"Air Barn" bale bagger forces air through a 250-ft. long "sausage-type" silage bag to dry bales down. "It protects bales from the weather and preserves hay quality, at an affordable price," says inventor Owen Brown.

"Air Barn" Dries Bales In Big Bags

"The whole idea is to force air through a bag to dry bales down. It protects bales from the weather and preserves hay quality, at an affordable price," says inventor Owen Brown about this first-of-its-kind "Air Barn" bale bagger.

The new Air Barn is a dry hay storage system that provides superior ventilation, resulting in higher hay quality at less cost than is possible with traditional barn storage, says the manufacturer, GFC Co., Pittsfield, Ill.

What makes the bagger unique is that bales are pushed into one end of a long "sausage-type" silage bag using a specially designed, square bagging frame. But instead of shrinking the bag against the bales to keep air out, the Air Barn uses a large fan to dry the bales.

"We're not trying to make haylage. We're trying to dry the hay down by distributing air evenly around it," says Brown.

The 2-wheeled, self-contained bagger can be pulled behind a tractor or pickup to the desired location or simply lifted and hauled with a front-end loader. It was developed to handle bales made by the company's Bale Band-It, which is pulled behind a small square baler and is designed to group 21 bales together. The machine automatically wraps the bales tightly with steel bands and then ejects the bundle on-the-go. However, the Air Barn can also handle big square bales and round bales.

The Air Barn system consists of the bagger frame, fan, fan stand, and bag. The operator uses a front-end loader to load bales into the loader's bale chamber, and then uses the loader bucket to pull the bagger backward to make room for more bales. The process is repeated until the tube is filled, and then the finished end of the bag is closed to the desired diameter to control air flow.

A pair of hinged metal side panels on the loader serve as deflectors to help guide the bale into the bag.

"The initial cost is a lot less than putting up a new building, and it's an expandable system that can be used anywhere as long as there's electricity. All you need to do is add more bags and fans, and you can set up storage anywhere you want," says Brown. "We used it for the first time last summer and it worked great. We stored 126 Bale Bandit bundles, or 2,656 small square bales, in each 250-ft. long bag. The hay is left in the bags until it's ready to be fed or sold.

"The result is higher quality bales than you get with barn-stored hay. In fact, the bag actually provides a better environment to dry hay than you get in a traditional barn, which results in a higher quality of hay. AgriKing, a national feed company, did tests on our hay and found it was 13 points higher in feed value than the same hay that we put up in a barn."

Brown says the machine is designed to use a conventional 12-ft. dia. silage bag. "We're fastening the bag to a square frame instead of a round one. The finished end of the bag is fitted with eyelets spaced 3 ft. apart. We put a rope through the eyelets and gather the bag together so the fan can blow the bag up."

Bales are loaded into one end of bag using a specially designed, square bagging frame (upper left). A large fan blows air into bags, (above). The finished end of the bag is closed to the desired diameter to control air flow.

The fan stand is designed to accept either a 12 or 18-in. fan. "The size will depend on how wet the hay is," says Brown. "With a 12-in. fan you're changing the air every 7 1/2 min., and with an 18-in. fan every 4 minutes."

The Air Barn loader sells for $16,000 plus S&H. The fan stand sells for $1,500 plus S&H, and the company also sells 12-in. dia. fans for $600 and 18-in. fans for $1,000. The 9-mil plastic bags they use sell for $800.

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"Hoop House" Glides Open And Closed

Vern Harris likes setting up hoop houses over his vegetable beds, but he doesn't like the hassle of working under them. Most designs require lifting the plastic sides to get at the produce. So, Harris came up with hoops that glide on rails, making access as easy as pulling on two ropes.

"Anybody who is even slightly mechanical can build one," says Harris. "If they run into trouble, I'd be glad to help. My hoop houses have let me grow greens even in the snow."

Harris lives in Northwestern Washington State where winter temperatures are commonly in the 30's and 40's so hoop houses make year-round gardening possible.

Harris builds his garden beds from 8-ft. long, 2 by 6-in. untreated fir. The main component of the hoop house is schedule 40 pvc pipe. The rails the house slides on are 3/4-in. diameter pipe. The hoops are 1/2 in. diameter. They fit into 1-in. diameter tees that glide over the rails.

"I needed to raise the rails slightly above the bed sides so the tees can glide down the rail," says Harris. "To get the height, I predrilled holes through the pipes and set 1/2-in. long pieces of 1/2-in. aluminum tubing under the holes. Screws driven through the holes and through the tubing secure the rails in place."

Harris then sliced away the bottoms of each hoop tee. This allows them to slide down the rail and past the aluminum supports. He also extended the rails about 18 in. past one end of the bed so all the hoops could be pulled to that end, exposing the entire bed to the sunlight. A piece of 3/4-in. pipe was attached to the rails at the overlapping end with 90° angle connectors.

After placing 5 tees in place on each rail, Harris inserted a 9-ft., 1/2-in. pvc pipe in a tee on one side and then bent it to fit the other end into the opposing tee. He predrilled holes for attaching the plastic. Harris advises using Dura-Film Thermax or another high quality film recommended for hoop houses.

"I cut a plastic sheet to 9 by 10 ft. and attached it to the hoops with the 9-ft. side running the length of the 8-ft. bed and hanging over each end by 6 in.," says Harris. "The 10-ft. dimension was fastened so edges overlapped hoop ends by 6 in. I used 1/2-in. lathe screws with washer heads to help prevent tears and leaks."

To enclose the ends, Harris cut two 4 by 5-ft. pieces of plastic. He attached one to the hoop at the extended end of the bed using fasteners. The other is temporarily clamped to the end hoop when the hoop house is closed.

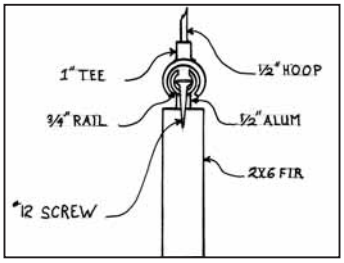
"You could even use clothes pins, but I go to a dollar store and find inexpensive clamps for the hoops," says Harris. "I fasten the bottom permanently to the bed frame."

To make opening easy, he installed 3/16-in. eye screws at the bottoms of each side of the front rail. To these he attached lengths of 3/16-in. clothesline cord. To open or close the hoops, he simply pulls on the cords.

All the hoops can be pulled to one end of bed, exposing the entire growing area to sunlight.

"In my climate a single layer of plastic is enough to keep my hoop houses from freezing on our coldest days," says Harris. "In a colder climate, you could attach a second layer of plastic to the inside or outside of the hoops. It's well worth it either way. Those fresh garden greens taste great in January and February."

Harris is willing to help with information, a complete parts list or even parts ordering. If desired, he will even prepare a hoop house kit to order.



Multiple hoops glide on rails, making access to the garden bed as easy as pulling on two ropes.

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