How To Convert Harvestores To On-Farm Grain Storage

When Michigan farmer Mark Hinterman sold his dairy cattle in 1993 and went solely into grain farming, his Harvestores didn't go unused for long. Hinterman converted two 20 by 70-ft. blue tubes to each hold 18,000 bu. of grain and a 20 by 50-ft. silo into 12,500 bu. storage for cooling grain after the dryer. "It was no easy job, but it was well worth the investment," says Hinterman.

He purchased 3 silo-to-grain storage conversion kits from Sukup Manufacturing that included an aerated floor, a centrifugal fan and a sweep auger for each silo. The kits also had all the hardware needed to transition the silos from feed to grain use without cutting, drilling or compromising the structural integrity of the Harvestores.

"First we removed the silage unloading components and the air bag near the roof," Mark says. "We put the sweepway into the existing trench in the concrete slab, then installed the aeration floor on the Z post supports. We had to cut the aeration planks to fit tight against the silo walls, then seal that opening around the inner wall with a flange and caulk." All components for the conversion fit through the main door opening in the base of the silos.

Hinterman uses the smaller 20 by 50 ft. Harvestore as a holding bin to cool grain after it comes out of the dryer. He averages about 600 to 700 bu. an hour drying capacity. Aeration fans in the cooling silo run 24/7. Grain is screened after the dryer to remove fines. The cool grain flows into a pit where a grain leg transfers to either of the larger silos or 3 metal bins that hold 175,000 bu.

Sukup supplied the 3,500 rpm centrifugal fans to aerate deep grain with high static pressure. Hinterman added a temperature cable and monitor that hangs from the top of each silo into the grain to monitor temperature at 6-ft. intervals. To increase unloading efficiency Mark added an 8-in. galvanized pipe from the center of the cooling bin silo to the outside wall. It slopes down and into a pit outside the silo and allows him to unload up to 3,000 bu. an hour with just simple gravity. The pipe is grounded to protect against static buildup. Mark says he only uses the electric-powered auger to unload the last 2,000 to 3,000 bu. from the silo.

Electrical controls for operating the grain system are housed in an 8 by 10-ft. room that he built between two of the silos. The silos also have metral bracing that supports the 110-ft. tall grain leg. Mark says the $6,000 he spent for each conversion kit was a good investment because the cost for new grain bins that size would've been about $1.25 a bu. to build.

Michigan farmer Mark Hinterman converted two 20 by 70-ft. Harvestore silos to hold 18,000 bu. of grain each. He also converted a 20 by 50-ft. silo to hold 12,500 bu. for cooling grain after it goes through the dryer. Note holding bin next to silos.

Contact: FARM SHOW Followup, Mark Hinterman, 2548 E. Garrison Rd., Durand, Mich. 48429 (ph 517 719-2869; shinterman@hotmail.com).

Skid Loader-Mounted "Cow Carrier"

"It's a humane way to safely transport down cows to a place you can care for them," says Bruce Denzin of Athens, Wis., about his new skid loader-mounted cow carrier.

The patent pending "Rudder Easy Carrier" consists of a 3-sided steel platform that slopes down 4 in. in front. The carrier's end pieces are hinged at the bottom and can be swung back out of the way, allowing you to load the cow from either side. A hand-cranked, 2-speed winch slides into brackets at each end of the carrier's floor.

The operator hooks a harness onto the cow and winches it onto the floor, then straps the cow in and swings the end pieces down. The end pieces are fitted with V-brackets that fit into grooved pins set in the floor to lock them in place. To unload, the skid loader operator tilts the carrier slightly forward until the cow slides out.

"Everything on it is handy and easy to use, and there are no sharp points that could injure the cow. All the corners are rounded," says Denzin. "I credit my friend and neighbor, BJ, who recently died, for inspiring me to build it.

"If the down cow is laying in a stall up off the floor, you can raise the carrier even with the floor so the cow won't drop down and get hurt. The straps are secured to a steel bar on back of the carrier."

He sells the cow carrier for $3,500. "I like to build things heavy so it might be overbuilt, but today's cows can weigh one ton or more so it it has to be built strong," notes Denzin.

Carrier's end pieces are hinged at the bottom and can be swung back out of the way, allowing you to load the cow from either side.

Contact: FARM SHOW Followup, Bruce Denzin, B&G Welding, 2579 Co. Rd. A, Athens, Wis. 54411 (ph 715 654-5901).

Feed Mixer Expert Working On First-Of-Its-Kind Machine

Tim Diller runs an equipment repair business that specializes in grinder mixers, TMR mixers and feed processors. He can repair all makes of machines and often has to make parts that aren't available or are difficult to find.

"I know how to make them work the way they're supposed to," he says.

A few years ago he started working on a prototype mixer that would accept a large round bale and mix it with other feed products. Diller says he has since revised that machine because it doesn't work as well as he'd like it to on tough straight hay that's common in his part of Kentucky.

"I know there's a market with smaller beef and dairy farmers who want to process hay, silage and dry grains with one machine," says Diller. "I've made a second prototype and am still working on modifications so it does a better job of cutting and mixing the bales."

Diller made his machine by modifying the top auger on a TMR mixer to slice and tear apart a large round or large square bale. As the hay is loosened from the bale it mixes with silage or grain that is dumped into the mixer. He made a large door in the side of the tub so part of a bale can be removed if a whole bale doesn't need to be ground at one time.

Diller says his machine has a knife on the side of the tub so it has shearing action knife-against-knife. "I don't have that perfected yet for a straight hay mix, so I've got work to do on that. It works fine on a 30 percent hay and 70 percent silage mixture."

Another feature on his machine is to have the auger pull feed in from the tub wall in a different manner. "I've put that plate in a different place, on a separate wing where it's 90 degrees in front of the auger flighting. It doesn't take as much horsepower and it mixes better," Diller says. "I'm trying to get it where it will pull the feed in gradually, and that's something that needs some work."

Diller says the other components on his machine are similar to regular mixers, and he thinks his machine can be made and sold for about $10,000 less than other mixers on the market. "My machine is for the smaller producer, farmers who can't justify expensive models that large operations use," Diller says.

Contact: FARM SHOW Followup, Timothy Diller, 1483 Old Summersville Road, Campbellsville, Ky. 42718 (ph 270 427-7081; dillerfarmworks@gmail.com).

Rhonda Flynn runs 3/8-in. dia. copper pipe through her rabbit cage. A fish tank pump moves cool water through the pipe.

Simple Way To Cool Rabbit Cages

Rhonda Flynn, Pattison, Texas, recently came up with a low-cost cooling system for her rabbits.

"The inspiration came from a story in FARM SHOW where an engineering student fashioned copper tubing around the back of a large fan and then sucked ice water through it to cool his dorm room (Vol. 29, No. 5).

"I used the same concept by running 3/8-in. dia. copper pipe through my rabbit cage. I use a fish tank pump to move water through the pipe. Water is pumped from a cooler filled with water and 2-liter bottles of ice.

"Not only are my show/meat rabbits surviving our 100 plus degree Texas heat, they're eating and the babies are growing. This is the first summer where they've flourished. I plan to replace the cooler with a mini fridge so I won't have to change the ice water twice a day."

Water is pumped from a cooler filled with water and 2-liter bottles of ice.

Contact: FARM SHOW Followup, Rhonda Flynn, P.O. Box 587, Pattison, Texas 77466 (ph 770 335-0522; rhondaflynn@gmail.com).