

Water Management in the Home Landscape

Richard Durham and William Fountain, Extension Specialists in Horticulture

Proper watering techniques are of utmost importance to ensure a healthy home landscape. But the techniques most widely used may not be the best for the landscape or the water bill. Many factors affect how often or how much water should be applied. Things to consider include the plant's genetics (species or cultivar specific water requirements), depth of rooting, the soil's water holding capacity, and how fast water is used by the plant or evaporates from the soil surface. One must also consider the availability of water and have a contingency plan should water become limiting as a result of drought or rationing.

When to water?

Most people tend to water in the evening either after they get home from work or during/after the dinner hour. While this may be an ideal time for the homeowner, it may not be the best situation for their landscape plants. Plants watered late in the day will generally have wet foliage into the evening hours and the chances of the foliage drying after sunset are reduced since temperatures usually fall below the dew point. Why all this fuss about wet foliage? The longer a plant's foliage stays wet, the greater the chances for disease. Therefore the best time to water is in the morning before the heat of the day.

How often to water?

A plant's rooting depth will affect the frequency and volume of water that should be applied. Frequent shallow watering, such as that provided by sprinkling plants every few days, will promote a root system that is shallow. Such plants are very susceptible to periods of even mild drought such as a lack of water during the homeowner's weeklong vacation, not to mention periods of more extreme drought. Less frequent but thorough watering is best.

Mulch

The presence of mulch on the soil surface will also affect the frequency of watering. A mulched bed will lose less water to evaporation for two reasons. First, the mulch is a physical barrier to evaporation from the soil surface, and second, the mulch shades the soil and reduces soil temperatures thus decreasing evaporation. Mulches also slow down the force of water moving across the soil surface and thereby increase the likelihood that water will percolate into

the soil rather than being carried away by run off. The type of mulch one uses is not as important as that the mulch be applied properly. Apply mulch only to a depth of about 2 or 3 inches. Deeper mulch may smother plant roots or cause disease problems. Never allow mulch to contact the base of a tree trunk as this will promote disease and decay.

Trees and shrubs

Established trees and shrubs that have been watered properly will have well developed root systems that are able to access water from a large volume of soil. Most trees and shrubs recommended for Kentucky will do well if they receive one inch of water (either rainfall or irrigation) every 7 to 10 days. Such plants do well when watered approximately every 10-14 days during periods of dry weather. Less established trees (less than two to three years from transplanting) should be watered every seven days. The dry period between watering will encourage roots to go deeper into the soil where water is available. At each watering, an application of at least one inch of water should be made to the area under the drip line of the tree's foliage. If the water is being applied by a sprinkler, set an open faced can (such as a coffee can) in the area being watered. When one inch of water accumulates in the bottom of the can you can be assured that one inch of water has been applied in other areas covered by the sprinkler. If a soaker hose or other type of drip irrigation is being used, one should ensure that the top six inches or so of soil has been wet. One inch of irrigation will usually wet the soil to a depth of approximately six inches. Watering infrequently but thoroughly along with the proper use of mulch is the best insurance you can have for trees and shrubs to survive during drought conditions.

Annuals and perennials

Annual and perennial flowers have less expansive root systems than trees and shrubs, but will still develop deep roots when watered thoroughly and allowed to dry between watering. A thorough watering (one inch or more) on a weekly basis during dry weather should suffice. More frequent watering (one-half inch every two to three days) will be needed during the first week or two after transplanting to ensure that the plants become well established.

Sources of water

When possible, only high quality water should be applied to plants in the home landscape. Municipal water supplies in Kentucky should be of sufficient quality to be used for landscape irrigation, however, with the rising incidence of water restrictions in urban areas often coupled with drought conditions, some people are reclaiming bath water or other water such as that used for washing clothes and dishes, and applying this 'gray' water to their landscape plants. One should exercise caution when using 'gray' or reclaimed water. Water that contains detergents or bleach should not be applied to plants because of the adverse effects these chemicals have on soil chemistry and root growth. This means that dishwasher and water used for washing clothes should be avoided. Rinse water collected from these washes may be acceptable if the level of detergent or bleach is minimal. Soaps are less of a problem than detergents so bath water is usually suitable for irrigation purposes. Alternating irrigation with gray water and clean water will reduce any long-term adverse effects of the gray water since the suspect chemicals are readily leached from the soil.