon Dioxide and keep Oxygen flowing, they purify the air by removing toxins, help to deter illness, ease tension and lower stress, create a relaxed and happy ambience whilst helping you to ultimately work better through improved concentration, heightened attention, enhanced creativity, increased productivity and enriched overall well-being. Foliage plants, in common terminology, are called house plants. Plants are essential for our survival. Plants also produce intangible benefits for people, such as improving our health. These benefits occur with plants outdoors and indoors. People have been bringing plants into their homes for thousands of years. The proper watering requirement for indoor plants is a major obstacle to increased plant use in the home or office. Foliage plants from the world's tropical or subtropical regions provide the basis for today's foliage plant industry. From 1956 to 1967, *Aglaonema*, *Dieffenbachia*, *Dracaena*, *Epipremnum*, *Ficus*, *Peperomia*, *Philodendron*, *Sansevieria*, *Syngonium*, and plants from several genera of Palmae (palm) were the major players in the industry. *Philodendron* dominated all other genera accounting for 50% and 36% of wholesale values in 1956 and 1967, respectively (Smith and Strain 1976). In 1975, *Schefflera* and ferns (Polypodiaceae) joined the list of the Census of Horticulture Specialties of the US Department of Agriculture's National Agricultural Statistics Service (McConnell et al. 1989). However, *Philodendron* was still the major genus, accounting for 20% of the wholesale value. In 1988, genus *Hedera* was added to the list (McConnell et al. 1989). The total market segment of *Philodendron* decreased from 20% in 1975 to 4.7% in 1988. No single genus exceeded 10% of the market value in 1988, suggesting increased diversification in foliage plant production. Ten years later, genera *Anthurium* and *Codiaeum*, as well as bromeliads (Bromeliaceae) and cactus (Cactaceae) were added to the 1998 list (USDA 1999). The wholesale value of foliage plants in the US increased from \$13 million in 1949 to \$574 million in 2000 (USDA 2001). The use of foliage plants for interior decoration or interior landscaping has become an integral part of contemporary design, playing an important role in our life (Manaker 1997).

### Indoor Plants - Watering

Over watering is a very common problem for the houseplants. Water only when the plants when need watering. The water requirement of house plants varies from one kind to another. A plant growing in a porous clay pot will need more water compared to one growing in a plastic or glazed container. Similarly, a smaller pot needs more frequent watering. A plant needs more water during its growing period and the amount is reduced appreciably during the winter which is resting for most plants. It is always better to water in good amounts at reasonable interval, which may vary from 3 to 10 days depending on the climate and species, rather than small daily doses. The amount and frequency of watering depends on many factors, such as the plant species, its growth stage, its location, the type and size of its pot, soil mix characteristics and variable weather conditions. Roots need both water and oxygen, and when surrounded by water, they cannot take up oxygen. These

roots may rot and eventually the whole plant may die. The symptoms of over-watering and under watering are similar. Both lead to poor root health, root decline and possibly death of the plant. Some plants thrive under moist conditions while other plants grow well when kept drier. Plants may slow in growth after a flush of new growth or a heavy flowering. During these periods and while it is dormant, a plant will need less water (Henny and J. Chen. 2001). Do not water with hot or cold water. The water temperature should be between 62 and 72 °F. Do not water plants with softened water because sodium and chloride will also be added to the soil mix, possibly causing plant damage. Although wilting is often an indication of the need to water, it is not always so. This inability to take up water will cause wilting, and under these conditions, watering may make the problem worse.

The rule-of-thumb is to water when necessary. The following methods may be used to determine when to water:

- Touch the soil - The most accurate gauge is to water when the potting mixture feels dry to the touch. Stick your finger into the mix up to the first joint; if it is dry at your fingertip it needs water.
- Tap the pot - When the potting mix in a clay pot begins to dry, it shrinks away from the sides of the pot. Rap the side of the pot with the knuckles or a stick. If the sound is dull, the soil is moist; if the sound is hollow, water is needed.
- Estimate weight - As potting mixtures become dry, a definite loss in weight can be observed.
- Judge soil colour - Potting mixtures will change from a dark to lighter colour as they dry.

### **Water quantity and quality for foliage indoor plants:**

#### **Water Quantity**

Learning to water is one of the most important skills in plant care. Applying too much water can suffocate plant roots and too little water causes growth to become erratic and stunted. Watering frequency will depend on the conditions under which the plants are growing. When dealing with how much water to apply, consider the following:

- Plant type: A list of plants and their moisture requirements is listed below. Not all plants are similar in their water requirements. This information, along with the light preference, is usually included on the plant label. For example, a croton, which prefers high light, will likely need more frequent watering compared with a succulent plant such as Opuntia cactus. Both have similar light needs but dissimilar water requirements.
- Plant size: Larger plants need more water compared to smaller plants.
- Container volume: If the growing container is too small, watering may be required more frequently.
- Soil moisture: The amount of water already present in the growing medium will also affect your watering frequency.
- Light intensity: Plants under high light transpire more water compared with plants under low light.
- Improper watering causes many problems. Containers with saucers may cause an excessive build-up of soluble salts (from the applied fertilizer). High levels of soluble salts can cause damage to plant roots and a decline in growth. Discard any water that had drained in the saucer after irrigation, and apply large quantities of water to the soil to leach the accumulated soluble salts. In deciding when you should water, feel the soil by pushing a

finger an inch or so below the surface. If the soil is still moist, no further water is needed. Water devices or water meters are also available to simplify watering.

