

Making The Best Use of Water

By Margo Murdock

August 2012

When it gets really hot—i.e. when temperatures hover in the upper 90's— we need to water more frequently. One way to cool off plants without increasing your watering frequency is to spray the leaves in the early morning using a hose. If you have organic mulch like bark, moistening the wood makes it cooler for a good portion of the day until the mulch dries out. This also increases the humidity for the plants, cooling them so they don't dry out as easily. Be sure to water in the morning though, so you don't develop fungal diseases like powdery mildew.

The best quality water for plants is rainwater. You can see this is the case by watching the plants perk up after a rain. Rainwater is more acidic than our tap water and it helps clean dust and pollen off the leaves. Many plants that struggle in our alkaline soil appreciate rainwater the most. So how can you get more rainwater? It's easier than it sounds. You can capture water passively where no pump is needed or actively where you'll have to pump the water out to make use of it. You will also need a storage device like a barrel, cistern, or pumice wick.

Passive Methods

One approach for saving rainwater is to keep the water on your lot during a rain. You can do this by creating berms (hills) and swales (valleys) and then leading the water where you want it. So create a swale that follows the natural drainage, put a dry stream in the bottom, then beginning around your canale splash area, lead the water to a ponding or slightly sunken area to hold the water for a while. The ponding area can surround a tree or contain other plants that need more water. Dry streams look best in a combination of at least three graded gravel sizes with cobble on top to take the heaviest splash under the canale. The combination of sizes keeps the soil from eroding. I have one dry stream that goes from the pond (an overflow) around the house to and through the wall. All the canales feed the stream. Two of the canales also capture roof water in a rain barrel.

Creating a Weir to Slow Water

If you have a really steep slope, you can create steps (called a weir) made of rock or other material that drop the water gradually down the slope. The idea is to slow the water down and then create tributaries to the areas you want to water. Or you can create a brush check dam at the top of the slope and then at other various lower points. Each one acts like a leaky dam, allowing water to flow through but slowing it down. You have to keep water from "overtopping" at the highest point of the slope or you'll end up with carved channels. Digging in a straw bale at the top can help reduce overtopping too. You can also create fish scale depressions perpendicular to the water flow that act like table fountains that have the overflow go to the next basin – really just a series of cascading basins.

Look for areas of large impermeable surfaces like patios and driveways and capture the runoff. After I nearly washed my downslope neighbor's soil away in a really heavy rain, I installed my first rock garden. I located it at the lower end of the driveway and designed it to capture some of the driveway runoff. I also added more shrubs and perennials, plants with a network of roots to help hold the soil in place. My

neighbor had a decorative, but non-functional cobble design in his landscape which we dug out to make a swale, so it would slow some of the runoff, too. Anything to keep my free water from going to Texas!

Another passive method is to add organic matter like compost to your soil to increase its water holding capacity. This method is effective with our soil because decomposed granite drains so quickly. Note that if the plants in the area appreciate our native soil their roots may rot or their stems will grow woody so consider when this is a strategy you want to use. It is generally most effective for adapted, woodland, or riparian plants – places where there is more organic matter in the soils.

Or, you can create a gabion, a wire-wrapped basket of cobble, built like a wall to slow the water down. Gabions have been used on the east side of Albertson's parking lot to control erosion.

Active (Storage) Methods

The use of rain barrels that capture excess water from the roof gives you a supply that you can use when it's really hot. Get the kind of barrel that works with canales and get it in shades of tan which are more aesthetic and cooler than the forest green typically available. You may also need a small pump for removing the water since pressure isn't strong enough unless you have a really tall deep barrel. Or if you have the patience to wait for the water to flow you don't need a pump. With more money and using heavy equipment you can install a cistern or underground storage device like the underground tanks at gas stations. A pump is required to access the water and you will need a filtering system as well.

Or, you can install a pumice wick under a walkway. Pumice is a volcanic by-product that acts like a sponge. Describing how to build one requires more space than I have available here, but there's a good write-up at http://www.sfpermaculture.com/articles/article_pumice_wicks.html With a pumice wick you put plants on either side of the wick and they use the stored water. You need to locate the wick where it can capture water and then you need to surround the wick with plants or beds.

Conclusion

So— if you'd like to save money and water, one or more of the methods above should work for you. And some of them turn a problem like erosion into a benefit.