

Rainwater Harvesting

Rainwater harvesting is the process of capturing, channeling, and storing rainwater for later use. Methods of harvesting rain date back more than 4,000 years in areas such as Rome, the Middle East, and China. Today, rainwater harvesting systems can be implemented at home with a little bit of planning and effort.

For homeowners, rain barrels are a simple and relatively inexpensive solution for residential water conservation. This is especially the case since the average residential roof will produce a large amount of runoff with very little rainfall.

Harvesting systems can be as simple as a barrel under a gutter with a spigot at the bottom, or they can be an elaborate series of barrels for much larger holding capacities. The limiting factor in most systems is the space available and aesthetics.

One factor to consider in your rainwater harvesting system is the weight of the water. With water weighing 8.34 pounds per gallon, a 50 gallon plastic barrel can weigh over 400 pounds. Since rain barrels should be elevated to allow gravity to help with water distribution, you should always place your rain barrel on a sturdy and solid platform.

Your system will also need a method to divert water after your collection system is full. Diverters are available that return overflow water to your gutter or perhaps you could use a hose to direct the overflow water away from the house. Filter screens should also be used to prevent mosquitos from breeding in your rainwater collection system.

Since dust and bird droppings can accumulate on the roof between rainstorms, the first rooftop runoff often contains higher concentrations of these contaminants. To counter this, some rainwater collection systems include what is called a “first flush diverter.” This can be thought of as a kind of pre-harvest collection reservoir to help keep these contaminants from getting into your water.

To prevent algae growth, above ground collection systems should be opaque, heavily tinted, and have sun barriers. Painting your rain barrel is a good way to express your creativity and help your rain harvesting system become a beautiful addition to your garden rather than an awkward accessory.

OSU has fact sheets on how to design a rainwater harvesting system online and available at our Diagnostic/Help Center by clicking [HERE](#), or you can visit the Oklahoma Gardening YouTube page and search for “rain barrel” where you will find two instructional videos on how to make your own water harvesting system.