



Solar Water Trough

This sun-powered tank helps you “go green,” making pasture water simpler.

Keeping water fresh, clean and palatable for pastured horses can be a chore. In the summer, you're constantly emptying the tank and brushing out the algae—sometimes using baking soda to help lift the debris and remove the odor. We have to replace our steel tank every few years, as the abuse from horses dents the sides, eventually causing leaks.

Winter is even more fun, as the tanks readily freeze. That means using an ax or sledge hammer to break ice every day and a shovel to remove the ice, too. (We found debris and ice from a water tank is easily removed with a \$24.95 Thunderbolt Ultimate Sifter from W. F. Valentine, www.wfvalentine.com, 800-331-6728.) And here in upstate New York, where winter nights average in the 20s, even a 90-gallon tank can freeze up to a 4-inch thickness. We were sick of breaking ice every day (sometimes several times a day), but we didn't want to use an electric tank heater either.

Horse Journal has long shied away from using any type of electric device that is left in an area where a horse might somehow gain access to it. We don't want to take the chance that our horse could play with the

device and be shocked or electrocuted. For us, electric and horses don't mix.

As much as we wanted it to work, we were skeptical when we heard of a tank that stopped the water from freezing during the coldest months—without electricity. This isn't the sunniest area of the country, so we doubted a solar panel could keep water from freezing. We were wrong.

SIMPLE SET-UP.

The Solar Bob Trough, or SunTank, is a tough little water trough. It's made of a hard plastic/rubber shell with a shatter-resistant sun panel on the front. The horses drink out of the top, pushing down the bob cover, which our horses quickly learned to use. It kept the water cool in the summer and warm in the winter. We never saw algae or “slime” in the tank.

We set the tank up so the solar panel faces south, per the instructions (it would be easier to do if the

tank had a simple compass built into its top, but we used a pocket compass). We were sure that if the tank was designed to keep the water warm in the winter, it would likely become hot in the summer.

In fact, we were so concerned that we didn't even put the tank out with the horses at first until we were convinced it wouldn't heat the water. We set the tank outside of the field without the adapter/cover that's designed to help keep the water



The manual-fill tank was just the ticket, since our priority was ensuring palatable water year round.



The Suntank was a Horse Journal 2010 Product of the Year.

Consider This...

- Fresh water is vital to your horse.
- Ice can reappear in your water tank in a matter of minutes.
- Algae growth makes water much less palatable.



The Solar tank withstood our horses' attempts to chew it.

cool in the summer just to see what happened. We were worried that if a horse managed to dislodge the cover that the water would become too hot to drink. But the water never got warm.

Mark Ames from SunTanks explained, "The reason why the water is not warming is the solar panel is angled to work only when the sun is lower in the sky, like in the winter time, when the sun is low in the sky and striking more perpendicular. It's like when you shine a flashlight, if you point it straight all the light is concentrated on one round spot, but if you angle the light where it's spread out, less light hits with little concentration, which means less power to heat. The idea is to keep the water cool in the summer for livestock."

During the summer, the sun is mostly overhead, not concentrating on the solar panel, he said. "As the days go by towards winter, the sun will sit lower in the sky. Another example is if you look straight into the sun (but don't do that), it has blinding light, but as you turn away it has less direct sun rays with less power. In the winter the sun hits a

more straight direct path into the solar panel and keeps the water from freezing."

The tank comes with a white rugged-fabric cover that fastens to the tank and stops the sun from hitting the solar panel. We did not have to use this, but in some areas the manufacturer states it may be necessary. The alternative is simpler: When the weather gets warm, turn the tank around so the solar panel faces north.

COLD WEATHER. When the cold weather hit, we filled our steel tank again to compare the two tanks. The full steel tank of water froze when the temperature hit 27°, while the SunTank had absolutely no ice on it at all. That didn't mean we didn't have to do anything, though.

Every winter morning we removed any snow from the top of the tank and any ice that might have formed between the edges of the bob and the tank. A few brutally cold mornings, it took a couple of whacks with our rubber hammer to loosen the bob, but we never saw ice in the tank water. It was always in the tiny section between the bob and the edge. We cleaned off any ice sticking to the edges of the bob, filled the tank with water, and replaced the bob. This took maybe five minutes, even on a 13° morning. We also shoveled away any snow that might block the solar panel.

FEATURES. It's available with an auto-fill and shut-off float feature to hook up a garden hose, but we chose the manual fill because our main concern was winter, and we would not be able to leave a hose outside. It's also available as a 42-gallon tank. The manufacturer states the 42-gallon unit will work to -50°, and the 25-gallon to -20°. This includes winter conditions and wind-chill.

It costs from \$452 for a manual-fill 25-gallon tank to \$632 for the



The old steel tank needed to be cleaned frequently, as the water easily turned green with algae.

auto-fill 42-gallon tank, plus shipping from Utah (www.horsesonly.com/suntanks, 435-656-0229). The manufacturer states the oldest unit in use is 18 years old.

BOTTOM LINE. The manual-fill 25-gallon SunTank from Pine Ranch Products works, and we prefer it over electric-based tank heaters and galvanized steel.

Our horses had no problem with it, and we taught them to use the tank by leaving off the bob top initially, then adding it back after a few days. The tank also withstood quite a bit of chewing and horse play. Our horses seem to be consuming more water than they previously did with the old steel tank, during both summer and winter.

The only times we've had to clean it is when the horses managed to get grass into it, usually because the bob was off and we were teaching a horse to drink from it.

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