

The drop on water

Rain Barrels

A rain barrel or rainwater barrel is a device designed to store water.

Rain Barrels

A rain barrel is a storage tank normally located at the end of a downspout that directs rain from the roof of a building (see Figure 1). The water collected in the rain barrel has not been properly filtered and disinfected, so it is not recommended for use as a drinking water source. It is ideal for watering lawns and gardens.

Rain barrels are easy to install and easy to maintain.

The cost of the barrels is fairly low and they can do many of the following:

- reduce runoff, since the water slowly seeps into the ground when used for gardens and lawns
- reduce the use of treated, potable water for outdoor uses, such as watering plants
- reduce domestic water use
- reduce energy consumption that would normally be required to treat and pump water and wastewater
- promote gardening

QUICK FACTS

- A rain barrel is a storage container for holding rain water for household purposes such as gardening.
- Rain barrels should be made of a material that has been certified to meet the current NSF standards for materials in contact with water.
- More than one rain barrel may be useful, depending on the amount of water being collected.
- Inspect, maintain, and clean rainwater barrel systems regularly.

Rain Barrels

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Components

Figure 1 shows the main components of the barrel system.

tank – average capacity is between 200 and 400 litres (50–100 gallons)

cover – has a hole to allow connection to the downspout; as a safety precaution, make sure the cover is secure.

sediment and insect screen or filter – this feature may be optional, but will keep debris out of the water; debris may clog the equipment

overflow outlet – when the tank is full, the overflow outlet diverts additional water to a specific area, such as a rain garden or other feature designed to let rainwater infiltrate slowly into the ground

valve – can be opened and closed to allow water to be released from the barrel

hose adaptor – located at the bottom of the tank. It connects to the garden hose to distribute the water in the garden, etc.

Materials

Rain barrels are commonly made of fiberglass, ceramic, or plastic. Some materials may leach chemicals into the water that may harm the plants in your garden. Make sure the material is certified to meet the current NSF standards for materials in contact with water.

NSF International is a not-for-profit, non-governmental organization that sets health and safety standards for manufacturers in 80 countries. See its website at www.nsf.org.

Size

Estimate the volume of water available for collection with the following formula:

$$\text{surface area of roof} \times \text{depth of rain} = \text{volume of water falling on roof}$$

Where the units for the equation are

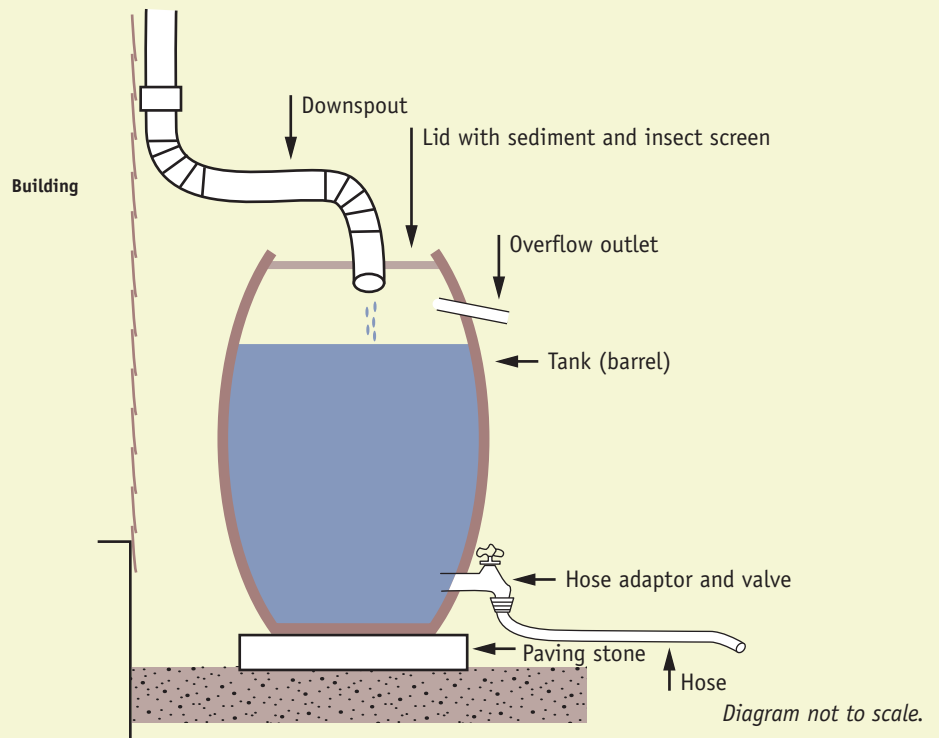
- surface area of roof is in square metres (m²)
- depth of rain is measured in millimetres (mm)
- volume of water falling on roof is in litres (L)

Example: a rainfall of 20mm will produce over 2,000 litres of water on a roof measuring 100 square metres.

$$100\text{m}^2 \times 20\text{mm} = 2,000 \text{ litres}$$

You can often capture 95 per cent of the rain that falls on your roof using a rain barrel, depending on the slope of the roof and exposure to winds. A large roof may need more than one rain barrel to capture all available rain.

Figure 1 – rain barrel system



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Costs

Rain barrels cost between \$100 and \$500, depending on the size, features, and manufacturer.

Maintenance

Keep the rain barrel system working properly with the following regular maintenance:

- Keep gutters and downspouts clear of leaves and debris to prevent clogging
- Drain your rain barrel before each rainfall to minimize overflows, particularly before heavy rains
- Drain and disconnect your barrel before the winter—freezing water may crack the barrel.

Considerations

Use collected water regularly to minimize overflows.

Install the rain barrel on a sturdy, level surface, such as a patio or paving stones. A rain barrel can weigh up to 500 kg (1,200 lbs) when full.

FOR MORE INFORMATION

Contact

Nova Scotia Environment at
1-877-9ENVIRO
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www.gov.ns.ca/nse/water/

