

Save Money: Burn Your Own Shelled Corn

Corn Stove Stirs As It Burns

"It's a lot easier than burning wood and it's cheaper," says Jim Selle, farmer and sales representative for manufacturers of a new shelled corn furnace that's totally automated for trouble-free and almost effortless home or shop heating.

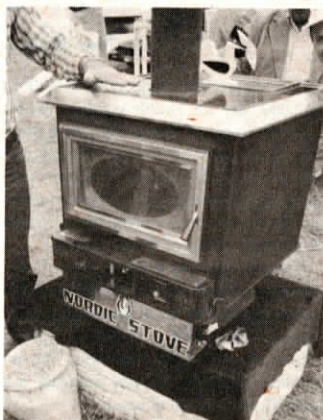
Selle says that at \$1.50 per bushel, corn used as fuel costs nearly 60% less than \$.60 per gal. LP gas or \$.75 per gal. fuel oil. Shelled corn costs about 55% less than wood pellets and is even cheaper than burning cord wood if you have to go out and buy it. "The great thing about this stove is that it makes corn just as easy or easier to use than any of those fuels, and it burns cleaner than wood with almost no ash," says Selle.

The Nordic shelled corn stove features a double-walled firebox and a pair of up-front heater blowers that pull room air down through the sidewall chambers and blow it out into the room so no combustion air or smoke enters the room. A 1-bu. rear-mounted hopper feeds corn to the firebox through a small, thermostatically-controlled feeder auger. When the thermostat calls for more corn, activating the auger, a combustion fan also turns on, feeding fresh air to the fire.

Key to success of the stove is a "stirator" inside the fire ring that continually rakes through the kernel fuel that pushes up from the bottom of the stove. "It eliminates the hard clinkers that normally form when you burn corn and keeps the fire burning hot and evenly. Without this stirring action, the stove would not work," says Selle.

Air blows into the room through a grill located at the front of the stove beneath the see-through glass door. Blower fan speed at either side of the stove can be adjusted up or down as needed. Although the stove contains a total of three fans (including the combustion blower) and two motors (auger and stirator), Selle says that in operation it uses little more electricity than a 100 watt lightbulb. He also notes that because all motors are muffled inside the body of the stove, there's very little noise.

Corn burns at a rate of 1/2 bu. to 3 bu. per



Stove continuously stirs fire to prevent formation of "clinkers".

day in the stove, supplying from 10,000 btu to 52,000 btu per hour. That's enough to heat a 3,000 sq. ft. home in many areas of the country, says Selle. The stove can burn corn up to 20% moisture and has been used to burn dirty corn with up to 50% fines. It can also be used to burn wood pellets and pellets made from crop residues such as cornstalks and straw. By changing the size of the fire ring, it'll also burn coal and it can be used to burn logs if you remove the fire ring and install a grate.

Burning at its highest combustion level the stove will burn unattended for up to 8 hrs. At a lower level, it'll run unattended on 1 bu. of corn for up to 32 hrs. Hopper extensions can be added to nearly double stove capacity, or you can tie it into a larger, stand-alone hopper. Then the only maintenance would be to clean out the ash every few days.

Selle says the stove meets all existing government emission standards. Sells for \$1,895.

For more information, contact: FARM SHOW Followup, Nordic Stove Division, 4201 N. 26th St., Omaha, Neb. 68111 (ph toll-free 800 451-2575 or 402 451-2575).

The Kernal

"Shelled corn burns with a beautiful blue flame which indicates clean combustion," says Gary Kruse, manufacturer of The Kernal, a corn-burning stove that can also be used to burn ear corn, corn cobs, wood pellets, cubes, or even regular wood logs.

The three Kernal models are capable of heating 1,400, 2,400 and 4,000 sq. ft. respectively. All three are top-loading, hand-fed units that burn up to 18 hrs. on a bushel of corn. It holds just under 1 1/2 bu. of shelled corn.

The Kernal burns corn by permitting air to flow through the bottom front of the stove and over the top of the fire. "You can't burn corn in airtight stoves because they don't provide enough oxygen," says Kruse, noting that the high temperatures generated by burning shelled corn also causes a problem. Corn-burning stoves must be built of high quality steel that won't buckle or melt.

The three Kernal models range in price from \$739 to \$1,095. Automatic fans and draft controls cost \$135 extra.



The Kernal is built with heavy, high-quality steel to withstand the high combustion temperatures of shelled corn.

For more information, contact: FARM SHOW Followup, Kruse Mfg., Hwy 71 East, Lake View, Iowa 51450 (ph 712 657-2628).

No Chimney Corn Stove

You don't need a chimney with this new corn-burning stove that was originally designed to burn wood pellets.

The "Pellefier" stove uses controlled combustion chambers to gasify fuel and then burns off the gases and smoke, achieving nearly 100% combustion. That means it doesn't need a standard Class A stack like nearly all wood burning stoves. All you need to do is vent it outside like a clothes dryer. Depending on where it's used, some farmers just let the stove exhaust into the room, especially if they're burning shelled corn, which generally burns cleaner than wood.

The Pellefier stove is designed to burn pellets from 1/4 to 1/2 in. in dia. It holds a load of about 65 lbs. of shelled corn which'll burn for 24 to 36 hrs. A feed auger carries corn to a pre-burning chamber that gasifies the fuel. The smoke and gases generated burn in a secondary combustion chamber that then exhausts the heated air through a heat exchanger that draws off the heat and blows it into the room. The fuel feed ratio and combustion air are both thermostatically controlled. If no heat is required, the fire dies down to glowing embers that the stove automatically keeps alive. Stove generates from 7,000 to 40,000 btu's per hour.

Kevin Kinsella, a farmer near Cooksville, