How To Build A Self-Filling Livestock Water Tank

In this video, we're working with a landowner in southeast Kansas. He keeps some cattle in a pasture, but it doesn't have a water source for them. So, we're going to install a self-filling livestock water tank, also known as a tire tank.

To do this, we'll need to dig a trench and lay a waterline from a spigot to the pasture fence, which is about 350 feet (106.7 m) away. Then we'll use that waterline to install the self-filling livestock water tank.

We'll do that using a **John Deere 1025R Compact Utility Tractor** (US CA) with a factory installed 260 Backhoe. We've also added an **H160 loader** (US CA) and a **Frontier AP10F Pallet Fork** (US CA) for ballast on the front of our tractor.

First, we spray-painted an orange line from the spigot to the spot where we want to install the self-filling water tank. We also called 811 Call Before You Dig to make sure we were clear of any underground utilities.

When ready to dig the trench, Caitlin positioned the backhoe to maximize the boom reach. After following all the operator's manual start-up procedures, she's ready to get started.

This backhoe has a reach of 8-feet, 8-inches (2.7 m) from its pivot point, a swing arc of 150-degrees, and a flat digging depth of 24-inches (61 cm). In this part of Kansas, the frost line is 20-inches (50.8 cm). So, we're good to go.

Once she digs a length of trench, she'll reposition the tractor to give the backhoe its maximum reach, and continue digging.

350 feet. This will take a while. But it's a great idea, and it's worth doing it right.

Before she reaches the fence line where we'll install the livestock water tank, Caitlin turned around to face the end point and began digging back toward the trench she's already dug.

Now – here's the tip you really need to know. Before she gets too close to two trench lines come together, she positions the backhoe at a 90-degree angle to the trench lines to finish connecting them. If she doesn't, she'll end up straddling the trench with the tractor. And then she'd really have a problem.

Once the trench was complete, we laid and connected the PVC water pipe from the spigot to the livestock water tank site.

For this self-filling water tank, we used an old motor scraper tire with the bead removed from one

side, some quick setting concrete, a rubberized sealant, some more PVC pipe, and a valve and buoy system that works just like your home toilet's refill tank.

After making the site level, we used 2-inch (5 cm) gravel to build a pad for the tire tank. The coarser gravel formed a good base for the tire tank and will keep the livestock from loafing on the gravel pad. Then we connected the final supply line to the water line, installed a drain pipe, placed the tire over the plumbing, and made sure the tire was level.

We placed PVC caps over the supply line and drain pipe to protect them from the concrete, and lightly greased each just enough so they'd be easy to remove.

And we used 12 bags of quick setting concrete to form the solid base in the tire.

We removed the PVC cap that protected the supply line and attached an elbowed pipe with a shut-off valve for adding water just up to the level of the wet, smoothed concrete. This way, we sprayed water into the inside edge of the tire so it would rise smoothly and not distort the surface of the concrete.

As soon as the water level had covered the top of the concrete base by about 2 inches (5 cm), we shut off the water to the elbowed pipe, and let the concrete set. The water will also help keep the concrete from shrinking away from the rubber.

When the surface water evaporated and the concrete was smooth and dry, we used a rubberized sealant spray to seal the edge where the concrete and tire rubber met, as well as where the PVC supply line came through the concrete.

To assemble the plumbing, we added a threaded brass connector to the supply line. Using galvanized fittings would not be a good idea here as it would eventually corrode from the minerals in the water and the concrete.

Finally, we attached the open/close valve and float, and turned on the water.

As the water level rises, the float rises. It's attached to the fill valve with a cord. When the float reaches the proper height, the fill valve closes.

As water is consumed and evaporates, the water level and float fall. Eventually, the valve opens and the tank refills. When the float reaches the proper height, the valve closes. Automatically. Just like the fill tank on your home toilet.

Frontier offers nearly 600 implements that are available only from your John Deere dealer, the place to go for advice and equipment.

So, remember, for implements that help turn your tractor into the workhorse it was built to be, think Frontier and your John Deere dealer.

And remember, always read the Operator's Manual before operating any piece of equipment and follow all operating and safety instructions.

Helpful Links:

John Deere Tractors (US CA)

Frontier Pallet Forks (US CA)

John Deere Backhoes For CUTS (US CA)

How To Remove A Tree Stump

Connect With Your Dealer (US CA)