



The amount of water your plants need changes as they grow. While small plants in 4- to 6-inch pots may require only 1 to 2 cups of water when first planted, a full-grown tomato plant may require 2 to 3 gallons of water each time you water.

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## Watering Tips: Patio Containers and Houseplants

Proper watering may be the single most important, and the very hardest, part of growing houseplants and plants in containers. The task of watering is more time-consuming than any other part of container gardening, and is probably the most difficult to master. It is something that cannot be done on a regular routine.

You may only need to water your containers once or twice a week when they are first planted. Later in the summer, you may need to water them once or twice a day.

Factors such as sunlight, wind, size and type of container, temperature, location, and soil type all have an influence on the watering needs and schedule.

Shaded containers do not dry as quickly as pots in the sun. Clay pots breathe and dry out quickly. Plastic pots retain water and do not dry out as fast. Because of these varying factors there is not one 'clear-cut' watering routine.



**Water Deeply** - The most important part about watering plants is to give them a good, long drink - until water runs out the hole in the bottom of your container. However, you don't want to drown your plants.



**How much water is enough?** - Give them enough water so there is water in the saucer, about 1/2 to 3/4 full. Let the plant soak in the water for an hour, and then discard any water remaining in the saucer. Don't allow water to be in the saucer constantly, it is easy to over-water plants. A saucer that stays full of water can mean root rot, and death for plants. A turkey baster or a sponge is an easy way to remove excess water from saucers of large containers.

Depending on the size of your pot, many of the plant's roots will be in the bottom portion of the container. The soil needs to be moist and the lower roots need to be able to absorb the water. Deep watering will also encourage roots to grow down toward the bottom of the pot, which is better for plants.

**Check Moisture Level** - Before watering plants, check to see if your plant really needs it - the top of the soil can look dry, even though just below the soil line it is still moist. The goal is to keep your soil moist, not soggy wet.



An easy way to test to see if a container needs water is to use a moisture meter. Moisture meters are reliable and are very accurate. It is very helpful to use a moisture meter, until you get the 'feel' for your pots. Moisture meters are especially helpful for first time gardeners.

Another method to test water needs is 'the knuckle test'. Stick your finger into the soil down to the first knuckle. If your fingertip is dry, it is time to water. If you're not sure, wait and check it later in the day - don't wait until tomorrow.



**Different Plants Need Different**

**Amounts of Water** - Most plants prefer to live in moist soil, not wet - just damp. Fortunately potting soils are designed for good drainage so it is fairly easy to achieve this goal.



Different plants have very different moisture needs. Some plants like to be dry, some like to be a bit dry between waterings, and then there are some that if they get even a little dry, they will drop all their buds and leaves.

As a rule of thumb,

Houseplants grow best with a consistent, moist soil.

Flowering annuals don't like to get too dry.

Cactus and Succulents like to be dry.

Bonsai's have their own particular needs. They need to be watered often. Please read our Bonsai Care Handout for more information.

Vegetables - particularly those that are juicy (tomatoes, cucumbers, melons) - like to be kept moist and need a huge amount of water.

Some herbs (basil, rosemary, thyme, dill, oregano, cilantro) like to dry a little between watering; the flavor will be stronger if they do.

Some herbs (parsley, sage, chives) like a little extra moisture. They should not be allowed to dry out too much.

It's hard to remember all the different plant's water needs. It just takes a lot of experience to remember; usually trial and error. (sometimes more error than trial)

**Water in the Morning** - It's not a good idea to water in the evening, because when you let water sit on the leaves overnight, your plant is more likely to be infected with a disease, such as powdery mildew.

However, if you happen to see that some of your plants are dry, even if it's in the evening, give them a good long drink.

**Water the Soil, Not the Leaves**



- It turns out that some plants - ones with hairy leaves - are susceptible to sunburn if you get water on their leaves in the sun. Water droplets can act like mini-magnifying glasses and burn your plant. Even if your plant's leaves are smooth, it is still a good idea to water the soil and not the leaves, if you can. Wet leaves can lead to an increased chance of fungus, mildew and other diseases.



