

WATERING AND RELATIVE HUMIDITY

Watering - the most frequent practice employed in maintaining houseplants; improper watering is one of the main causes of the failure of houseplants to succeed.

Water is important to plants because it is involved in all phases of growth and virtually every metabolic or biochemical reaction:

Various functions and attributes of water important to plants will be highlighted:

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- In order that plant organs grow, their cells must be fully hydrated (full of water) - a condition called **turgid**.
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- The evaporation of plant water primarily from leaves (**transpiration**) serves to cool the surface of leaves, thereby reducing heat stress from high levels of heat energy absorbed by plants

All water supplied to the soil or medium in the plant container is not available to be taken up by the roots and used by the plant:

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- Minerals (**soluble salts**) in the soil or medium from fertilizers and from tap water attract water and hold it tightly, making it unavailable to the plant

Watering frequency is influenced by:

- Plant type
- Container material
- Medium/soil type
- Room temperature
- Canopy size
- Soil/medium color

- Touch
- Leaf turgidity
- Relative weight

A helpful hint in terms of how frequent to water plants: DO NOT STICK TO A SCHEDULE.

Diagnosing Common Watering Problems

Some symptoms of overwatering are very similar to those of underwatering because in both cases damage to the root system has occurred.

Overwatering damage -

Underwatering damage -

Some common symptoms often associated with both underwatering and overwatering:

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|----------------------|------------------------------------|
| 1. yellow leaves | 4. stunted growth |
| 2. wilting | 5. brittle roots that break easily |
| 3. erratic leaf drop | 6. plant death |

Some common symptoms associated specifically with overwatering-only:

1. raised brown spots on leaves
2. root rot

Some common symptoms associated specifically with underwatering:

- 1, browning of leaf tips and margins
2. root burn

Rescuing Plants

Underwatered plants are much easier to “rescue” or save than overwatered plants. Why?

Methods of watering:

- Submersion
- Top watering

- Bottom watering - essential to **leach** (generously watering from the top and allowing excess water to drain out to bottom holes to carry away excess minerals/soluble salts) periodically
- Wick-Watering

Water Quality

- Chlorination
- Fluoridation
- Soft water
- Hard water

Relative Humidity

Humidity refers to the amount of water vapor (gaseous form of water) in the air. **Relative Humidity** (RH) is the percentage of the maximum amount of water vapor the air can hold at a given temperature. *Air can hold increasingly greater amounts of water vapor as its temperature rises.*

Low relative humidity symptoms in some plants:

- Small leaves or no new leaf formation
- Brittle leaves, often with brown margins

Managing Humidity Problems:

- Proper care and optimal environmental conditions
- Misting
- Grouping plants closer together
- Placing plants on gravel or pebble bed in a tray with thin layer of water
- Room humidifiers
- Small greenhouses

In rare cases where RH may be too high:

- House fans
- Dehumidifiers