# Mini Thresher Harvests Small Plots

If you want to grow wheat just for family consumption, all you need is a mini thresher like John Howe builds. The compact unit threshes and winnows wheat and rye and does a great job on dry beans, too.

"You can harvest an acre of grain with a scythe in a couple hours, and then thresh out up to 20 lbs. of clean grain an hour with my thresher," says Howe.

He says you simply hold a sheaf of grain by the stems and insert the grain heads into the hopper where the beaters thresh them. Grain falls down a tube into a bucket, while the chaff is blown out the end of the unit.

"If any chaff remains in the grain, you just run it through a second time," says Howe.

He built a prototype about 25 years ago and then resurrected the idea a couple years ago as interest in local food production grew.

"I've tried it with all types of beans," says Howe. "It chews the stems up, and the beans come out so clean that they can go right in the pot."

Howe pulls the bean stalks when they are mature, dries them on a tarp under a roof and runs them through the thresher when fully dry. While the beans slow the thresher down by about 50 percent, he still gets about 10 to 15 lbs. of beans per hour.

"Every two to three minutes you may have to scoop the trash out, but you don't have to worry about picking pods off," says Howe.

He is building and selling the 40-lb. thresher/winnower unit for $685, including U.S. shipping. That price doesn't include the 1/4-hp electric motor, which he suggests buying locally.

"A new motor runs about $50," he says. "It only draws about 150 watts. You could also power it with solar cells."

Howe also offers a complete build-it-yourself kit for $345 that includes everything needed to do the job.

**"You can harvest up to 20 lbs. of clean grain per hour with my mini thresher," says inventor John Howe.**

He has a solar package which includes a 130/120-watt panel, inverter, battery box and 30-amp charge controller with LED indicators.

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# Lower Cost Method To Enclose Slurry Tank

After running a story about a Minnesota man who converted a Slurrystore into a storage shed with an engineered roof (Vol. 35, No. 2), a slurry tank conversion in Canada caught our attention. Instead of wood trusses, ratchet straps and custom-sewn canvas were used to enclose the former 120-ft. dia. slurry tank.

The roof cost just $15,000 but they did have some problems with it over the winter. So changes are being made.

"It didn't winter very well. The seam let go on the rim," says Paul Hofer, who managed the project for the Netley Hutterite Colony in Petersfield, Man.

He explains that the idea came from a colony in Alberta that did a similar conversion on a smaller tank for grain storage. Hofer's colony wanted to convert their unused tank to store wood and other material for their cabinet-making business.

They removed the top ring of steel to reduce the 23-ft. high walls to 18 ft., cut out holes for an entrance door and overhead door, and put a stiffener ring around the top of the exterior. Inside, after pressure washing the walls and floor, they installed a 50-ft. tall, 20-in. oilfield pipe at the center. Using 2-in. pipe, Hofer welded a 5-ft. dia. frame to the oilfield pipe to attach to 43 2-in. ratchet straps. The other ends of the straps were attached to the top of the tank walls at the joints between the panels.

They ordered a custom-made one-piece 12-oz., canvas tarp with three layers at the center for extra strength. Rings on the canvas were hooked to the boom to raise it to the center and unroll it in two directions. Hofer and his crew tied the canvas to a center ring on the roof, unrolled the canvas about halfway down and spread it out before letting it roll down the rest of the way.

**Project manager Paul Hofer reduced the slurry tank's 23-ft. high walls to 18 ft. and cut out holes for an entrance door and overhead door.**

The lower edge of the tarp was secured with 1-in. ratchets to the stiffener ring. The rim turned out to be the weak point where the wind caught and tore the canvas loose.

"We will redo it and have it sewn twice and reinforced with strapping," Hofer says. A stiffener ring will also be added to the inside of the tank.

If he were to do it again, he says he would have the canvas come down a couple feet on the wall, even if it looked wrinkled. He might have also lowered the center pipe 10 ft. While the steep pitch is good for shedding snow, it might not catch as much wind if it were a bit shorter.

Finally, Hofer suggests installing the roof when it's warm to get a good taut roof with the ratchet straps. He notes that the ratchets can be tightened whenever needed.

He is hopeful that the modifications will do the trick and that the repurposed slurry tank will provide 12,000 sq. ft. of storage space for the colony for many years to come.

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