

Lawn Watering Management

AGRI-VIEWS

by Chuck Otte, Geary County Extension Agent

This is Kansas. Our average rainfall locally is 33 inches annually. While 70% of that falls from April to September, it's a pretty safe bet that sometime during the growing season you are going to need to or want to water your lawn, flowers or vegetable garden. Unfortunately most people do it all wrong and either don't accomplish what they want to, or actually make matters worse in how they do water. There are some basic soil, water and plant principles that you need to follow to make sure you are accomplishing what you want to accomplish.

Water soaks into the soil at a rate determined by the soil texture; percentage of sand, silt and clay. The water available for plant growth is also determined by this soil texture. Sandy soils take in water (infiltration rate) very quickly, but the water tends to move on through the soil very quickly out of the root zone so water holding capacity is quite low. Clay soils have very low infiltration rates, but they have the most water available for plant growth. Soil texture is not something that you can change very easily. You just have to live with what you've got and adjust your watering methods accordingly.

Our average soil around here is a silty clay loam and can hold about 1 3/4 inches of water per foot of soil or about 0.15 inch of water per inch of soil. If we receive a one inch rainfall and all of that rain goes into the soil, it will soak up a little over six inches of dry soil. If we get that one inch of rain in 30 minutes though, most of it is going to runoff as the soil can't take it in that fast.

Plant roots grow where there is moisture. As soil dries out, roots will try to follow the soil deeper into the soil, but there are limits. If you are watering your lawn, and you put on a quarter of an inch every day, you are only maintaining moisture in the top two inches of soil, or more like the top one and a half inches of soil. In typical summer weather plants can easily use a quarter inch of water a day or more. Since the top two inches are all that's ever wet, guess where all the grass roots are going to grow? Keep in mind that roots will not grow through dry soil.

The wind blows in Kansas. Sprinklers tend to make lots of small water droplets. Want to guess what the water loss rate is for sprinklers that are being operated on a hot windy Kansas summer afternoon? Very high. On top of that, extended periods of wet leaves on plants, when coupled with typical summer temperatures, creates a perfect environment for foliar diseases to develop.

For sensitive plants like roses and most vegetable garden plants, you are better off applying water slowly at ground level where it is subject to much lower evaporative loss rates and keeping the foliage dry to reduce disease risk. The black spongy rubber soaker hoses are very good for this. The water is applied at ground level and very slowly allowing time for the water to soak in to our heavier clay soils.

For lawns you are pretty well dependent on sprinkler systems, unless you let your lawn go dormant, which is an option. For lawns you are better off to only water a couple of days a week, maybe three under really hot and dry conditions, but let the sprinklers run for a longer period of time so you are applying at least a half inch of water. Lawns are sensitive to leaf diseases as well so set the sprinklers to run from 3 a.m. to about 10 a.m. At this time grass is liable to be wet with dew anyway, the wind speeds are usually calmer and the temperature is definitely lower so there is less evaporation loss. For more information on using water more wisely in the yard, contact me at the Extension Office.