

RAIN BARRELS!

This brochure produced by:
Lebanon County Conservation District
Contact: Stephanie Harmon, Watershed Specialist
2120 Cornwall Rd *Suite 5
Lebanon, PA 17042
Phone: 717-272-3908 ext. 4
Fax: 717-272-5314
www.lccd.org

**THANK YOU TO ALL OF OUR PROJECT SPONSORS &
PARTNERS THAT HAVE ASSISTED THE LCCD IN
CONDUCTING RAIN BARREL WORKSHOPS IN 2008 & 2009:**

PA DEP-Environmental Education Grants Program



The League of Women Voters of Pennsylvania
Citizen Education Fund through a Section 319
Clean Water Act grant from the Pennsylvania
Department of Environmental Protection.

North Cornwall Township, Lebanon County

Lebanon County Penn State Cooperative Extension-
Master Gardeners Program



**BRINGING NEW LIFE
TO WATER CONSERVATION
WITH AN OLD IDEA!**



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HOW MUCH WATER WILL MY RAIN BARREL COLLECT?

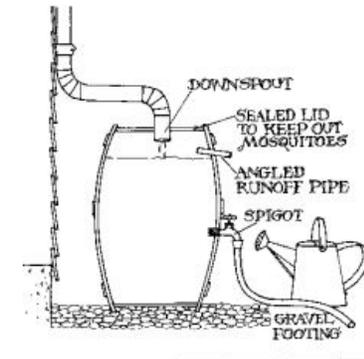
The formula to remember: 1 inch of rain on a 100 sq. ft. roof yields 62.3 gallons of water. To calculate the yield of your roof; multiply the square footage of your roof by 62.3 and divide by 100.

$$\frac{\text{sq. ft. of your roof} \times 62.3}{100}$$

*Depending on the roof area, a rain barrel could fill up with as little as 1/10th inch of rain (based on the fact that 1 inch of rain on 100 sq. ft. equals about 62.3 gallons of water).

GENERAL TIPS & SUGGESTIONS FOR USING YOUR RAIN BARREL:

- To increase flow; you can elevate your barrel by using concrete blocks or building a small stand which will increase the pull of gravity. You can also attach a longer hose to extend the reach of your barrel. Purchase an additional water hose and trim it to 10 to 15 feet. Reattach the hose ends and clamp the cut end to your rain barrel. Make sure to hang the nozzle higher than the rain barrel -- try hanging it on a tree branch or clamping to your house. Rain barrels can tip over -- be sure yours is level!
- To avoid small children and animals from getting into the barrel or becoming injured by the barrel:
 - √ Keep the screen on and secure at all times
 - √ Make sure the rain barrel is placed on a level and stable surface
 - √ Do not allow children to play on or around the rain barrel
- Do not use collected water for drinking, cooking, or bathing.
- Make sure all overflow hoses are directed away from your home's foundation.
- Be sure to check your rain barrel during frequent and heavy rain falls to avoid overflowing water from backing into your home's foundation.



THE WATER WON'T COME OUT.

Rain barrels can clog up, especially in the newer models where the spout is on the bottom. Keep the area clear by rinsing out your barrel during a dry spell or adding cheesecloth or muslin on top of the screen as an additional filter. For existing clogs, remove the water hose and use a wooden or metal skewer or ice pick to clear out any debris.

MY RAIN BARREL WON'T HOLD WATER.

While your barrel is empty, reattach the overflow tube (the clear tube inside the rain barrel) and push it in tightly (Deluxe Rain Barrel only). To check for leaks, fill the barrel with a water hose. When the water level stops going down, check around that level for a leak. Most small leaks can be repaired with aquarium caulk, a clear sealant available at most hardware stores.



CAN I CONNECT A GARDEN HOSE TO MY RAIN BARREL?

Yes. The rain barrel should be raised up on several layers of cement blocks. Research has found that a rain barrel elevated 1 1/2 feet on blocks will run a 2 foot hose at 1 gpm, while a barrel elevated 2 feet will run the same hose at 2 gpm. It may take a few minutes for the water to begin flowing from the hose. While 1 to 2 gallons per minute won't run a sprinkler, it is enough to water plants with a handheld hose (www.ci.olympia.wa.us/cityutilities/drinkingwater/conservation/rainbarrel).

