New Use for Old Tires

Revised 2018

Over the years, the Kerr Center has installed many "tractor tire water tanks" around the ranch. The tires are actually the type used on heavy construction equipment. The bottom is filled with cement, and the upper sidewall is removed so that cattle can reach the water.

This is a unique way to recycle old tires. The tire tanks replace galvanized and cement tanks, and last a long time. Also, during winter weather, due to better insulation, they do not freeze as readily as other types of tanks.

We use nylon tires rather than steel-belted ones. The nylon tires are easier to cut with a saw, and there are no wires to injure animals. Used tires are generally available free of charge. We have also had them hauled in from Oklahoma City, Dallas, and Houston.

Depending on tire size and weight, a semi can carry around fifteen tires. Including freight charges, this gives a total installed cost of around $200 for a 500-gallon tank. This compares favorably to about $200 for a 300-gallon galvanized tank, which only lasts a few years.

We prefer a tire that is around 3' deep and 6' wide (holding approximately 500 gallons). This size tire can be maneuvered with a tractor and front-end loader capable of handling 1,000-1,200 pounds (the weight of a 4' x 6' round hay bale). Larger tires are too heavy to handle with normal ranching equipment.

To make more water available, multiple tires can be linked together with PVC pipe. Only one tire has a float valve, and the rest are filled by gravity flow.

To set up the water supply, drill a 1" hole in the bottom sidewall to bring a 3/4" inch line into the tire. We prefer a 1/2" drive drill with a 1" speed bore wood bit. With a 1" hole, the tire will self-seal around a 3/4" PVC line. This also allows some flexibility, to keep the inlet pipe from breaking. This works better than putting the pipe through the concrete in the center of the tire.

On early attempts, we used galvanized pipe; however, now we only use PVC pipe because it is more flexible and slower to deteriorate. We also remove only half of the upper sidewall, leaving an overhanging lip to protect the float underneath and discourage cattle from getting into the tank.

To remove the top sidewall, we use a heavy-duty reciprocating saw, equipped with the most

aggressive wood blade available. Drill several 1” holes along the cut line as starting points for the saw. Once the cut line is started, we attach a chain from the sidewall to a front-end loader and lift the sidewall just enough to facilitate cutting. This helps the saw cut apart the lip of the sidewall.

Another trick is to keep lubricating the saw blade while cutting. We use some diluted dish soap in a spray bottle, or WD-40. This requires at least two people, and takes about 30 minutes (with experience) per tire, so expect it to take longer on your first try.

The site for the tire should have good drainage, because this will be a livestock abuse area. Also, the tire needs to be fairly level. Some ground preparation may be needed. We like to put shale or gravel around the outside perimeter to promote drainage. Keeping the top of the tire 2-3' above ground level prevents cattle from getting into the tank.

Once the tire is set and level, it is time to fill the bottom hole of the tire with cement. To reduce the amount of cement needed, we like to fill the bottom hole with just enough dirt or rocks to allow for the cement to be only about 3 or 4” thick.

Depending on tire size, it takes about three to five sacks of cement to cover the bottom hole. We mix the water and cement in a tub and then pour the mix into the tire. The cement mix needs to be highly liquid and smooth. Pour cement mix even with the bottom lip of the tire.

Let the cement dry for at least seven days before filling the tank with water. Some leaks may occur in the first day or two after filling, but generally tend to seal up on their own.

We also recommend a PVC ball valve at the water source to shut off water in case of future problems. We have cleaned the tanks only a few times. It seems the nature of the tires prevents much algal growth from occurring. When we need to drain a tire, we just use a garden hose to siphon the water out.

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