### Water Quality

The quality of the irrigation water is an issue with plants that are susceptible to fluorine and chlorine, such as Corn Plant (*Dracaena*), Ti Plant (*Cordyline*), Peacock Plant (*Maranta*), and Rattlesnake Plant (*Calathea*). Alleviate this problem by letting the water stand for several days so that some chlorine and fluorine will be released from it before applying the water to the plants. Move susceptible plants away from the edge of the pool to prevent water splashes from reaching the foliage. Do not use susceptible plants around enclosed pools. In general, plants with long linear leaves (such as the Spider Plant) are more susceptible to fluorine. All indoor plants can benefit from filtered water or leaving water out overnight before using.

### Some foliage indoor plants water required

- 1. Aluminum Plant - *Pilea Cadierei*** : The Aluminum plant needs to be watered differently during different times of the year. During spring and summer, the top quarter inch of the soil should be kept moist. During fall and winter, allow the top quarter inch of soil to dry out before watering again. Do not permit water to stand in the saucer underneath the plant.
- 2. Arrowhead Plant - *Syngonium Podophyllum*** : When the top soil becomes dry to the touch slightly - water thoroughly. Reduce watering during winter to prevent plant problems
- 3. Areca Palm - *Dypsis lutescens*** : Keep the soil of an Areca palm moist but never soggy. Allow the top couple of inches to dry out before watering. This recreates its natural environment living conditions which are rather moist.
- 4. Cast Iron plant - *Aspidistra Elatior*** : Water once the top one inch of soil becomes dry. Water less during winter and do not over water. Over watering to the degree that the soil becomes soggy for a period of time can cause the plant to die. The *Aspidistra elatior* is drought tolerant so if it misses being watered even for a month it will look unwell but be right back with you once care and water is given again.
- 5. Croton - *Codiaeum Variegatum*** : The croton plant requires frequent watering, but be sure not to over-water. Too much water can cause root rot, but too little water can dry the humidity-loving plant out. Plants need less water during the winter.
- 6. Dumb Cane - *Dieffenbachia Amoena*** : For the best results, keep the dumb cane plant's top inch of soil moist at all times. It will tolerate extended periods of watering neglect, but the leaves will begin to shrivel. Watering makes the leaves stiffen. Before moving the plant, allow the soil to dry out. This will give the leaves a more rubbery texture which will better survive the handling process.
- 7. Golden Pothos - *Epipremnum Aureum*** : It requires watering only when the first quarter inch of soil begins to feel dry to the touch. Overwatering will cause the plant's roots to rot. Under-watering is not an issue, as this plant will withstand a high degree of abuse. It will only stunt the growth of the plant. During the fall and winter, reduce watering to allow the top quarter inch of soil to fully dry out before offering more.
- 8. Heartleaf - *Philodendron Scandens*** : Heartleaf may be grown in soil or just in water. Plants that live in soil should be watered when half of the soil is dry. As with most plants, yellow leaves indicate over-watering and brown leaves indicate under-watering.

9. **Lucky Bamboo - *Dracaena Braunii*** : Lucky Bamboo plant doesn't need a lot of water. In fact, too much is bad for it. Water the plant about once a week and ensure that there's a few inches at all times, enough to cover the roots.
10. **Peace lily- *Spathiphyllum spp*** : Peace lilies should be watered once the top half of the potting soils in dry, but before the leaves begin to droop. Water thoroughly until water runs out the drainage holes. Use well-draining potting soil and avoid letting the plant sit in water, as this will lead to root rot.
11. **Swiss cheese - *Monstera deliciosa*** : Swiss plants water requires in moderately and evenly, about once a week. Wait until the soil is fairly dry before watering again.
12. **Snake plant - *Sansevieria*** : are actually succulents, which mean they store extra water in their leaves, stems, and roots and can thrive in drier environments. Water is stored in those root structures, and the meaty, fleshy leaves also contain a lot of water.

### Conclusions

In conclusion, the present study strongly suggests that plants should be watered only when necessary or potting mix feels dry to the touch. If the soil feels damp, skip the watering. If excess water continues or over-watering, plants may show other drought symptoms, such as scorch, leaf drop, both lead to poor root health, root decline and possibly death of the plant. All indoor plants can benefit from filtered water or use room-temperature water to avoid shocking the plants.

### References

- Henny R.J. and J. Chen. 2001. 'Golden Bay' *Aglaonema*. HortScience 36: 1142–1143.
- Home and garden information center HGIC 1459 HGIC Horticulture Specialist, and Al Pertuit, Extension Floriculture Specialist, Clemson University.
- Manaker, G.H. 1997. Interior plantscapes: Installation, maintenance, and management. 3rd ed. Prentice-Hall, Upper Saddle River, NJ.
- McConnell D.B, Henley R W and Kelly C B (1989). Commercial foliage plants: Twenty years of changes. Proc. Fla. State Hort. Soc. 102: 297–303.
- Smith, C.N. and J.R. Strain. 1976. Market outlets and product mix for Florida foliage plants. Proc. Fla. State Hort. Soc. 89: 274–278.