Tire tank: Cattle watering made easy

By Katie Hueston
The Fort Scott Tribune

With approximately 20 people bearing the cold to attend, KState Research and Extension Watershed Specialist Herschel George lead a demonstration Wednesday on how to make a used equipment tire into a stock tank for cattle use. The project encourages livestock farmers to use alternative water sources for cattle drinking purposes instead of rivers and streams.

" The biggest purpose of something like this is to give the cattle a source of drinking water other than a river or stream, in an effort to protect those resources and improve their quality," said George.

George passed out information on how to build a tank — similar to the one pictured. He demonstrated the steps and gave advice on what he has learned from building them.

" Make it level, that's the most important thing," George said. "It gets tough when you decide you have to go back and change it."

Another suggestion he had, was to apply a combination of dawn dish soap and water before cutting the tire. "You can try to cut it, but if you're just vibrating the tire, you're not getting anywhere," he said. "This is where your wife comes in. Borrow some of her dish soap, mix it with water in a bottle and spray it on the saw blade before cutting into the tire. It will help you get through the tire a lot easier." George also advised that geotextile should be added around the tank to prevent the gravel from sinking.

"With the amount of money it takes to have gravel delivered, it's cheaper to buy some geotextile, which is about a dollar and a half per running foot, than to have to keep replacing gravel year after year," George stated.

Another benefit to this method George mentioned was the inability of the cattle to damage it.

"If the cattle are going to break something, I would rather it be a plastic piece than something more expensive," said George.

For more information on this project and other watering systems for livestock, visit the KState Web site online at
http:// www. oznet. ksu. edu and read " Waterers and Watering Systems: A Handbook for Livestock Producers and Landowners."

Step-by-step guide to tire tank installation

1. Choose the size of tire.
2. Choose the type of opening.
• Small circles for drinking • Whole tire • Halftire 3. Cut tire opening.
• Tools • Tire chalk • Drill with large twist drill bit (may hit wire) • Reciprocating saw with metal cutting blade with 8 teeth per inch • Special cleaning and lubricating fluid • Mark the desired cut line with tire chalk • Cut tire and remove the center 4. Select site for tank.
• Needs a minimum of about 2 psi (4 feet) difference between water level in pond and top of water in full tank • Ideal to have overflow line that drains to daylight 5. Plumb water lines to and from proposed site.
• Ideal to have 1 1/2 or 2 inch waterline to and from the tank • Ideal to have flexible connector on both incoming and outgoing lines • Ideal to have Brass (or Galvanized) line coming into tank to connect to float valve • Plumb intake line so bottom of threads on the metal pipe is even with top of concrete line (top of bead inside the tank).
• Lightly thread a female connector onto the top of the pipe with a 1 ft or longer piece of pipe in it to prevent concrete from getting into the pipe or threads and to allow you to maintain as vertical as possible pipe placement. Do not glue these pieces; they will be removed when concrete is cured.
• Plumb the drain and overflow so the top of the collar connector is installed to be just flush with the top of the concrete (top of bead inside of the tank).
• Lightly place a 1 ft or longer piece of spare pipe into connector, but do not glue it.
This is to protect the pipe from being filled with concrete and to allow you to maintain the pipe as vertical as possible. This will be removed after the concrete in cured.
6. Firm, tamp and fill center of tank so there are 4 to 6 inches of space left for the concrete.
There can be greater space, but it requires more concrete.
7. Level and set tire into site.
• Ideal to have tire into ground at least a few inches • Ideal to have geotextile around the tank to extend the life of the gravel from sinking into mud • Firm and tamp the gravel base under tank.
• Level tank using a tube level.
• Install reinforcing rod or wire into the space for the concrete.
8. Install a bead of silicone onto the center of the bead that will be in the concrete.
• Install a bead of silicon onto the incoming and outgoing lines about 2 inches down from the top of concrete line. • An optional secnd bead of silicon can be installed about 4 inches from the top of the concrete line (top of tire bead inside the tank).
9. Mix the concrete for the tank.
Tire tank concrete mixture tips from Herschel George: I have been using

bagged concrete mix with additions. I add a bit of Portland cement to the mixture to make it a bit richer and stronger. I also add a bit of "fiber" to the mixture. It helps to maintain the material from cracking apart. (Some tell me this is unnecessary, but for the cost it makes me feel better. Fiber adds about $5 to the cost of a yard of concrete). It takes about 4 or 5 bags to do the tires I am demonstrating on today (5 feet diameter with 24 inch bead).

• Mix the concrete mixture (with additives) for the tire.

• Place concrete into the center through the bead opening only.

• Work the concrete under the tire as best as you can. You may need a trowel and a sledge hammer to make the concrete move under the tire well.

• Make sure the pipes are straight. Make sure the reinforcing rod is in place.

• Continue poring concrete until area below the tire is full up to the top of the bead. Trowel the area. You can have a 1/2 inch of crown to the concrete if you desire. Check the level of the bottom of the threads and the top of the drain collar to make sure they are at the desired depths.

10. Run water into the tire outside the concrete area until the water softly flows across the concrete and covers the concrete by 2 inches.

• Leave the project (with the water on the top of the concrete).

• Clean all tools.

11. After the concrete cures (ideally 3 weeks or so), you can install the water level valve with float.

• George — I recommend installing a "Break-a-way" connection below the valve to protect the metal pipe threads and valve in case your neighbor's ornery cow tries to take a bath in the tank.

• George — I recommend, where possible, installing a winter minimum continuous flow valve to prevent freezing and an overflow line. • Set the float level for the desired water level.

12. Place additional gravel to the sides of the tank, leaving about 1 1/2 ft of tank showing above the finished gravel layer.

Water tire tank demonstration

Katie Hueston/Tribune Photo

K-State Research and Extension Watershed Specialist Herschel George, left, demonstrates to onlooking livestock producers how to build a tire tank for cattle drinking usage.