*If you choose to raise your rain barrel up on blocks, make sure the barrel is stable and level, by placing it on blocks that are set on a firm & level surface.

WHAT IS A RAIN BARREL?



A RAIN BARREL IS A RAINWATER COLLECTION SYSTEM THAT STORES ROOFTOP RUNOFF TO BE USED LATER FOR ACTIVITIES SUCH AS LAWN AND GARDEN WATERING, EVEN CAR WASHING AND WINDOW CLEANING
!!!!

BENEFITS OF USING A RAIN BARREL:

- Reduce storm water runoff
- Water conservation
- Water reuse
- Natural resource protection
- Clean, pure water you can use for many purposes
- It's FREE!



WHAT CAN YOU DO WITH THE CAPTURED WATER?

- Water lawns
- Water gardens
- Water flowers
- Wash cars
- Clean windows, lawn furniture, etc.



CAUTION: STORED WATER SHOULD NEVER BE USED FOR: DRINKING, COOKING OR BATHING!



By adopting simple conservation strategies, homeowners can conserve water both indoors and outdoors. Collecting rain water via a rain barrel for use in the yard, garden and other outdoor cleaning projects is one way to begin conserving water today!

STOP THAT STORMWATER!

- Stormwater is excess water that is not infiltrated into the ground during a storm.
- Rain barrels help minimize the volume of stormwater runoff by capturing large quantities of water before it runs off.

WHY CARE ABOUT STORMWATER?

- Stormwater contributes to nonpoint source (NPS) pollution & is the number one means for pollutants to enter our local streams and watersheds!
- This results from excess runoff and impervious surfaces.
- Leads to increased erosion of stream banks & flash flooding.
- Stormwater affects the quality of local water supplies as it flows across roads, sidewalks, driveways & lawns, etc. prior to entering the water supply.

WATER CONSERVATION!

- Rain barrels help conserve water by capturing water that would likely run off without being absorbed by the ground.
- Promote infiltration by allowing the water to be used at slow intervals, not all at once, as in a storm.
- Reduce groundwater consumption.
- Reduce electricity needs (well owners).
- Saves money & energy-decreased demand for treated tap water.

WATER CONSERVATION TIPS



Did you know that 60% of total household water supply is used inside the home in the kitchen, bathroom, & laundry room? A leaking faucet alone can waste up to 4,000 gallons of water a year! That's money down the drain! Implement these tips to conserve water inside your home:

IN THE KITCHEN:

- Run the dishwasher only when full.
- Do not pre-rinse dishes before placing in the dishwasher.
- Defrost food in the refrigerator instead of using running water; a running faucet uses approximately a gallon of water per minute.
- Keep a container of water in the refrigerator rather than waiting for cold water from the faucet.
- Consider water use when purchasing a new dishwasher. New water & energy efficient models use 20% less water.



HOW DO I MAINTAIN MY RAIN BARREL?

Your rain barrel will require minimal maintenance to keep it working efficiently:

- Check the connections, fittings and screen to make sure they are working properly, free of debris, and fit snugly
- Empty your rain barrel frequently
- Clean your gutters, downspout, and screen regularly to reduce debris
- If you purchased a downspout diverter, close it when the barrel is full
- Once a year, tip it over during a dry spell and rinse it out with a hose

**Special note for winter maintenance:* Your rain barrel and all connecting hoses must be drained during freezing weather to avoid damage. In many cases leaving the drain at the bottom open to prevent water from standing in the barrel should be efficient. It is recommended to drain the barrel, turn it over to rid of any remaining water and store the barrel with hoses in a protected area.

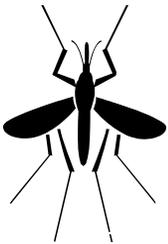
WILL THE WATER SMELL?

Any standing water will begin to smell after a while, especially if it contains organic matter (like leaves). Smelly water won't hurt your plants, but it can be a nuisance. To avoid this:

- Empty your rain barrel frequently (weekly if possible).
- Put a small amount of baking soda in the barrel. A small amount won't hurt plants, but vinegar might -- don't use any type of vinegar in your rain barrel.

