



Harvesting Rainwater in Your Garden

As gardeners, we are all familiar with the process of harvesting fruits and vegetables for our table. When we have more than we can use, many of us preserve the bounty from our gardens for later use. So it must be with our water, our most precious resource and one in very short supply in much of the West. Harvesting water becomes not only an environmentally appropriate thing to do but also a matter of necessity. With the outdoor watering restrictions many communities have in place, we must seek ways to harvest as much water as possible to keep our landscapes alive.

Any impervious surfaces such as roofs, driveways, or patios, will generate large quantities of water during rainfall. If not harvested, it becomes runoff, not contributing much benefit to the landscape, and possibly causing erosion problems. But this water can be harvested and put to beneficial use; there are many simple and inexpensive ways to do this.

Moving soil around to help keep water in the landscape can be one of the least costly ways to retain water in your landscape. The key is to observe where water goes during a rainfall and determine the best way to slow it down so it can soak into the soil. Since most home sites have some degree of slope, whether small or steep, it help to slow the flow of water down the slope. A series of *swales* and *berms*, and terracing are two ways to harvest water on slopes.

Swales and berms are inexpensive and easy to install. A *swale* is a shallow ditch excavated along the contour of a slope. The excavated soil is placed on the downslope side of the swale to create a mound of earth, or *berm*. Swales and berms can take many forms and can be designed to retain a little or a lot of water. Plants placed in the swale or along the lower part of the berm will benefit from added moisture. Swales and berms can be built so that any excess water will flow into another swale farther down the slope. A wide, shallow swale combined with a low berm will be barely noticeable once covered with vegetation.

A similar concept should be used for trees or shrubs planted on slopes. Tree wells made of soil should be U- or V-shaped and open on the high side so water flowing downhill can be captured in the well.

Terraces are a more traditional method to retain water on slopes. A terrace requires the use of stone, landscape timbers, or other material to create a retaining wall where the slope is cut to make a flat planting area. A terrace usually requires the importing of topsoil to backfill behind the retaining wall. Small terraces are potential do-it-yourself

projects but any large terrace may need to be done by professionals to make sure the retaining wall won't collapse from the weight of the soil behind it.

Hard surfaces at ground level can be designed so rainwater flows onto landscaped areas instead of into the street.

French drains, covered trenches used to spread out excess water, can be used to direct rainwater from hard surfaces to areas of the landscape that need extra water. Trees are one of the best candidates for this supplemental water because of their deep roots. There are several ways to make a French drain. One possibility is to dig a trench from the water source (roof, driveway, and parking lot) to the area where water is needed. Make sure the trench has a slight slope away from the water source. Place a perforated PVC pipe in the bottom of the trench, line the trench with gravel, and backfill with soil.

Rain barrels can be used under downspouts to catch rainfall as it runs off the roof. The barrels often have spouts at the bottom to drain the water for irrigation. Rain barrels can be connected together with piping for a larger storage capacity or there are portable cisterns that can be used in conjunction with rain barrels. To capture the maximum amount of water, there should be a rain barrel under each downspout.

Cisterns are large capacity containers, either above or below ground, typically used to store rainwater. Rainwater is directed off the roof through gutters and downspouts into the cistern. The roof of a typical house will generate thousands of gallons of water that can be used for irrigation during the dry season. A submersible pump can be used to gain access to the water in underground cisterns while many above ground cisterns operate on gravity flow. Cisterns can hold large amounts of water but can be fairly expensive to install, particularly those that are underground.

Graywater collection is the system whereby household water from bathroom sinks, showers, tubs or laundry is collected for landscape irrigation. Any residence has a large potential supply of graywater but there are regulatory requirements governing its use due to the potential for pathogens in the water. If used, graywater is suitable only for ornamental landscapes, not for food crops.

There are many ways to collect water that would otherwise go into the stormdrains, whether rainwater or greywater. Your landscape will benefit from whatever you do to harvest water and you will be able to appreciate the beauty of flourishing plants.