

# Corn Cob Furnace Heats Ohio Farmer's Home & Shop

About seven years ago Russell Bucholtz got fed up with buying 2,000 gallons of fuel oil every year to heat his large two-story farmhouse built in 1895. So he scouted up some used parts and engineered a corn cob-burning furnace that heats both his home and shop, plus provides domestic hot water as well.

The best part is that he gets the cobs for free from an elevator in nearby Pittsburg, Ohio, which shells ear corn. "The elevator is glad to get rid of the cobs," he says, "and I'm glad to haul them away."

Bucholtz installed a hot water boiler in his shop and piped it to baseboards 30 feet away in his house. His biggest challenge was devising a way to transfer the cobs from a forage wagon to the boiler. To do this, he recycled a used coal stoker which has a hopper on one end and a gearbox which drives a shopmade auger that feeds the cobs into the boiler.

A thermostat on the boiler controls the operation of the stoker system. Cobs from the forage wagon are delivered to the hopper on the stoker by a shop-rigged electric gearbox on the wagon. The cobs fall from the side of the wagon into the hopper which is equipped with a micro switch on a pressure plate. The switch, recycled from a junked clothes dryer, starts and stops the delivery of cobs from the forage wagon.

After experimenting with combine augers to move the cobs, Bucholtz fashioned together a 6" auger with specially-designed flighting. "The homemade auger," he says, "didn't cost any more than a tank of fuel oil." The stoker system is supported by wheels off of an old cultivator and jacks

from a junked corn picker.

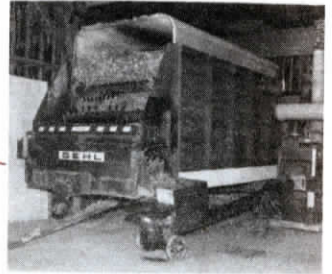
Bucholtz, a long-time area farmer who was also an Air Force mechanic, stores the corn cobs in the haymow of his barn, and rakes them from there into the forage wagon. One load will keep the furnace going for about one month.

Because corn cobs produce only about 2% ash, Bucholtz says a wagon load of cobs will leave only about a wheelbarrow full of ash. A pound of cobs contains roughly 6,000 BTUs, he says, and dried cobs from a bushel of corn will produce about the equivalent of a gallon of LP gas. A load of 3,500 lbs. of

cobs will produce the same energy as a cord of seasoned hardwood.

Using corn cobs as alternative energy has allowed Bucholtz to retire the oil and wood stoves they he previously used to heat the house. "There's not as much dirt in the house now," he says, "and we had fun proving to people that the cob system would work."

For more information, contact: FARM SHOW Followup, Russell Bucholtz, 7427 Painter-Creek Road, Arcanum, Ohio 45304 (ph 513 548-7216).



Cobs are fed from forage wagon equipped with electric-powered gearbox.



Photo courtesy The Daily Advocate, Greenville, Ohio

Ohio farmer Russell Bucholtz saves 2,000 gal. of fuel oil a year by burning corn cobs with a home-built system set up in his shop.

## ALIGNS HAY BALES IN ROWS FOR FASTER, EASIER PICKUP

# Windrow Maker For Big Round Bales

It takes time to retrieve big round hay or straw bales scattered helter-skelter throughout the field. Canadian farmer Glen Reil, of Tofield, Alb., makes the job faster and easier with a windrow maker that mounts behind his big baler.

The tag-along cradle allows him drop bales off in rows as they're made, making it easy to pick them up when the baling's done.

"I use a tractor-loader and truck to remove bales from the field. With the bales aligned in windrows, I can clear a field in one third the time it used to take when bales were dropped randomly," Glen told FARM SHOW. "When I bale slough hay, I take one bale on the trailer and one in the baler and haul them to high ground so, if it rains, they don't stand in water."

Reil has patented (pending) his "windrow maker" invention and is looking for a manufacturer. Meanwhile, he and his partner Alton Olson are custom building the windrower for interested farmers.

It bolts to the frame and axle and is a solid, integral part of the baler. It's equipped

with two 8 in. dia. caster wheels and follows the baler around corners and over ditches. "You can even back up with a full bale on the cradle," Glen points out.

A short (4-in.) stroke hydraulic cylinder tips the cradle to unload the bale. "With a little practice, you learn when to hit the lever so the bales drop off on the go in a straight, neat windrow," says Glen.

He notes that some balers with low slung rear ends don't provide enough slope for bales to roll out of the baler and onto the cradle of the windrow maker. "To solve the problem, we use a hydraulic cylinder to lift the rear of the baler about 12 in. While the bale is being tied, the operator activates the lift cylinder. When the tied bale rolls out of the baler, it's on enough slope to roll onto the cradle," Glen points out.

Approximate cost of custom-built windrow makers is right at \$2,500 (Canadian), not including the optional lift cylinder.

For more information, contact: FARM SHOW Followup, Glen Reil, Box 218, Tofield, Alb., Canada T0B 4J0 (ph 403 662-2624).



Fitted with caster wheels, cradle bolts to frame so it becomes integral part of baler.



Tag-along cradle drops bales off in rows making them easier to pick up later.