EXTENSION
College of Agriculture, Biotechnology & Natural Resources

Master Gardeners

UNR Master Gardeners

Douglas County

Summer is here and gardens are starting to show full maturity. Keeping landscapes healthy and happy during the peak heat season irrigation will be the most important issue.

In this newsletter, we focus on the importance of water conservation, mulching and some fact or fiction insights. Enjoy!

Jessica Gardner, UNR Extension Horticulture Outreach Coordinator. jessicagardner@unr.edu or 775-782-9960

Save the Dates

July 23- Summer Rose Care Class - Time: 5:30-6:30 pm Location: Dangberg Home Ranch Historic Park

August 27 - Garden Talks - Advanced Seed Saving techniques Location: Dangberg Home Ranch Historic Park

July, August & September - Wednesdays - HPG Q&A Sessions Topics - Vary Time: 5:30-6:30 pm Location: 1461 Ezell St. Gardnerville, NV *No class 4th Wednesday of each month.

Fall Harvest Festival September 25, 2024

Home Horticulture Certificate Program Registration Closes - July 16 Register Here: https://bit.ly/HHCP24

WATER CONSERVATION

by Ingrid Angelini

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Native plants, which have adapted to our area are an excellent choice. These should be planted in the fall, and generally require weekly watering for the first year, until they can get established. Thereafter, natives will only require irrigation rarely, during extended high heat spells, otherwise surviving on winter rains alone.

Here is a list of water conservation tips:

IN THE YARD AND GARDEN:

1. Group plants with similar water needs together. This is known as Hydrozoning.
2. Choose plants which are well adapted to our climate.
3. Water deeply and less frequently.
4. Monitor soil moisture. Soil moisture meters are readily available and inexpensive
5. Prevent runoff.
6. Adjust controllers according to weather and seasons.
7. Water only target areas, not the driveway, patio or sidewalk.
8. Amend soil to retain moisture. Compost works well to accomplish this.
9. Measure water use. Inexpensive gauges are available which attach to a hose.
10. Maintain irrigation system. Inspect for leaks and repair them when found.
11. Utilize technology. Smart irrigation controllers have been available for some time now which monitor wind, humidity and temperature. Each of these factors can affect the amount of irrigation needed, and controls waste.

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20. Don't water in windy weather.
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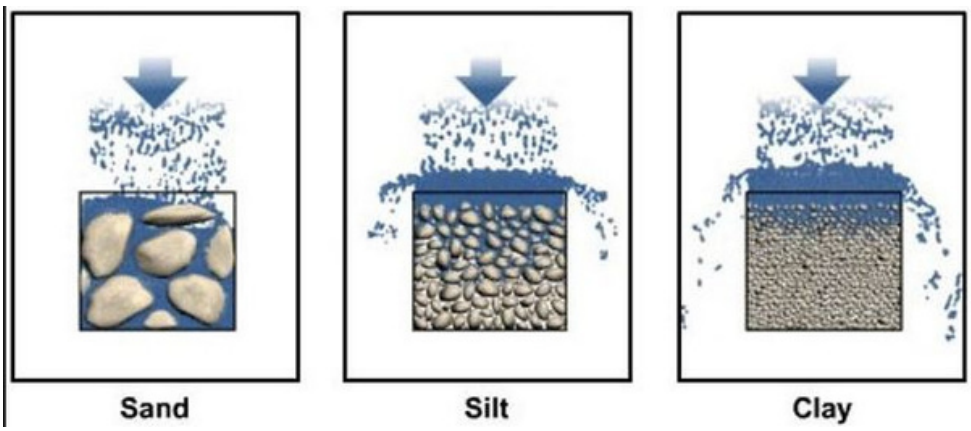
22. Minimize fertilization as this obviously makes plants grow more vigorously, thereby requiring additional water.

GETTING TO KNOW YOUR SOIL'S TEXTURE

Soil structure is made up of three types of components: sand, silt and clay. These particles vary in size, with sand being the largest, silt in between and clay being the smallest. The smaller the particles, the larger their surface area, thereby enabling them to hold onto more water molecules. Loam is an ideal soil structure for cultivation and plant growth. It is made up of 7-27% clay, 28-50% silt and less than 52% sand.



