

## Pond Barrel Waterfall

**I am setting up an outdoor fish pond and wanted to know if it's dangerous to use old wine barrels as part of a waterfall.**

*By Stephen M. Meyer*

Q. Let me start by saying I really love your magazine. It's full of great information from people who really know their topics. I've had saltwater tanks for the past 5+ years and found your magazine to be excellent.

Now for my pond question. I am setting up an outdoor pond with a small trickling waterfall, and wanted to know if it's dangerous to use old wine barrels as part of the this waterfall.

I got the idea from an outdoor landscape company who has a pond set up using three barrels. However, they don't have any fish in the pond. I'm planning on stocking my pond with koi and goldfish and I'm wondering if this would be hazardous to their health. If it is acceptable, do you recommend lining or sealing the barrels before adding water, and, if so, what do you recommend using? Any comments would be greatly appreciated.

A. Worrying about toxicity problems associated with pond building materials is smart. Lots of things can contain water and therefore could be used to create water features, such as falls, streams and pond areas. But many of those things are made of materials, or old substances, that are harmful to sensitive aquatic life — such as fish.

Old wine barrels may contain substantial amounts of alcohol and other substances used in wine or whiskey making. These could leach back into the water and, in strong concentrations, harm your fish. Or they may not.

That said, in principle there is no reason to avoid using these barrels in creating water features. Old whiskey and wine barrels are frequently used for aquatic tub gardens. As mentioned, much depends on the concentration of the original substances in the wood that might leach into the water. Using the barrels as simple tub gardens would produce the highest and most risky situation. But using them as waterfall features for a large pond would probably pose no risk at all.

I suggest you fill the tubs with freshwater and let them stand in full sun. Change the water completely every day for a week. Then refill and put some feeder goldfish in.

Watch the fish for a couple of weeks. Alcohol is used to anesthetize fish, so look for signs of alcohol poisoning, which include listlessness, inability to maintain proper orientation and loss of appetite.

If all seems well, then go ahead and build the falls. If not, go back to soaking and leaving the barrels in the sun again. Allow the pond and waterfall system to run for several weeks before putting in fish.

I realize that all the time inherent in this approach runs counter to the enthusiasm to get the pond going immediately, but it may save you from much bigger hassles later. Patience is your friend when it comes to ponds.

Now, about the mechanics of using the wine barrels. They may be tight enough to hold water reliably, especially after a good soaking. However, there is also a risk that water can seep out through the seams of the barrels, and even small daily losses can drain a pond system quickly.

The waterfall system can be made water tight by using a single-piece liner to both to line and link the barrels in one continuous form. Rocks placed on the liner segments, covering the bottoms of the barrels, will help strengthen the integrity of the falls, aerate the falling water, create natural water sounds and add habitat for bottom-dwelling aquatic invertebrates. Stone, dirt and plants can be set around the barrels and liner to give a natural appearance.