

New Way To Burn Corn

Corn stoves have gotten a lot of attention in the past two years, but here's a new way to burn corn that goes beyond augering it into a stove.

Working with Iowa State University and a company called Carbon Energy Technology, Inc., Pioneer Hi-Bred International Inc. is researching and testing a process to convert old seed corn into gas, which is then burned to produce heat.

"We hope to reduce our dependence on natural gas by burning seed that would otherwise be discarded," said Greg Tingley, Pioneer's production plant manager.

The idea is that any seed that can't be sold for whatever reason would be processed through the gasifier.

It contains an aerated sand bed on which corn is heated to temperatures above 1,200 degrees Fahrenheit. In the oxygen-starved environment of the gasifier, the corn (or any other organic matter put through the process) gives off combustible gases. This gas can be used in place of natural gas or propane.

Tingley says the company plans to use the heat to dry seed corn. He notes that Pioneer alone uses about 750 billion BTU of natural gas each fall to dry seed, which is enough to

heat 8,000 homes annually.

"Environmentally, the gasifier is one of the cleanest burning systems you can find," Tingley says, adding that Pioneer hopes to produce 100 percent of its own energy needs by 2010.

Pioneer experimented with gasification of corncobs a couple of decades ago. While it was successful in showing the process worked, the resulting gas was high in contaminants that tended to clog the jets in burners. Tingley says the same thing happens with the corn gas if it's allowed to cool before being burned.

"As part of this project, we're also looking at direct combustion of corn in a fluidized sand bed. We hope to find whether gasification or direct combustion is the most efficient and economical method," Tingley continues.

He says the small amount of ash that remains after corn is burned is high in nutrients and can be used as fertilizer.

Contact: FARM SHOW Followup, Greg Tingley, Pioneer Hi-Bred International Inc., 404 South County Road, Toledo, Iowa 52342 (ph 641 484-2141; E-mail: greg.tingley@pioneer.com).

"Mixer Mill" Calf Hutch

Illinois dairyman John Swanson turned an old Artsway mixer mill into a low-cost calf hutch.

"I saved a lot of money and was happy with the way it turned out," says Swanson.

He bought the mixer mill at an auction for \$15 and hauled it home on a truck. He cut the 5-ft. dia. hopper off the frame, then cut off the top part of the hopper. He cut a 20-in. wide, 36-in. high door into one side and then set the hopper on the ground upside down. An old calf feeder pan was placed over the opening on top to keep out rain and snow during the winter. The pan is removed during the rest of the year for ventilation.

"The open bottom allows any moisture to drain into the ground," notes Swanson.

Contact: FARM SHOW Followup, John Swanson, 974 Grant Rd., Chana, Ill. 61015 (ph 815 732-6698).



Hopper sets on ground upside down, with the top cut off and a door cut into one side.

Reel Mower System Provides A "Golf Course" Cut

"Your lawn will look like a carpet when you're done mowing with our reel-type mowers because they cut so much more evenly than any deck mower," says Merle Short about his company's new three-reel mower that's designed to be pulled behind a lawn tractor or ATV.

Total cutting width is 5 ft. Each reel pins onto the frame and is able to flex up or down individually according to ground contour. The hitch is designed to put down pressure on the drive wheel for each reel, which eliminates the need for extra weight and therefore reduces horsepower requirements.

"It saves fuel and is the ideal solution if the deck on your riding mower wears out because you can pull it with any lawn tractor or ATV that has at least 5 hp," says Short. "Some Amish people even use a pony to pull it. Another advantage is that it runs quiet, with no engine. The reels produce a nice, clean, golf course-type cut. They pinch the end of the grass, which results in less moisture loss and therefore a greener lawn."

Sells for \$1,195 including S&H. The



Reel mower can be pulled by any lawn tractor or ATV.

company also makes an 11-ft. 4 in. model that uses seven reels hitched together. It sells for \$3,565.

