

# Made It Myself

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## Straw Bale Machine Shed Cost Just \$4,000

By Janis Schole

Arlen and Marian Stocking built a 4,704 sq. ft. machine shed and they only spent about \$4,000 to do so.

The walls of the shed are made of 110 big square straw bales and the roof was made out of a network of salvaged oil-field pipe covered with canvas.

"I expect these bales will probably outlast me," says Stocking, noting that his biggest concern after building the structure was that the bales would settle unevenly, but that hasn't been a problem. "The roof is a hay tarp that has been treated to withstand ultraviolet rays and has a life of 4 to 7 years. It cost me \$1,500 and I'll be happy if I get 5 years out of it."

One big benefit of the bale building is the outstanding insulating value of the straw structure. Stocking says his trucks started much easier last winter. "The walls are basically 4 ft. of insulation and they're very effective at keeping wind out and warmth in."

Outer measurements of the shed are 105 by 56 ft. Inner measurements are 98 by 48 ft.

He used flax straw for the building because it's tough and fibrous so it weathers slowly. Before building the machine shed, he visited a farm with a straw hog barn and a machine shed made out of barley straw that was fitted with a permanent roof. He used some of the ideas he found there and added a few of his own. He put the building up himself over a period of two years, working when he had time, but says he's sure he could have put it up in about a week if he had had time. "It's not hard to build once you know what you're doing," he says.

He started with a rock base foundation which lets water drain away from the bales. A ditch runs alongside to help handle spring runoff. Bales are stacked 3-high to make 12-ft. walls. One end of the building is sealed shut. The other end is partially open. Five 25-ft. treated wood poles are spaced evenly down the center of the shed to support the roof peak, which is a 10-in. pipe welded together in 40-ft. lengths.



"I cut holes in the bottom of the pipe so the support poles stick right up into the pipe. Every 10 ft., rafters come down from the peak to the bales," says Stocking. Hooks on the upper ends of the rafters hook into the peak pipe. He put forks on the lower end made out of 3/4-in. sucker rod that stick into the bale sides about 4 ft. He used a tractor loader to push forks down into bales. The center support poles are crossbraced with steel cable.

Stocking had the tarp custom-made. It has a sleeve around the edges so a pipe can be slipped inside for tie-downs. He punched holes in the sleeve every 30 ft. to attach tie-down cables to 3/4-in. anchor rods. A come-along winch is left in place on each cable to tighten the roof as needed. Nylon rope run in a zig zag pattern from the sleeve rod down to other rods which are stuck into the sides of the bales.

"Due to settling, I have had to tighten the tarp up periodically since the shed was completed," says Stocking.

The cost was about one-fifth the price of what he would have had to pay for a similar-size permanent building. "It's one of the best investments I've ever made," says Stocking. "I'm surprised there aren't more of these things around."

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## Self-Propelled Rock Picker

After hauling many tons of rocks, Robert Weisz's self-propelled rock picker still looks like new. But when you see a list of parts he used to build it, it's obvious the lightweight rock handler's been around a long time.

Weisz, of Hurdsfield, N. Dak., built the rock picker 25 years ago.

It's powered by a 4-cyl. gas engine out of an old Chevette and also uses the Chevette's 4-speed transmission coupled to an old Studebaker truck's 4-speed. A 5-ft. wide steel fork mounts ahead of a rectangular steel bucket that fits between the front drive wheels. The fork hydraulically tilts up and back to dump rocks into the bucket, which hydraulically dumps them out to the side.

"It lets me pick up rocks at speeds up to 8 mph in the field and weighs only about 1,000 lbs. so it keeps soil compaction to a minimum," says Weisz. "The fork is in front of me so I don't have to turn around all the time, and I sit up high so I have a good view of the field. The one-yard bucket has as much capacity as many commercial rock pickers. Works great after a field has been cultivated and seeded because the ground is packed down, making it easier to scoop up rocks. It doesn't work as well in loose ground because the front drive tires tend to spin. The air cleaner mounts up high to keep it out of the dust and dirt."

"I installed the Chevette engine backward and flipped the differential. To travel forward, one transmission has to be in reverse. The Chevette transmission is geared higher so I usually use that one. To

go backward I have to use two forward gears - one on each transmission. There are 8 forward and 16 reverse speeds. Top forward speed is 10 mph. However, if I have to go long distances on the road I usually pull it behind my pickup"

Weisz used 2 by 4-in., 1/4-in. thick steel tubing to build the frame. The front drive axle is off the 1-ton Studebaker truck, and the rear steering axle is from a 1/2-ton Ford pickup. The tilt steering wheel and steering gear came off an Oldsmobile car. The hood is from an Allis-Chalmers combine.

Weisz bought new 10.00 by 15 lug-grip windrower tires and mounted them on front. He split the Studebaker truck wheel rims and added a 3-in. wide band in the middle to widen each rim. He used ribbed 6.50 by 15 front tractor tires on the rear. Each wheel has individual brakes.

Weisz used 1 1/4-in. dia. cold rolled steel bar to build the fork. He bent each bar, then heated and flattened the end to a wide point. "The narrow gap between points keeps rocks from getting jammed in the fork," says Weisz. "Small rocks slip between the points, but bigger rocks pop up on top of the fork."

The bucket dumps out the right side, which is lower than the left side. A spring-loaded steel arm closes off the low side of the bucket to keep rocks from falling out on sidehills. It automatically lifts up out of the way whenever the bucket is raised to dump.

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