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As an example. A 10-foot by 10-foot shed will easily fill a 55-gallon barrel with an inch of rain. In fact, the barrel will overflow, and overflow must be managed to prevent erosion. A larger catchment area will, of course, require a larger reservoir.

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Is Water Conservation Fact or Fiction?

By Laura Dick

Have you ever really thought about freshwater? Where it comes from and where is goes each day? Some say, water comes from the tap, from rain, rivers, lakes, and oceans. Others say from underground, snow and glaciers. All true, but how does it get there and how does this water get replenished so the Earth has an unending supply? To answer those questions, we'll go on a fact-finding journey and discover the uniqueness and preciousness of water, our life source.

To start the journey, what assumption was made about water in the first paragraph? Didn't notice one? Read again. If you think the assumption is "…. Earth has an unending supply", you would be correct. So, is it Fact or Fiction that Earth has an unlimited supply? Well, before we get to that answer, we have to understand the water cycle.

With the help of satellites and aeronautic scientific instruments, NASA has been studying the flow of fresh water on Earth for several decades. Water travels underground (in soil and aquifers), on the surface (lakes, rivers, oceans, ice and snow) and in the atmosphere (clouds, fog and rain) in a somewhat complex process. Surface water evaporates into the atmosphere and contributes to cloud formation then transforms into rain and snow. Rain and snowmelt help replenish aquifers. The water in aquifers, in part, seep back into rivers replenishing them. Water evaporates from the surface and back into clouds.

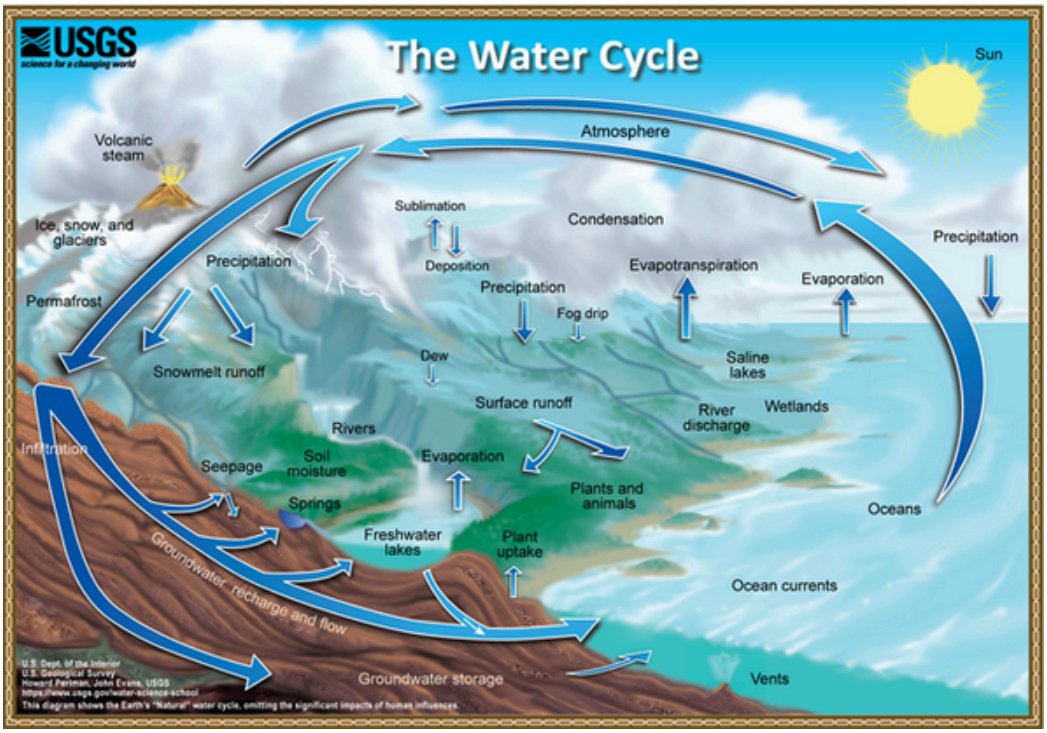

Figure 1 Public Domain The U.S. Department of the Interior/U.S. Geological Survey