HOW DO I KEEP MOSQUITOES OUT?

While the screen on top prevents adult mosquitoes from getting into your rain barrel, larvae can be washed in from your gutters. You can help prevent breeding by emptying the barrel regularly, or adding "mosquito dunks" to the water. Mosquito Dunks are a bacterial larvicide, a non-toxic bacterium that kills mosquito larvae. It's safe for your plants, and it can't harm pets or people. You can find the product at most garden supply stores.



THE WATER IN MY RAIN BARREL HAS DEVELOPED A GREEN SCUM ON TOP -- HOW DO I GET RID OF IT WITHOUT HARMING MY PLANTS?

That green scum is probably algae. Algae grows almost in any water with sunlight and is not harmful. To eliminate it, put one or two capfuls of bleach in the water (not in your empty tank). Although that small amount of chlorine won't be harmful, let the water sit for a few days before you use it on plants. When the barrel is empty, turn it over and use a scrub brush to clean it out.

HOW DO I INSTALL A RAIN BARREL?

The rain barrel should be placed so that it collects as much rain as possible from your roof. If you have spouting, you can shorten a downspout to end above the barrel, and reattach the end elbow joint to direct the flow. You can also choose to attach a downspout diverter which allows you to either direct water into your rain barrel or to your normal drain system. If you do not have spouting, the rain barrel can be placed under a corner where two roof sections meet to create a valley. Position the rain barrel carefully so that it catches the water from a light rain as well as a more forceful flow during a downpour. When the barrel is full it can weigh over 500 pounds! It is very important the rain barrel be installed on a secure, sturdy base such as a patio or the edge of your driveway. A simple and economical level base can be created using concrete blocks.

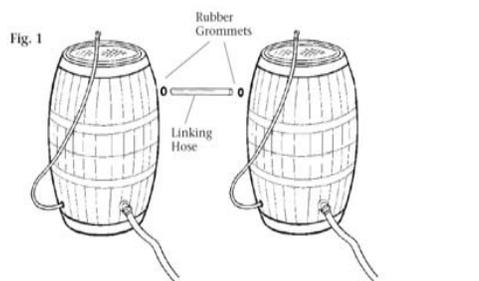


CAN I CONNECT RAIN BARRELS?

Yes! Connecting barrels efficiently allows you to harvest more rainwater from a single downspout.



DELUXE RAIN BARREL



IN THE BATHROOM:

- Install low flow toilets or toilet dams.
- Test toilets regularly for leaks. A leaking toilet could waste up to 100 gal/day.
- Do not use the toilet as a waste basket.
- Replace old showerheads with new low flow/conservation showerheads.
- Take shorter showers. Turn your low flow/conservation showerhead to the lowest flow or to drip while shaving.
- Turn off water while shaving and brushing teeth.

IN THE LAUNDRY:

- Run full loads of laundry instead of numerous small loads.
- Consider energy & water efficiency when purchasing new washing machines. Newer, more efficient models use 40% less water and can save up to 6,000 gallons of water a year.



The remaining 40% of your total household water supply is used outside the home. Implement these tips to conserve water usage outside your home:

LANDSCAPE IRRIGATION:

- Install efficient irrigation systems including drip irrigation, efficient sprinkler systems, and soaker hoses (which can be linked to your rain barrel).
- Set sprinklers for lawn & garden only; do not waste water on the sidewalk, driveway, or street.
- Water the lawn only when the ground is dry & preferably only once a week. The amount of water used by a sprinkler in one hour is equal to the daily water needs of a family of four.
- Water during the coolest part of the day (preferably morning) and never on windy days. As much as 30% of water is lost due to evaporation during mid-day watering.
- Pull weeds to decrease competition for water.
- Increase mowing height to 2-3 inches and apply mulch to both reduce evaporation and prevent weed growth.
- Limit grass areas and plant trees, shrubs, and other native plants that require less water to landscape your yard. Grass turf requires 30-50% more water than shrubs and other groundcover.