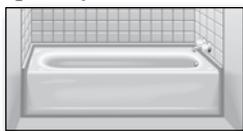
**Don't Rely on the Sprinklers** - Even if you think that your sprinklers have watered your plants, you still need to check them. That also applies to drip irrigation systems; you never know when one of the little emitters will plug up and not emit any water, until the plant shrivels up and dies.

Sometimes a plant's foliage and flowers can act like an umbrella, and actually keep water from getting into the soil.

**Don't Let Soil Dry Out Completely** - Most potting mixes become tough, and won't absorb water, if you let them completely dry out. Your soil can also pull away from the sides of your containers when it gets too dry. Newly added water will just go out along the edge of the pot, and right down to the bottom, instead of soaking into the dry soil. The soil remains dry, even after watering. The plant will die unless the soil is able to re-absorb enough water - quickly.



A dry pot will need to be completely soaked in the bathtub, a large bucket, or another container of water, for about 30-60 minutes. It takes that long for the soil to soak in enough water needed for the soil to swell back to normal.



If the pot is too large to move, poke holes in the soil with a large screwdriver. Water the pot every 10 or 15 minutes for at least an hour. Make sure the water is penetrating into the soil, not just flowing down the sides and out into the saucer.

**Water as often as needed - Once a Day is Not Always Enough** - Don't wait until you see the plants wilting, check them regularly.

Depending on where the pots are located, the size of your pots, and the kind of soil you use, don't be surprised if you end up having to water your containers more than once a day.



Photo Credit: Proven Winners

Heat, wind and dry air can quickly dry out your plants. Terra cotta pots, hanging baskets made from moss, and metal pots all can dry out fast on a hot, windy summer day.

Over the season, you will probably learn which containers need to be checked more than once a day, but when they are first planted, it's a good idea to check your containers in the morning and again in the afternoon.

During the heat of summer, you will probably have to water at least once, sometimes twice a day.

Inconsistent moisture causes lots of problems, such as blossom drop, poor root development, summer leaf scorch, leaf curling, insect or disease problems.

## Tips for Success

The biggest difficulty with containers is maintaining the correct moisture level, which can require inconsistent or frequent



watering schedules. Products are available to help with this problem; coconut fiber, water holding polymer granules, and drilled PVC pipes.

**Coconut Fiber** is made from the shredded husks of coconuts. It has the unique ability to absorb large amounts of moisture rapidly, then release it over a long period of time. Coconut fiber will not compact and will maintain a loose texture. It can be used with regular potting soil at a ratio of 1/2 to 1 part coconut fiber to 1 part potting soil.



**Water Holding Polymer Granules**, such as **Waterhold** or **Soil Moist** absorb and store water. These granules slowly release their stored water as the plant needs it. This storage and release process reduces watering requirements by 50% to 75%, particularly in dry, hot climates. The crystals will remain effective in the soil for 3-5 years.



Soil Moist must be incorporated into the soil; do not top dress or just place it on the surface. It is easiest to use this polymer in its swelled state; so you know how much is being used. It can be also be used dry, but remember the crystals expand greatly when moistened. One teaspoon of **Soil Moist** is all that is needed for a 6" pot.

PVC pipes, which are capped on one end and have holes drilled along its length, help water soak into large containers much more effectively. Put the pipe in the center of the container (leave it in the pot the entire summer). Pouring water through the pipe helps distribute water deeply in large containers, especially in strawberry jars. This method helps maintain moisture around the root system and helps the soil stay evenly moist; top to bottom.



## Drip Irrigation Systems - Good or Bad?

If One Container needs 5 gallons of water.

If One drip emitter allows 1 gallon per hour.

One emitter would take 5 hours to water the plant, or 5 emitters would take 1 hour to water the plant.

**Make sure you use enough emitters, and allow enough time, for your drip system to apply the correct amount of water for each plant.**

**Check the emitters occasionally to make sure they are working properly.**

**Adjust the time and schedule according to both the plant size and the weather.**



**Remember, not all containers need the same amount of water.**

**If a pot is dry - WATER IT WITH A HOSE, do not wait for your drip system to water it - it may take too long.**

## Conclusion

*As you can tell from this handout, there is not one set method to determine how much, or how often to water all plants, - all year long.*

*Adjust your watering schedule as often as the conditions change: Daily; Weekly; Monthly.*



Photo Credit: Proven Winners