

How to Water Using ET



Water is basic to the life processes of plants, and needs to be replenished.

Evaporation & Transpiration

Soil loses water to evaporation, a passive process, at a rate determined by wind, humidity, sunlight and etc., a.k.a. weather. And, just as we respire due to the processes of life, plants transpire. As plants transpire, they lose water. The purpose of garden and lawn watering is to replace the water lost by evaporation from the soil and transpired by plants, which has not been replenished by rain. The water lost to these two processes is called, “evapotranspiration,” or simply ET.

The ET Method of Irrigation

Watering your home landscape using ET allows you to replace the amount of water that is lost to natural processes. No more. No less. This is an efficient way to make use of your irrigation water dollars. Visit the City of Wichita website to learn more about drought management, as well as conserving water in your home and garden.

How to Use ET

ET is calculated by complex mathematical formulas using weather, soil and plant conditions. ET was a tool available only to research professionals and a few agriculture producers because it required well maintained weather stations and advanced computers. Today there are irrigation clocks that easily calculate ET and run the system for only the time needed to replace water lost to evaporation and transpiration. However, you do not need to have an irrigation clock to use ET.

The Equus Beds Groundwater Management District #2 and the Kansas State University weather data library both report ET from the Sedgwick weather station 1088 (by the City of Mt. Hope) and the East Sedgwick station 1080 (near the City of Sedgwick).

Sedgwick 1088: 316-667-2222

East Sedgwick 1080: 316-796-0358

K-STATE weather data library: <http://wdl.agron.ksu.edu/>



Call the weather stations daily to hear a recording that includes yesterday's ET. Keep track of the data by writing it down. A calendar works well for this. Or, you can go online to the K-State weather data library and view several days of data at one time.

At the end of 6-8 days (warm season grasses and other plants) or 3-5 days (cool season grasses) add up the ET. Subtract the sum of any recent rains from the ET. Now you have the amount of water in inches the plants need.

It is easy to figure how many inches of water your sprinkler or irrigation system sprays out. Set 8 to 15 identical, straight sided, flat bottomed cans throughout the sprinkler coverage area. Turn on the water for 15 minutes and then turn it off. Measure the water in the bottom of each can. Add all those amounts together and divide by the number of containers. The result is the amount of water in inches your sprinklers put out in 15 minutes. You will have to repeat this process for each system zone or sprinkler type.

Set the irrigation clock to run a zone for the time needed to return the lost water. Then, shut the system off until it is time to water again



The right tools are very helpful when trying to use less water in your home landscape.

Using Less Water

Drought is a common weather pattern for Kansas, which can reoccur at any time and last for years. Being prepared for drought to happen is a way of life for all of us so as to safeguard our water supplies. Here are some tips to help make your home landscape more drought resistant.

- Invest in drought tolerant plants. Native or naturalized plants work best for this region.
- Add organic matter to the soil so it can absorb and hold more water.
- Maintain your watering equipment and repair leaks promptly.
- Watch the weather. Use rain gauges and ET to help you water effectively and efficiently.

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