

Weather Wise Water Conservation



During 2005 and 2006, Oklahomans faced serious droughts. Climatologists predict that drought will continue to affect the state for a decade. Water is a limited resource. When water levels decline, many different plants, animals, and ecosystems are affected. You can help protect your town's water resources by practicing water-saving techniques. During the summer, outdoor watering can account for 50 to 80 percent of home water use. Most families set their sprinklers to run automatically every day, without finding out whether the grass even needs to be watered.

One way to determine the water needs of your lawn is to look at a water balance chart. This chart lists outgoing water, or "evapotranspiration," and incoming water, or precipitation (rainfall, snowfall, and ice). Evapotranspiration combines two demands on water: first, how much water evaporates from the ground ("evapo"), and second, how much water the plants "breathe" into the atmosphere ("transpiration"). The chart below shows the daily evapotranspiration and daily rainfall. "Accumulated" values mean the addition of values from that day and all earlier days. If the water balance is below zero, you should consider watering. If the water balance is above zero, the grass still has enough water to survive.

Turf Water Balance Chart for Eufaula

Date	Daily Rainfall (inches)	Accumulated Rainfall (inches)	Date	Daily Evapotranspiration (inches)	Accumulated Evapotranspiration (inches)	Water Balance
June 1	0.00	0.00	June 1	0.10	0.10	-0.10
June 2	0.01	0.01	June 2	0.14	0.24	-0.23
June 3	0.00	0.01	June 3	0.16	0.40	
June 4	0.25	0.26	June 4	0.13	0.53	
June 5	0.59	0.85	June 5	0.13	0.66	
June 6	0.00	0.85	June 6	0.14	0.80	
June 7	0.00	0.85	June 7	0.15	0.95	

Activity: Use the data from the chart to answer the following questions:

The turfgrass at Eufaula, OK, began to grow on June 1st.

- Evapotranspiration measures both the amount of water that evaporates and the amount of water the grass uses. In what unit of measurement is evapotranspiration measured?
- To figure out how much water is left for the grass to use, subtract the accumulated evapotranspiration from the accumulated rainfall. What is the water balance for each row above?
- Let's say your sprinklers spray 0.25 inches of water on your lawn for every 30 minutes they run. How many total inches of water will your lawn get if the sprinklers automatically run for 30 minutes on each of the 7 days listed above?
- What was your lawn's accumulated evapotranspiration for the entire 7-day period?
- Over the 7-day period, what is the total amount of lawn water for the week from both accumulated rainfall and sprinkler use calculated in question 3?
- Based on your answers from questions 4 and 5, was the lawn over or under watered for the week? By how much?

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