

# RAIN BARRELS



## **YARD SMART 2012 – Fact Sheet #8** *from the* **ECOLOGY ACTION CENTER**

### **Harvesting Rainwater with Rain Barrels, an Old Idea with a New Following!**

Collecting rainwater for use during dry months is an ancient and traditional practice. Rainwater was collected in simple clay containers as far back as 2,000 years ago in Thailand. With the rising price of municipal water and drought restrictions now facing much of the United States during the summer months, more and more homeowners in our own modern society are turning to the harvesting of rainwater to save money and protect this precious natural resource.

Some believe that water is an infinite resource, but as the saying goes, "you don't know the value of water until the well is running dry." In parts of the U.S., most of the municipal water comes from overstressed underground aquifers. Whereas rainwater is considered a renewable resource, many aquifers are being "mined." Communities are drawing out more water than the aquifer naturally receives to recharge it. As people become aware of water shortages, they seek ways to minimize their impact on municipal water supplies. Rain barrels can be part of the solution.

### **The Freshwater Facts**

More than 70 percent of the Earth's surface is covered by water, but only 2.5% of water is fresh water (the rest is salt water in the oceans). Of the fresh water that exists, most is locked up in glaciers and ice caps. Water can also be found in the form of clouds and humidity in the soil. That leaves us 3/10 of 1% found in the form of lakes, rivers and streams.

### **Why Harvest Rainwater with Rain Barrels? (Money *and* the Environment!)**

Besides helping the environment, an obvious reason for harvesting rainwater is to save money and reduce your water bill. Even if you live in a rural area and have your own well, rainwater is a natural soft water that has many uses. Some people use it for watering their landscape, garden or houseplants. Rainwater can also be used for drinking after treatment with a filtration system. (Many cities require a certified filtration system for drinking water, and regular water testing.)

Trees and plants have an efficient immune system that allows them to fend off diseases and other invaders as long as they have a healthy soil environment and are not stressed by factors such as drought. Trees and plants rely on fungi, bacteria, and nematodes to help absorb the minerals and nutrients they need. Trees and plants depend on a fungal root system called mycorrhizae, which attaches to tree and plant root hairs and extend the root hair system. Mycorrhizae use some of the plant's energy, but provide minerals to the plant. In healthy soil, the mycorrhizae of one tree connect with mycorrhizae of other similar trees. This 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.

### **How do I start?**

There are many types of rainwater harvesting systems. Costs vary considerably, and you can spend anywhere from a few dollars to thousands of dollars. Your best bet is to review the options

available on the market to find out what is in your price range and what a realistic set-up for your home is. Browse rain barrels at **Clean Air Gardening** or **Rainsaver USA**.

Perhaps the simplest use of rainwater if you are on a budget or have space restrictions is to put a rain barrel under one of the gutter downspouts and use the water on sensitive indoor plants. The plants will appreciate the soft water. The barrel should always be covered between uses. Some systems use several barrels connected together near the bottom with PVC pipes or hose. A small pump can be used in one of the barrels to pump the water to your garden. Bigger and more complex systems may use gravity to feed water from gutters to a larger cistern, which pumps water to the landscape.

Whatever you pick, use covers that keep the water from accumulating leaves and other contaminants. They should have some kind of filter to keep out silt and leaves. Filters range from a funnel with mesh at the bottom, covered by gravel, to a rainwater washing apparatus.

### **Safe Rainwater Harvesting Catchments**

Any catchment area will pick up some contamination from leaves, bird droppings, dust, and other natural causes. This water is fine for watering your garden, but it will need a good filtering system before you can be sure it is safe to drink. Some roofs, such as old tar and gravel or old asbestos shingle roofs, or treated cedar shakes are 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. Also, if you live near heavy industrial pollution, your rainwater itself may contain some undesirable contaminants. Talk to your local municipal government about the issue of environmental contaminants in your area that may affect rainwater quality.

### **Other Safety and Maintenance Concerns**

Water stored in any kind of container represents a risk for small children and animals. They can drown in as little as just a few inches of water. They can become trapped and drown in your barrels if uncovered, so you should never use an open container for rainwater collection. Make sure you have some way to cover the barrel with a screen or a top. Standing water is also where mosquitoes breed; to reduce the spread of West Nile virus you'll need to take appropriate measures to deter mosquitoes from breeding in your rain barrels. You should use a fine screen over the top of the barrel and seal all other openings well with a water-proof silicone caulk to prevent mosquitoes from entering the rain barrel.

The type of barrel you use is also important. Make sure it is a food-grade container that was made to hold liquid. Make sure you place it on level and stable ground.

A final bit of advice for all rainwater catchment systems is to always monitor the rain barrels for overflow. You don't want to damage your house's foundation.

This information was gathered from [Clear Air Gardening.com](http://www.clearairgardening.com)

You can get more specific details on rain barrels from our website at <http://www.ecologyactioncenter.org/clean-water/rain-barrels.shtml>