Contact: FARM SHOW Followup, Pro Mow, 8318 Clinton Park Drive, Fort Wayne, Ind. 46825 (ph 877 477-6669 or 260 482-6699; fax 260 482-6688; Website: www.promow.com).

Home-Built "Well-Drilling" Machine

When Les Kendall, Cass City, Michigan, decided to put in a new well about three years ago, he did it himself with a machine he built from spare parts.

"I've done things like this all my life," says Kendall. "If I need something, I just make it."

Kendall's well rig can drive a sand point as deep as 40 ft. if soil conditions are right. In most of Michigan, that's plenty deep if a sand point well is going to work at all.

To make the rig, Kendall mounted a 15-ft. tall derrick on an axle, along with an old 14 hp. single cylinder Wisconsin gasoline engine. The derrick is made in two pieces and hinges at the base so it lays down for transport. When the derrick is laid down, the top half can be taken off and laid beside the bottom half for transport.

At the top of the derrick, an old windmill pump jack, powered by the Wisconsin engine, raises and then drops a hammer - made from a 75-lb. weight - onto a pipe which pushes the well point into the soil. The weight hangs from a cable which is let out as the pipe is driven into the ground or shortened as additional lengths of pipe are added.

A second 75-lb. weight can be added above the first for driving wells in tougher soils.

After making the machine, Kendall drove several wells for himself and friends. Then he sold it to Robert Becker, a friend and



To make the well-drilling rig, Kendall mounted a 15-ft. tall derrick on an axle, along with a 14 hp gas engine.

neighbor, who told FARM SHOW about it.

"I'd never seen anything like it and thought it was worth preserving," Becker says. While he's used it for only one or two wells, Becker has also taken it to old engine shows where it draws a lot of attention.

Contact: FARM SHOW Followup, Robert Becker, H125 West St., Cass City, Mich. 48726 (ph 989 872-5363.)

Tank Locks Stop Theft Of Anhydrous Ammonia

These new locking mechanisms are designed to keep thieves from stealing anhydrous ammonia out of tanks stored on farms.

Anhydrous ammonia is used in the manufacture of the illegal drug methamphetamine. The drug is highly addictive, so stealing has become a major problem in rural areas where anhydrous ammonia is stored.

Porter Bros. Tank Lock

This device fits over the valves and then locks. It's made from stainless steel and is difficult to torch, bend or cut with a saw. The stainless steel makes it easy for law enforcement officials to lift fingerprints.

Four different models are available depending on the size of the ammonia tank. Each model sells for \$72 plus S&H.

Contact: FARM SHOW Followup, Porter Bros. Corporation, Box 609, 5801 Highway 2 East, Minot, N. Dak. 58702 (ph 800 827-1653 or 701 852-4441; fax 701 838-4328).



Porter Bros. device fits over valves on ammonia tank and then locks. It's made from stainless steel.

Dodge Tank Lock

The "Tanklock" is a metal box that fits over the valve cluster on top of a nurse tank. It measures 23 in. long, 11 in. wide, 9 in. high and weighs 22 lbs. Mounts inside the roll cage on top of the tank. The box is attached to a removable T-bar that attaches to the tank's valve stems. The bolt anchoring the box to the T-bar is hidden inside the box itself. Prying on it with a crowbar won't get you anywhere.

A circular lock that secures the box is shielded by a metal sleeve, making the device virtually impervious to a hacksaw or other implement. It's coated with a metal similar to a truck bed liner to protect against rusting.

According to the company, the unit will fit 90 percent of all nurse tanks. The remaining 10 percent can be accommodated with a different model.

Sells for \$89 plus S&H. The lock sells for \$31.95 plus S&H.



"Tanklock" is a metal box attached to a removable T-bar that attaches to tank's valve stems.

Contact: FARM SHOW Followup, Dodge Mfg. Division, Dodge Electronics, Inc., 1345 S.W. 42nd, Topeka, Kansas 66609 (ph 785 266-5100; fax 785 266-5222; Website: www.dodgeandco.com).