

# WATER WISE: Give your lawn irrigation system an audit

*University of Nebraska Extension, the Nebraska Forest Service and the Cities of Gering, Scottsbluff and Terrytown, are working together to provide information on how to conserve water by using it wisely in the landscape.*

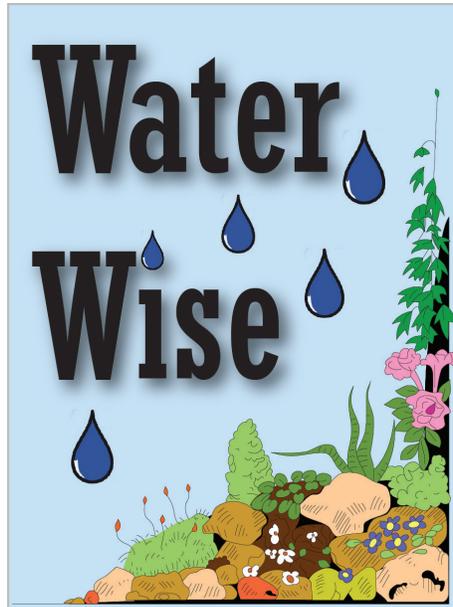
The weather has heated up, and sprinkler systems are watering lawns all over town. This is the ideal time to audit sprinkler system performance, according to UNL Extension Educator Jim Schild of Scotts Bluff County.

“It’s worth the time and investment to check how the system is operating,” Schild said. It is not worth overwatering 90 percent of the lawn to adequately cover the remaining 10 percent that doesn’t get properly irrigated, he said. Sprinkler systems often apply 1 ½ to 2 ½ times as much water as needed for adequate grass growth.

According to Schild, the first step in an irrigation audit is to check whether the system is functioning properly. The heads should pop up, nozzles should not be plugged, and valves should not be leaking because they are cracked or broken.

Schild said a tell-tale sign that a sprinkler sign is not operating correctly is a dark green circle around the sprinkler head where the grass grows considerably faster than the surrounding turf. “That’s a signal that it’s getting considerably more water and not operating correctly.”

The next step is to check for soil compaction or slope areas where water may not be infiltrating cor-



rectly. Core aeration will help improve water infiltration.

Along with compaction, check for a thatch layer in the turf, Schild suggested. Thatch increases runoff and decreases water infiltration. To check for thatch, use a pocket knife and cut out a triangular section of turf (pointed side down). If thatch is present, it will appear as an easily recognizable black, spongy layer at the soil surface.

The next step is to set out a series of rain gauges in an irrigation zone. The ideal number of gauges is six, according to Schild: two next to sprinkler heads, two in between sprinkler heads (to determine if there is appropriate overlap of heads), and two in areas that might be getting too much or too little water.

Run the sprinkler system for the typical set period. If there is more than 15 percent variability between

the rain gauges, the heads need to be adjusted, Schild said.

There’s a simple method for using those six gauges to determine how much water the system applies in one hour: Beginning with empty gauges, run the system for 10 minutes with the gauges set out, and then pour the water from five gauges into the sixth. The total water in the combined gauge will indicate how much water the lawn receives in one hour (10 minutes multiplied by six).

To determine the best set time, divide the amount you wish to apply (in inches) by the calculated application rate (inches per hour, determined by the method described above). That number is multiplied by 60. The result will be the number of minutes your system needs to run to apply that amount.

For example, if the desired amount is ¾ of an inch, and the sprinkler system applies 1 inch per hour, divide 0.75 inch by 1 inch, then multiply by 60. In this case, the answer will be 45 minutes (0.75 divided by 1 equals 0.75, and then 0.75 multiplied by 60 equals 45.)

How much water does bluegrass turf need in western Nebraska? Schild said UNL Extension recommends 0.7 to 1 inch per week in the spring and fall (from all sources, including precipitation and irrigation). Summer water use is 1.25 to 1.5 inches per week.