According to NASA, there are 37 known large aquifers on Earth, of which one-third are being quickly depleted. For a view of the world aquifer map see Groundwater Storage. Closest to Douglas County is the Californian Central Valley Aquifer System which is being quickly depleted. When water use exceeds the rain, snowfall and/or sustainable practices needed to replete storage under or above ground, water tables fall. According to The U.S. Geological Survey, more total water is stored one-half mile underground than on the surface. Aquifers are like savings accounts, water reserves when we need them. Glaciers and polar ice contain the largest reservoir of freshwater. For more information about freshwater resources, see NASA Science Freshwater.

Figure 2 Water Splash by Korsan Soldier www.freepptbackgrounds.net

To summarize, storms moving across the U.S. and around the world drop precipitation resulting in the redistribution and recycling of water. For us, sufficient snowpack in the Sierras replenishes our rivers, lakes and valley aquifers. The home gardener then has water for lawns and gardens and the valley ranchers and farmers for agriculture and livestock. Where did this water originate? From Asia, the South Pacific, Europe, Canada? Maybe all those places and more.

As our journey ends, if you surmised that our water supply is not unlimited, you are right and its Fiction! According to scientists, there is no new water being formed on Earth. So, every conservation effort counts to sustain the limited water that travels up, down and around the Earth. When we use an efficient irrigation system, check it for water runoff and adjust volume and water cycle times we contribute to conservation. Other ways to conserve water is to keep lawn length at 2-3-inches in the summer, mulch around plants, use drought resistant native plants in your landscape and use cover crops to prevent erosion. And, of course, implement all the best practices cited in this edition of the Master Gardener Newsletter.

Happy Sustainable Gardening!

Resources

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Let's All Mulch!

Mulching is often overlooked and frequently avoided. But, here in the high desert, mulching can be a wonderful tool that brings success to many gardens. When your plants are up, it's time to mulch, mulch, mulch! It's purpose is to cover the soil with organic or inorganic material to minimize water evaporation, provide a protective barrier against weeds, and eventually enrich the soil.

Using mulch in the garden is in direct imitation of nature. Mulch protects the soil from the strong rays of the high desert sun, keeping it cool and helping to retain moisture. It creates a microclimate around the plants, keeps humidity high and temperatures moderate.

Plus, the mulch blocks sunlight and thus reduces the weeds. Bare soil is like a neon "VACANCY" sign for weeds. Gradually, the mulch breaks down and contributes organic matter to the soil.

Because of these qualities, mulch is an indispensable gardening tool in this Northern Nevada zone. To convince you to mulch, here's an easy way to remember the benefits and the steps to follow.

M: MOISTURE – mulch absorbs the water like a sponge, and then slowly releases the water to the soil. By shading the soil, mulch helps to conserve the soil's moisture. You can reduce the amount you have to water by as much as two-thirds!

U: UNDERNEATH – Avoid packing the mulch material. Leave at least 2 inches of mulch-free area around the base of the plants. This will prevent root-collar diseases and rodent damage underneath the plant.

L: LAYER – Try putting down a layer of black and white newspaper on the soil area. Then, add a 2-4 inch layer of fine mulch. If it's too thin, it will not be beneficial. Water after you set it up. The watering can help settle the mulch into place.

C: COST – (all items available at Home Depot)
1.5 cubic feet of organic, all natural mulch, shredded wood from Miracle-Gro $3.97/bag
2 cubic feet of Cedar Mulch $5.97
432 cubic inches of Long Fibered Sphagnum Moss $7.97
Other options:
Grass clippings – be sure they are dried and herbicide-free
Pine needles – beware that these increase acidity of soil
Straw – find bales that are dried out & be aware that it may also contain seeds

H: HEAT – It is important that the soil is allowed to warm up. Leave the soil uncovered until the soil temperature consistently hovered around 75 degrees. Then, the weather will be hot enough to add that cooling mulch so that the soil doesn't bake in the summer sun.

