

Plants are made of water. Although water is needed in the biochemical processes, the function of most of the water is to keep the cells turgid so that the various processes, including growth, can proceed. A wilted plant is a damaged plant. Severe wilting may result in scorched leaves or even die back. The objective in watering, therefore, is to supply water at the proper time and sufficient quantity to avoid wilting. Certain plants such as needle evergreens do not wilt, due to their leaf structure, but they develop water stress just the same.

How much water do plants require? A general rule of thumb is one inch of water per week. This is a fair guide, but a good horticulturist is aware of several factors that will cause some adjustments from the figure.

Water is absorbed by roots and moves to various parts of the plant. A small root system absorbs water from a limited amount of water. Therefore, more attention must be given to re-supply water to these plants with extensive root systems. Large root systems draw water from large volumes of soil and need watering infrequently, but large quantities of water are needed to thoroughly wet the large soil mass.

WATERING ESTABLISHED PLANTS

Frequent light watering during a drought wastes water and may encourage root growth near the soil surface where they would be more damaged if water were later withheld. The need for water can be determined by probing to about 12 inches. The appearance of soil when water is needed is a matter of judgment that comes with experience. Apply enough water to thoroughly wet the entire root system.

REDUCING MOISTURE LOSS

Most of the water we apply is lost in evaporation from plants (transpiration) or soil.



Tree & Shrub Watering Guidelines

Conditions favoring evaporation are high temperature, bright sun, and wind. Mulches reduce evaporation by protecting the soil surface from all three of these factors. Healthy broad-leaved evergreens in the landscape sometimes have browned leaves in the spring. This is caused by transpiration water loss while the soil water is frozen. The most effective way to prevent this injury is to shade the plant from the winter sun. protection from wind can be beneficial but the result is likely disappointing if shade is not provided.

SUMMARY

Plants with extensive root systems need one or two inches of water each week or two weeks, depending on evaporative demand and soil type. Plants with small root systems such as those restricted by containers, need more frequent watering – in some situations as often as daily. Always apply enough to completely wet the entire root system.

An inch of water penetrates rather deeply (10 to 12 inches) in a sandy soil. However, a sandy soil holds relatively little water for plant uptake, so water must be re-applied frequently. A heavier soil requires 1-1/2 or 2 inches of water to penetrate 12", but that application supplies the plants for an extended period of time.

WATERING SMALL PLANTS

Seedlings and other small plants have small root systems. Apply water after setting these plants to settle soil around the roots. These plants must be kept turgid for new roots to be produced. However, new roots cannot be produced fast enough to explore surrounding soil for more water as fast as water is used. Therefore, water must be applied frequently until new roots have developed.

WATERING NEWLY SET PLANTS

Water should be used during backfilling to help settle soil and remove air pockets that cause drying. After planting, form the soil around the plant to a saucer shape to retain water. Since at planting the water-absorbing roots are near the trunk or stem, this area should be thoroughly wetted. As with other plants with a small root system, water is available from a very limited volume of soil. This is the reason frequent watering is suggested. Water new plants once a day for the first two weeks and three times a week for the first 4 weeks or until the end of summer (keeping in mind the amount of rainfall received and adjusting water accordingly). In fall, water once a week until frost.