

Rain Barrels 101

Besides helping the environment, an obvious reason for harvesting rainwater is to save money. Depending on the size of your house and the amount of rainfall in your area, you can collect an abundance of rainwater with a simple system. This extra water can have a considerable impact on your water bill. Even if you live in a rural area and have your own well, the fact that rainwater is naturally soft water may be enough to justify collecting rainwater. Rain is devoid of minerals, chlorine, fluoride, and other chemicals. For this reason, plants respond very well to rainwater. Your garden is a vast interconnected community of trees, plants and tiny critters that live in the soil, all interacting and affecting each other. Thus, the type of water you use in your garden will affect the health of this intricate community. If you're harvesting rainwater with rain barrels to use for watering your landscaping, the rainwater can help to improve the health of your gardens, lawns, and trees.

And speaking of community, one of the best reasons to start harvesting rainwater with rain barrels is that if you teach and encourage others to do the same, you will help to spread the culture of rainwater collection and in turn help your larger community and the environment.

Since the rain water is usually collected from the roofs of houses, it picks up very little contamination when it falls. Of course, keep your roof clean of debris and potential contaminants to maximize purity. The material your roof is made of is also important in how much contamination the water will carry. Some roofs, such as old tar and gravel or old asbestos shingle roofs create too much contamination for rainwater harvesting. Treated cedar shakes are also not recommended for water harvesting. The type of gutter system you have is also important, as many may have lead soldering or lead-based paints. So, it would not be a good idea to use water from it on your plants in the veggie garden, or give it to your pets.

Water stored in any kind of container represents a risk for small children. Children can drown in as little just a few inches water. Additionally, both wild and domestic animals may become trapped and drown in your barrels if uncovered. Therefore, you should never use an open container for rainwater collection. Standing water is also where mosquitoes breed. Make sure you have some way to cover your rain barrel with a screen or a top. Using covers for barrels or cisterns also keeps the water from accumulating leaves and other contaminants. The barrels should also have some kind of filter to keep out silt and leaves. Filters can be as simple as a funnel with mesh attached to the inflow and outflow openings.

Our simple rain barrel has a hole in its lid to accept a gutter downspout, using the force of gravity to deliver the water to a barrel. A hose bibb low on the barrel allows you to tap the water whenever you need it. Stand the rain barrel on some blocks to bring the tap up high enough to get a pail under it. An overflow pipe higher on the barrel drains excess water, diverting it to a secondary system to avoid overflow water damage to the foundation of your home. A secondary system might be another rain barrel, a larger cistern which can pump water to the landscape, a drainage path to a retention basin, or directly to specific plants that can handle extra water.

Items Needed:

Large food-grade plastic barrel with fitted lid
PVC male 3/4" male adapter to 1 3/4" od
Flex-a-Spout tubing
Expanded Aluminum Gutter strainer
1 1/2" id PVC pipe schedule 40 id, 2 feet
1/2 pt. funnel to attach to bibb inside barrel

Blocks to set under barrel
3/4" male Hose bibb
Teflon tape
4" Hose clamp
Silicone sealant
5x5" fiberglass mesh for filter

Tools Needed:

Electric drill

Hack saw

1¾" hole saw

Jig saw

Screwdriver

1. Cut lower hole with 1¾" hole saw, 3 inches above the bottom of the barrel.
2. Cut upper drain hole with 1¾" hole saw, 5 inches below the top of the barrel.
3. Cut a 2½ x 3½" rectangular opening in center of lid.
4. Wrap Teflon tape around hose bib and twist it into the PVC ¾" male adapter.
5. Push the hose bib on the adapter into the lower hole, B (see assembled diagram).
6. Insert the 1½" PVC pipe 6 inches into the upper drain hole, C.
7. Run a bead of sealant around the inside and outside of holes at B and C. Let dry.
8. Assemble the smaller filter:
 - a. Cut the small end of the funnel to fit over the male adapter inside the barrel.
 - b. Cut fiberglass mesh to cover the larger end of the funnel.
 - c. Attach the mesh to the large end of the funnel with sealant. Let dry.
 - d. Attach the smaller filter to the male adapter inside the barrel at B with sealant. Let dry.
9. Insert the smaller end of the Flex-a-Spout completely into the opening in the lid, D.
10. Assemble the larger filter.
 - a. Shape gutter strainer to fit rectangular end of Flex-a-Spout.
 - b. Shape the hose clamp to the rectangular end of Flex-a-Spout inserted into the lid.
 - c. Attach the strainer to the end of the Flex-a-Spout inside the lid with hose clamp.
11. Set barrel on blocks, E.
12. Fit lid tightly onto the barrel.
13. Attach Flex-a-Spout F to downspout.
14. Direct the overflow pipe to a secondary system.
15. Let it rain.