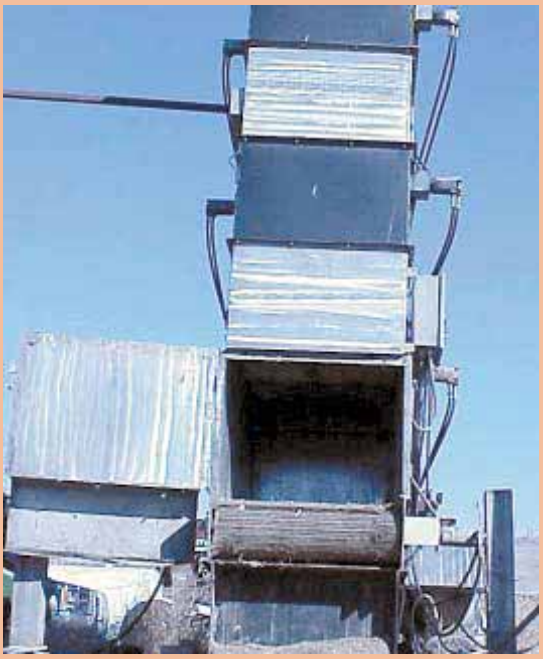


Forage is put into top compartment and then works its way gradually down through lower compartments until it reaches the bottom, dry and ready for storage.

Hay Dryer Speeds Harvest And Improves Feed Value

Depending on Mother Nature to get hay dry enough to store safely often means leaving much of the nutritional value of a crop in the field.

Tom Schechinger, a Sioux City, Iowa, farmer and entrepreneur, thinks he's come up with a reasonable way to dry hay economically while maintaining feed value.

"Imagine five railroad box cars, each stacked on top of each other," he says. Inside the top four cars are several rollers with fingers on them along the bottom of each floor. Material bridges up on these as it falls in, so you can fill one compartment at a time. The bottom-most compartment has a perforated floor and sits over an air duct and a fan, just like a bin grain dryer. "You size the fan and air flow just as you would for corn. If your dryer held 5000 bu. of corn - 28,000 lbs. - you could use the same size fan to dry 28,000 lbs. of hay," he explains.

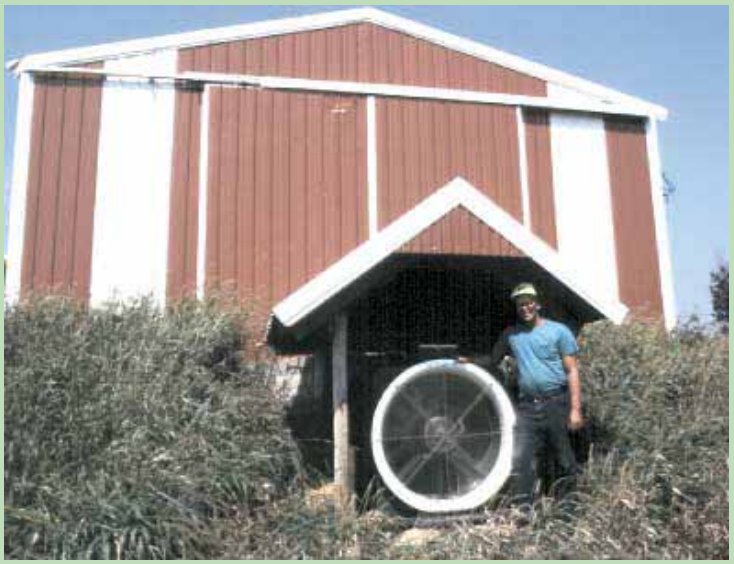
Here's how it works. Forage is brought in from the field wilted but still wet enough that leaves don't shatter. It's conveyed into the top-most compartment and air is blown up from the bottom to dry it gently. After it's dried a little, the rollers in the bottom of the compartment are turned, and the fingers move the material into the next lower compartment. Once dry hay has been moved down, the top compartment can be refilled. This process is continued until hay reaches the bottom and is dry enough to be stored. As it comes out of the dryer, it can be baled or compressed for transportation, if needed.

Tom says the dryer could be used for all types of bulky materials. He and his brother John have a built a 2 by 7 by 15-ft. working model of the dryer and they hope to build production models soon. It's owned in part by a group of farmers and investors that own Biomass Agri Products, LLC. Biomass Agri Products collects, harvests and stores bulky biomass materials for other companies. "We also do some of the simple processes for companies such as grinding and plant material separation. Each part of the plant - the pith, the fiber, the leaf, etc. – has its own market," Tom explains.

Schechinger and his brother John have built a 2 by 7 by 15-ft. working model of the dryer and hope to build production models soon.

After forage is dried a little, finger rollers at the bottom of the compartment move the material to the next lower compartment.

Contact: FARM SHOW Followup, Tom Schechinger, Iron Horse Farms, Inc., 816 Ironwood Rd., Harlan, Iowa 51537 (ph 712 744-3296).



Kamps can dry up to 38 3 by 8-ft. bales at a time inside this 30 by 60-ft. building. A 38-in. dia. fan powered by a 5 hp electric motor is housed in a separate shelter alongside shed.

Big Square Bale Dryer

A Wisconsin commercial hay grower who dries big square bales inside a specially-constructed drying shed says he can bale at a higher moisture content, which saves leaves and results in higher quality.

Dan Kamps' 30 by 60-ft. building has a concrete floor with inset metal grates. Two 50-ft. long, 7-ft. wide tunnels beneath the floor bring in warm air. As many as 38 3 by 8-ft. bales can be dried at a time.

A 38-in. dia. fan powered by a 15 hp electric motor is housed inside a lean-to alongside the shed, along with a liquid propane gas burner. The fan blows hot air into the two tunnels.

He also dries bales in a second shed equipped with a single 66-ft. long drying floor. It can dry 25 bales at a time.

"It lets me bale at 35 percent moisture and dry them down to about 20 percent moisture, which increases my production and also increases hay quality," says Kamps. "The wet hay stays nice and green and still has all the leaves attached to the stems. I sell the hay at a premium to local horse and goat owners as well as dairy operators.

"I built the hay drying setup about six years ago. At first I used it to dry small square bales but then I switched to big square bales to reduce the labor."

Kamps places the bales in a single layer across each of the grates. The 8-ft. bales cover the entire width of the grates, which keeps air from leaking out. The tunnels under the grates are 3 ft. deep so he can crawl inside them to sweep out leaves.

He used steel slats from a hog confinement building to make the grates. He added extra steel grating on top to provide enough support for his tractor. He salvaged the LP burner from an old grain bin and modified it so that it doesn't run quite as hot. The burner raises the air temperature inside the tunnels 20 to 30 degrees and is controlled by thermostats at either end of the drying floor.

"It costs about $20 per ton to dry the bales which, considering that I get a premium for my high quality hay, is worth it," says Kamps. "The main disadvantage is that drying hay is a slow process. It takes 2 1/2 to 3 days to dry one batch of hay whereas on a good day in the field I can make 70 bales in just one hour."

Contact: FARM SHOW Followup, Dan Kamps, 12058 Pleasant View Road, Darlington, Wis. 53530 (ph 608 762-5882).

Building has a concrete floor with inset metal grates. Two 50-ft. long, 7-ft. wide tunnels beneath floor bring in warm air delivered by fan.