All of these sources are available at the Douglas County Public Library:
Cromeli, Cathy, Linda A. Guy, & Lucy K. Bradley. Desert Gardening for Beginners. Arizona Master Gardener Program. 1999.
Kratcsch, Heidi A. Water-Efficient Landscaping in the Intermountain West. Utah State University Press, Logan, Utah. 2011.
Pence, Pam. The Water-Saving Garden. Ten Speed Press, Berkeley. 2016.
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OTHER WAYS TO CONSERVE WATER OUTDOORS

1. **Install porous materials for walkways, patios and driveways.**
2. **Wash pets outdoors and reuse the water in the garden.**
3. **Clean evaporative cooler annually.**
4. **Install covers on pools and spas to reduce evaporation.**
5. **Use a bucket, sponge, brush and hose with a self-closing nozzle to wash the car.**
6. **Wash car in the rain.**
7. **Winterize outdoor spigots and pipes to avoid bursting in a freeze.**
8. **Direct downspouts or gutters toward trees and shrubs.**
9. **Construct berms or swales to keep water from flowing down a slope.**
10. **Install an automatic rain shut-off device on sprinkler system.**
11. **Don't leave hoses running needlessly.**
12. **Use a broom instead of a hose to clean decks, patios, driveways and walkways.**
13. **If draining a pool or spa, find a use for the water.**
14. **Check pool and pool plumbing for leaks**
15. **Convert fountains to recirculate or disconnect.**
16. **Teach children that sprinklers are not toys.**
17. **If "gray water" is allowed, use approved systems.**
18. **Dig basins around plants to avoid runoff.**

AND WAYS TO CONSERVE WATER INDOORS

1. Meter and monitor water use.
2. Select proper size pans for cooking.
3. Wash/rinse dishes in dishpans and use the water in the garden.
4. Compost food scraps.
5. Use cold, not hot water for garbage disposal.
6. Wash produce in a pan and use the water in the garden.
7. Soak pots & pans instead of letting water run while you scrape them.
8. Scrape dishes, do not rinse before dishwasher placement.
9. Avoid defrosting foods under running water,
10. Cool drinking water in the refrigerator.
11. Install aerators on all faucets.
12. Run laundry and dishwasher with full loads only.
13. If replacing washer, buy a low-water-use front loader.
14. When it's yellow let it mellow; when it's brown flush it down'
15. Put toilet paper in a nearby trash receptacle.
16. Don't use toilet as a wastebasket or ashtray.
17. Replace an old toilet with a 1.6 gallon per flush or a dual flush model.
18. Place a container in toilet tank to reduce flush.
19. Install a low-flow shower head.
20. Keep a bucket in the shower and catch cold water to use in the yard.
21. Turn off shower while shampooing and conditioning hair.
22. Put food coloring in toilet tank to check for leaks.
23. Keep shower time under 5 minutes.
24. Shower together.
25. Fill bathtub less than halfway.
26. Turn off water while brushing teeth and soaping hands.
27. Fill basin when shaving.
28. Install a faucet which shuts off automatically.
29. Insulate hot water pipes and hot water tank.
30. Install a hot water recirculating pump or an instant under-sink hot water heater.
31. Check under sinks and faucet periodically for leaks.
32. Clean fish tank and reuse the water for plants.
33. When replacing pet's fresh water use the old water on plants.
34. Turn off water softener while on vacation, or eliminate it.
35. Teach children about water conservation.
36. Conserve energy.

WATERWISE WEBSITES

www.saveourwater.org
www.water-ed.org
www.epa.gov/watrhome
www.energystar.gov
www.watershare.usbr.gov
www.wateriser.gov
www.rmi.org
www.irrigation.org
www.consumerenergycenter.org
www.landscape@water.ca.gov

REFERENCES

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Sharing the Knowledge, UC Master Gardeners of Toulumne County

"Water Conservation Tips for the Lawn and Garden", UC ANR Publication 8036