MISCELLANEOUS OUTDOOR USE:

- Repair or replace leaking hoses and sprinklers.
- Always use an automatic shut off nozzle on hoses.
- Use a broom instead of a hose to clean decks, sidewalks, & other paved surfaces. Running a hose for 5 minutes uses 25 gallons of water.
- Cover pools to prevent evaporation.
- Collect rainwater in your rain barrel to water your garden & landscaped areas!

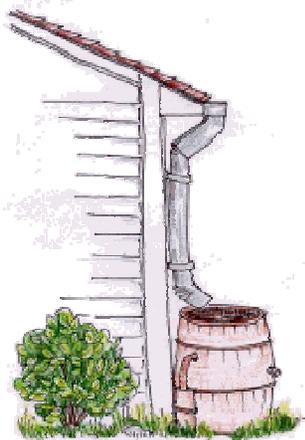
FREQUENTLY ASKED QUESTIONS ABOUT RAIN BARRELS

IS THE RAIN WATER I COLLECT SAFE TO USE IN MY VEGETABLE GARDEN?

If your roof is slate or metal, the collected water will be naturally soft, chlorine-free rainwater and excellent for plants of all types. Water falling from asphalt roofs is too polluted to use on produce or to drink. General practice is to avoid watering vegetables and other edible plants, such as herbs you plan to use in cooking, with rain barrel water collected from asphalt-shingle roofs. These kinds of roofs may leach various complex hydrocarbon compounds, so most people avoid using water from asphalt-shingle roofs or flat tar roofs on plants meant for human consumption. To date there is no definitive research on the amounts and types of hydrocarbon compounds which may leach from such roofs, though it is common practice to use water collected from asphalt-shingle roofs for watering ornamental plants and shrubs. Enamelled steel and glazed tile roofs generate little or no contamination and rainwater harvested from them is commonly used to water vegetables.

WHEN NOT TO USE A RAIN BARREL:

- If your roof is made of wood shingles or shakes and has been treated with chemicals to resist rotting and moss growth.
- If you have zinc (galvanized metal) anti moss strips at your roof peaks.
- If you have a copper roof or gutters.
- If you have asphalt shingles with zinc embedded in the surface.
- If you've recently reroofed, check your shingle specifications before using rain barrels.



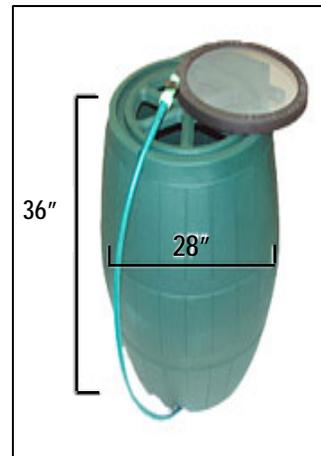
RAIN BARREL SPECIFICATIONS-RAIN KING:



The *Rain King*, Inc. rain barrel was designed & manufactured in North Carolina. It is made of *100% recycled content* and is black. It has a holding capacity of 65 gallons of water and includes a large capacity overflow hose and a brass 3/4" spigot that easily connects to any standard garden hose. It easily attaches to your home's downspout and is designed to function via gravity flow and requires no pumps or mechanical add-ons. The *Rain King* rain barrel has two built in overflow ports. The primary over flow routes excess water away from your home's foundation.

A secondary over flow routes water to a second or third rain barrel. Thus, the system is easily expandable to double, triple, etc. your water storage capability. A screen trap at the water entry point keeps unwanted pests (mosquitoes, etc.) out of the water. Additionally, this barrel provides a child resistant lid with built in lock channels.

RAIN BARREL SPECIFICATIONS-DELUXE RAIN BARREL:



The *Deluxe Rain Barrel* – which is on display at the Lebanon County Agricultural Center; is made of 25% recycled dark green polypropylene plastic and is intended to stand up to outdoor use with proper care. It has a 75 gallon holding capacity for rain-water. *The Deluxe Rain Barrel* includes a debris screen, hose, and overflow tube. This barrel stands 36" tall (3 feet) and is approximately 28" in diameter at the widest point. The *Deluxe Rain Barrels* on display were purchased through a grant from the League of Women's Voters-Water Resource Education Network.