

Watering Instructions

How to water new plants in the landscape.

Key Points:

- Proper and diligent watering is the most important factor in plant success.
- We strongly encourage all gardeners to understand how to water and have a plan for watering *before* buying new plants.
- We advise against relying on an automated sprinkler system for establishment watering. Watering by hand with a hose or bucket is the best way to get a plant established.
- Most new plants need more water than people think.

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Why Is Establishment Watering So Important?

Newly planted plants have small root balls that have not yet integrated with the surrounding soil. Until the roots grow out, the root ball of a new plant will dry out faster than the surrounding soil, and the plant will become drought stressed faster than established plants. All plants, even the most drought tolerant, need regular watering throughout the establishment period, at least 1-2 years for most shrubs and trees.

Impacts of drought stress include:

- Wilting, which leads to discoloration and loss of leaves and buds
- Die-back of stems
- Increased vulnerability to insects and disease
- Decreased winter hardiness
- Plant death.

Most people greatly underestimate the amount of water needed by new plants. Underwatering is BY FAR the most common cause of plants dying or failing to thrive. On hot summer days, drought stress can occur very quickly.

Manual vs. Automatic Watering

We strongly recommend against reliance on automated irrigation systems for establishment watering. Most sprinkler systems do not apply water deeply enough, and it is very difficult to ensure that an adequate amount of water reaches the root zone of each and every plant. More generally, automated systems can keep a homeowner from having direct interaction with plants. It's too easy to program the system and forget about the plants. Regular watering by hand with a hose or bucket allows a gardener to observe each plant on a regular basis. An attentive gardener will be able to identify and take early corrective action on problems with watering, insects, disease, etc.

Finally, we should point out that watering by hand with a hose or bucket is that most water-efficient means of watering. An attentive gardener will apply the amount needed, when needed, with little or no waste.

Water Deeply

The goal in establishment watering is to promote deep root growth. Deep roots are more resilient to drought in the summer and are better protected from temperature extremes in the winter. The way to promote deep root growth is to water deeply. We want to saturate the root ball thorough as well as the surrounding soil, especially under the root ball. Getting water deep under the root ball will encourage roots to grow deeply.

We recommend turning a hose down to a slow stream and letting it run at the base of the plant until the necessary amount of water has been applied. This could be from 10 to 30 minutes or more for shrubs and trees. Applying water slowly with a bucket is also effective if you're careful to avoid runoff.

How Often and How Much?

Soak plants thoroughly when they are planted. Throughout the growing season, the rule of thumb is to water 2-3 times per week OR AS NEEDED. Most plants should be watered when the surface of the soil begins to dry. Plants installed during hot or dry periods may need daily watering for the first week or two. There are too many factors involved for us to give a precise schedule. The most important thing is to monitor your new plants on a daily basis and water as needed. Feel the soil with your finger to tell whether it is wet, or dig down a few inches with a trowel to see whether there is moisture under the surface.

Many gardeners do not apply enough water at each watering. It's important to fully saturate the root ball and surrounding soil, including under the roots. This many range from 3-5 gallons for a shrub to 10-15 gallons *or more* for a large tree. Smaller annuals and perennials should be watered to a depth of at least 5-6 inches. (Dig down with a trowel to test.)

TIP: You can calibrate your hose watering by timing how long it takes to fill a 5 gallon bucket. If it takes 10 minutes to fill a 5 gallon bucket, your hose is running at a rate of $\frac{1}{2}$ gallon per minute.

What if it Rains?

Total rainfall of 1" per week is usually enough to meet the needs of established plants, but may not always be enough for new plants. As always, monitor carefully. Just because it rained doesn't necessarily mean your plants have enough water.

When the soil is very dry, even a heavy rain might not be adequate to saturate the soil deeply. A light rain (¼" or less) will not help much during the summer unless the soil is already moist.

Is it Possible to Overwater?

Yes, but in our experience, not enough water is the problem 97% of the time. Some plants like rhododendrons are particularly sensitive to overwatering when they are young. Ask our staff about the specific watering needs of your plants.

In general, the rule is "don't water when wet." If a root ball and the surrounding soil are thoroughly saturated, there is no need to apply more water. Wait until the soil in the root ball begins to dry, but never let the soil dry to the point that a plant is starting to wilt. Be aware that, on a hot summer day, any plant that is starting to dry in the morning may be bone dry and drought stressed by evening.

Also be aware that the symptoms of overwatering are easily confused with the symptoms of underwatering. A dry plant wilts because the roots can't supply enough water to the leaves. When a plant is too wet for too long, bacteria begin to attack the root tips resulting in a disease called root rot. As the disease progresses, the dying root system can't provide enough water to the leaves resulting in wilting. It's easy to interpret this wilting as a sign of drought. If a plant is wilted and the roots are wet, there's a good chance you're seeing root rot. The correct response is to water less frequently, letting the roots dry between waterings. If corrective action is taken early, root rot is usually reversible, and a plant may recover fully.

TIP: If the soil has a foul, manure-like smell, it's often a sign that anaerobic bacteria are causing root rot.

Fall, Winter, Spring

Watering should usually taper off in the fall as plant growth slows and temperatures cool. Once plants are dormant, it's usually not necessary to water. Plants that keep their leaves in the winter may benefit from an occasional watering during warm, dry periods in the winter. There is no need to water if the ground is frozen. In spring, begin watering again, as needed, when temperatures warm and buds begin to emerge.

We have, in recent years, experienced severe spring and fall droughts. Pay attention to weather and soil conditions and water as needed. It's very important that plants not be drought stressed when they go into dormancy in the fall or wake up from dormancy in the spring.

Containers

Plants grown in containers are a special case. Soil in a container dries out faster. There is limited space for roots to grow. Container plants need water more frequently and are less forgiving of lapses. You should expect to water a container at least once a day almost every day in the summer. If you go away for a weekend or longer, find someone reliable to do the watering for you. (It's a bit like having a pet!)

When watering a container plant, the goal is to saturate all the soil in a container to the point that excess is running out the drainage holes. If the soil is completely dry, it might take several applications to get the soil thoroughly wet.

Larger containers hold more soil and water than smaller containers and therefore dry out less frequently. It's very difficult to keep a plant happy in a small container outdoors in the summer. We always recommend using the largest container that is practical for your spot.

Drainage

Most plants like to be moist, but few tolerate being soggy. If any areas in your yard are wet for prolonged periods of time, please ask our staff for suggestions of plants that can tolerate wet feet.

For container plants, be sure there are adequately large and unobstructed drainage holes. It's easy for drainage holes to become clogged, especially by the plant's own roots. Contrary to popular belief, rocks in the bottom of a container don't help with drainage. In a container without holes, rocks on the bottom just create a place where water collects and stagnates. Fill containers completely with soil, and if possible avoid containers without drainage holes.