

# Rainwater For Drinking Gathered By Tile Line

Howard Ewen's drinking water comes from tile lines laid around his farm buildings. Set in rock in a plastic-lined trench beneath eaves, the 6-in. perforated plastic pipes capture rainwater for later use. It is a simple system that works well.

"Our well water around here is terrible with rust, and we used to have to service our water softeners twice a year," says Ewen. "About 10 years ago I decided to see if we could use rainwater instead."

He first estimated how many square feet of roof area they had with the house and a second building. Ewen and his wife also had to figure out how much water they used.

A review of rainfall records kept by his wife assured them they had sufficient regular rainfall for their needs, even in the driest years. The problem was catching it.

"I never had much luck with rain gutters," he explains. "They always plug up or birds

get in them."

Instead he went with perforated plastic drain pipe covered with a nylon sock and laid in a V-shaped trench. The gravel laid over the top breaks the energy of the falling water and also keeps debris and critters out. Ewen notes that over time dirt has blown into the gravel, and weeds have started to be a problem. He says he simply hits them with a little herbicide.

Once he had the drain tile system under the eaves, he still had to store the water. He chose a 10,000-gal. stainless steel tank and buried it beside the house. Getting the water to the tank was the next challenge, as they couldn't bury the tank deep enough for gravity flow. Instead the water from tile lines drains into a buried 30-ft. length of 36-in. plastic pipe that serves as a sump. It holds about 1,500 gal. and has a pump at one end.

When the water level drops in the steel



Howard Ewen uses tile lines laid around his farm buildings to capture drinking water. Tile is set in rock in a plastic-lined trench beneath building eaves, with the water stored in a buried 10,000-gal. stainless steel tank.

tank, the pump kicks on if there is water in the sump. Water entering the house from the stainless steel tank goes through a filter.

Ewen only has one regret. "We've got the best water we ever had," he says. "The only

bad thing is that we didn't do it sooner."

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## Catch, Filter And Save Rainwater

Bill Smith has mineral-free water in his shop, thanks to his rain water catch system that includes homemade rain gutters, a swimming pool water filter, and water tanks outside and inside the shop.

"Rainwater is naturally soft, so it doesn't leave mineral deposits when you wash vehicles," says Smith of Delanson, N.Y., who operates a swimming pool service and repair business. "I also use rainwater with my pressure washer and when cleaning out client's pool filters."

Smith sliced a notch down lengths of 4-in. pvc pipe and attached them to the eaves of his garage with U-brackets. Water flows off the roof into the pipes to a 1 1/2-in. drop pipe. The drop pipe is plumbed into the bottom of a 10-in. dia., 3 1/2-ft. tall pool filter.

"The water that comes out of the filter

is free of minerals down to 2 micron size particles," says Smith. "The filter design traps any roof refuse such as dirt, pine needles, shingle particles or roofing nails. They collect in the outside chamber of the filter while clean water flows through the filter."

Filtered water flows by gravity into a 300-gal. holding tank. A 1 hp. swimming pool pump transfers the water to multiple locations. One of them is a 500-gal. tank in Smith's shop. While algae can develop in the outside tank, the larger tank inside the shop is out of the sun and remains algae-free.

Smith notes that a 1/2-in. rain on his garage roof is more than enough to fill both tanks.

"The only negative with the filtration is having to mount it above the collection tank," says Smith. "I need to climb a ladder to service it."



Smith cut notches into 4-in. pvc pipe and attached it to the eaves of his garage. Water flows off roof into a drop pipe that's plumbed to a pool filter, and then into tanks.



Laying poly fabric under a new sidewalk keeps the concrete from cracking due to freezing and thawing, says Lorne Bradshaw.

## Poly Layer Keeps Concrete From Cracking

"Up here in Canada, we have major problems with concrete cracking due to extreme freezing and thawing. We recently tried laying poly fabric under a new sidewalk and we've had no cracking at all," says Lorne Bradshaw in Alberta.

What Bradshaw did was to strip polyurethane fabric off some oilfield pipe and "repurposed" it as a "slip sheet" under the sidewalk. "The concrete now slips and slides on the poly sheets as it expands and contracts.

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**Editor's note: Thanks to Damon Carson at repurposedMATERIALS in Colorado for sharing this idea. Carson has locations across the country that sell all types of "waste" industrial materials for other uses. He says he frequently has polyurethane sheeting on hand (www.repurposedmaterials.com; ph 303 321-1471).**

## Rain Gutters Work Great On The Ground, Too

When new seamless gutters were installed on her house, Faye Bancroft decided to use the old gutters to channel water away from her house.

"We had issues with a crumbling concrete pad," says Bancroft. "It was allowing rain water to settle in next to the house. We needed to move water away more quickly."

Bancroft pulled the lawn back and dug a trench alongside the pad for the gutter to rest in. The depth of the trench leaves the edge of the gutter just below the level of the concrete. Then she laid pavers on the opposite side of the gutter.

"The gutters work great," says Bancroft. "I've had them in for about 5 years now."

Bancroft says the only maintenance is related to frost heave. Each spring she pulls up the pavers and gutter and redoes the trench so they fit in place.

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Faye Bancroft dug a trench and placed old gutters in it to channel water away from her house.

