They Use Horse Poop To Heat Their Home

Sherry Sutton-Zanardo and her husband Matt burn horse manure bricks in their home furnace. Last winter, they got about a third of their heat from the "poo-bricks", which they say burn longer and are lighter than firewood and give off no odor.

"They get really hard, but they are nearly weightless," she says. "They are a lot easier to carry than firewood, and you don't need as much."

Sutton-Zanardo got the idea for the horse fuel when she read that a horse's daily output of manure with bedding equaled about 3 qts. of fuel oil. Dried dung is a common fuel throughout much of the world.

After checking out a number of manure brick designs on the internet, she came up with one she liked. "My farrier made it for me," she says. "It has a box that is about 7 in. tall, 6 in. wide and 4 in. deep."

The box is attached to a wall. A hinged arm above it has a plunger sized to fit inside the box and compress the brick. Once packed sufficiently, a drop-out bottom lets the brick

be pushed out by the plunger.

Sutton-Zanardo quickly found that horse apples alone made the best bricks. They had more than enough fiber, but if she added wood chips or other bedding they tended to break up when dry.

However, the horse apples did need some processing. Sutton-Zanardo breaks them up and adds water to get a thick paste consistency. When pressed, excess water passes out through holes in the sides of the press box as well as through the gap around the drop-out bottom.

"The more you press, the more water comes out, but you don't want to over press either," she says. "I compress them down to about a 4-in, thickness."

Even the wastewater gets put to use. Sutton-Zanardo collects it, dilutes it, and uses it as a manure tea on garden plants.

The bricks are stacked up under a roof to dry. She warns not to stack them on concrete or they'll remain damp.

"Once you get it figured out, it's the easiest



Sherry Sutton-Zanardo holds a "poo-brick" in front of their wall-mounted brick maker. She and her husband burn the horse manure in their home furnace.

thing in the world," says Sutton Zanardo.

"I had a couple left over last winter, and we kicked them around all summer, and they never broke up. I'm planning a bigger press with the idea of making bricks for a building. I'll cover it with stucco."

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Custom Tools Help Disabled Farmers Keep Working

If you or someone you know has a disability that makes it hard for them to keep working, Ned Stoller may have an answer. He does research and development work on tools especially for disabled farmers. His Disability WorkTools.com website lists a raft of tools to help people continue to work. However, every job and every challenge is different. Sometimes there isn't anything available.

"If you or someone you know has a specific need for a tool, we'll try to come up with a custom solution," says Stoller. "We interview the person about the disability, what activity they want to accomplish, and the environment they want to use it in."

Stoller charges a fee of \$40 for the phone consultation, drafting a design concept, and providing a cost of production estimate.

"We give them an idea of what it would cost to develop the tool and then go from

there," says Stoller. "Once a customer is satisfied with a design plan and price, we'll produce it and deliver it to the workplace door."

Most of the requests for custom items have been from people in Michigan, where Stoller is located. Some of the items end up featured on the website.

"Our mechanical creeper with lift seat was a custom design," says Stoller. "Now others can get one, too."

Only a small percentage of the items on Stoller's website were designed and are manufactured by him. "The vast majority are from other inventers and manufacturers. Some items that we came up with have been adopted by other companies."

The website is expansive and easy to use, with hundreds of items from tractor controls and cab accessories to livestock watering and feeding devices. Items are indexed by tool



Heavy-duty equipment platform helps anyone who has difficulty climbing get into machines such as a Bobcat.

type as well as by job and disability.

Stoller suggests spreading the word about the website to friends and relatives dealing with a disability. "It's meant to be a service, whether or not people buy anything from the website," says Stoller. "It opens people's minds to what can be done, regardless of a medical condition. They don't have to be stuck on a couch."

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He Chills Wild Game With Cooler On Wheels

Bob Meyer takes a cooler with him when he hunts deer in warm weather. His trailermounted cooler is an insulated box on wheels that's fitted with an air conditioner and a CoolBot controller.

"We worked on it for about a year with plans to use it when we go deer hunting this year," says Meyer, who built it with his son Seth. "The weather is so unpredictable, especially in September, but even into October and November. If we get a deer, we want to be able to hang it for 3 to 4 days to cure."

Meyer notes that in the past they often had to get the carcass to the butcher quickly. With the cooler, they can take their time and get the proper aging.

"We'll just jack up the trailer and turn on the air conditioner," says Meyer. "It cools down quickly and stays around 28 to 40 degrees, thanks to the CoolBot."

The father/son team used dimension building materials to keep things simple. Everything is framed with 4 by 4's, including 3 that form a base for the cooler.

The 4-ft. wide, 8-ft. high and 8-ft. long cooler has 4 by 8 sheets of 3/8-in. plywood lining the inside with 3 1/2 in. of 4 by 8-ft.

rigid poly foam in the walls. The floor has 1/2-in. plywood over 4 in. of poly foam. A second 1/2-in. sheet provides exterior protection for the ceiling with exposed foam on the inside.

"We wrapped the outside in black plastic and covered it with TI-11 plywood siding," says Meyer. "We installed a metal door rated for cold temperatures and used foam sealer to fill any cracks or crevices."

To finish the cooler, the Meyers added an A-frame roof with shingles and a 2-ft. overhang. They used screening between the roof and the ceiling to keep critters out and hung gutters at the roof edges. A downspout at the rear directs water away from the trailer.

"We can set it up near a shop building on our farm with water handy," says Meyer. "When we get our deer, we can process them, flush them with water and hang them immediately."

Meyer says he also plans to use it as a walk-in cooler for big picnics and events.

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Bob Meyer uses this trailer-mounted cooler to chill wild game taken in warm weather. The insulated box on wheels is fitted with an air conditioner and a CoolBot controller.