

Drought

Droughts are a normal part of life in the Great Plains and for Nebraska. Many droughts are short-term and may only affect small areas, but multiple-year droughts like the Dust Bowl of the 1930s are relatively common as well. In 2002, Nebraska experienced its third driest year on record. The state lost an estimated \$1.2 billion from crop production, and many communities experienced the negative impacts of drought.

Mountain snows in Colorado, Wyoming, and Montana that provide water and fill reservoirs along the Platte and Missouri Rivers have been low for several years. Lake McConaughy could reach its lowest level since it first reached peak storage in 1952. In southwestern Nebraska, flows in the Republican River continue to set record lows. Rains may provide some relief for the state, but it is more than likely that water-related drought impacts across Nebraska will continue into the near, and possibly distant future.

For more information . . .

Visit these web sites:

- University of Nebraska Cooperative Extension:
<http://www.ianr.unl.edu/pubs/drought.htm>
<http://extension.unl.edu/publications.html>

Including the following publications:

- [Watering Nebraska Landscapes, When and How Much](#)(G1400)
 - [Conserving Water in the Landscape](#) (G1061)
 - [Environmental Stresses and Tree Health](#) (G1036)
 - [Perennial Flowers for Water-wise Gardeners](#) (G1214)
 - [Evaluating Your Landscape Irrigation System](#) (G1181)
 - [Mulches for the Home Landscape](#) (G1257)
 - [Landscape Sustainability](#) (G1405)
 - [Ground Covers: Their Establishment and Maintenance](#) (G697)
 - [Checking the Performance of Your Landscape Irrigation System](#) (G1221)
- Backyard Farmer:
<http://www.byf.unl.edu>
 - Nebraska Statewide Arboretum:
<http://arboretum.unl.edu/plantinfo.html>

See the companion materials entitled "Make Every Drop Count In Your Home" for more water saving ideas.

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Nebraska Rural Water Association
Nebraska Well Drillers Association
UNL Conservation and Survey Division

"When the well is dry, we know the worth of water."

- Benjamin Franklin

***Make
Every
Drop
Count
On Your Yard***

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Did You Know ...

... Weather adjustments to an automatic irrigation system can conserve A LOT of water.

A system applying 1 inch of water to an average size lawn (approximately 5,000 square feet) that has already received sufficient rain wastes over 3,000 gallons of water - a year's supply of drinking water for 17 people.

Make Every Drop Count on your Lawn

1. In general, Kentucky bluegrass requires about 1 inch per week in April and May, 1 1/4 in June, 1 1/2 in July and August, 1 1/4 in September and 1 inch in October.
2. Consider allowing Kentucky bluegrass and buffalograss lawns to go dormant. Irrigate only if no rain is received for 3 weeks. Minimize foot traffic and mowing on dormant turf. Tall fescue lawns do not recover well if allowed to go dormant in severe drought conditions.
3. Measure the amount of water applied in a 15 minute period using collection devices such as tuna or coffee cans. Adjust the runtime to deliver the required amount. Change the runtime seasonally and remember to subtract any rainfall.
4. Water to the bottom of the roots. Use a screwdriver or soil probe to determine how deep the roots are and how far the water has soaked in. Try to keep the soil moist about a half inch deeper than the deepest living roots or to a depth of 8 to 9 inches if root depth is not known.
5. Water in the early morning (4 to 10 am). Watering is more efficient in the morning due to less evaporation and low wind speed.
6. Observe your automatic sprinkler system once per month. Look for heads that don't turn, that spray the street or sidewalk, bent or damaged heads, clogged or worn nozzles or orifices, turf growth around heads, etc.

7. Return grass clippings to the lawn using a recycling type mower. Clippings are a good nutrient source, and help to conserve moisture.
8. Consider reducing the number of fertilizer applications, or reducing the amount of fertilizer applied to produce less growth and moisture loss.
9. Mow Kentucky bluegrass lawns at 2 1/2 to 3 inches; and tall fescue lawns in the 3-4 inch range to conserve moisture.
10. When watering on a slope, use "delayed starts". Run sprinklers until you notice runoff, then stop. Wait 3 hours, then resume. Aerate in spring or fall to increase infiltration.
11. When overseeding, irrigate lightly and frequently. The new turf plants have a shallow root system, so timing should be adjusted accordingly.
12. Adjust heads as landscape plants grow larger and begin to block the spray pattern. New installations of benches, decks, etc. can also decrease irrigation efficiency.

Make Every Drop Count in your Landscape

1. The design of a home landscape should incorporate a thorough assessment of site conditions (sun vs. shade, dry vs. wet, etc.) so that selected plants can be located to take advantage of existing soil moisture conditions and remain healthy and vigorous with minimal supplemental irrigation.
2. Install native and/or adapted plants that are drought-resistant and require minimal supplemental irrigation once established (refer to web sites or consult your local nursery/garden center for suggestions).
3. Create water zones by putting plants together that have similar water needs. Ornamental plants, including turf species, can be grouped into low, moderate and high water users. Each zone should be watered according to its need for supplemental irrigation, which should be accurately estimated based upon the month of application, actual precipitation, and weather conditions (refer to web publications).
4. Mulch garden plants (a 2"-3" layer is most effective) to reduce evaporation and weed competition for available soil moisture. Organic mulches, such as wood chips, evergreen needles, straw, corn cobs and dried grass clippings also improve soil infiltration and water-holding capacity over time.

5. Amend soils with compost, manure or leaf mold to improve the water holding capacity and infiltration of soils as well as plant vigor and health during drought conditions.
6. Carefully assess landscape watering patterns to minimize spray on sidewalks and paved surfaces, blockage of spray by plants or other obstructions, and run-off on slopes or clay soils.
7. Focus irrigation for woody plants at/or beyond the dripline to promote extensive rooting. Apply water deeply and infrequently. Where practical, minimize evaporation and wind loss by using soaker hoses or drip systems, and water in the early morning (4 a.m. to 10 a.m.).
8. Maximize the value of natural rainfall by capturing and recycling rainwater in barrels or buckets to water patio planters, or detain stormwater runoff in dry wells or streambeds to enhance landscape soil moisture.
9. Automatic irrigation of woody and perennial plants should be carefully adjusted throughout the growing season so that supplemental water applications do not exceed the water amounts required by plants and lost through evaporation (refer to Nebguide publication G1400).
10. Regardless of ability to tolerate drought, all plants require supplemental irrigation when first established. In order to increase water use efficiency and potentially improve plant establishment in a new landscape, consider hand-watering individual plants for the first several months of the growing season (especially those with large rootballs planted in extremely compacted soils). This will ensure that the limited root systems are efficiently receiving adequate water without necessitating irrigation coverage over the entire landscape area.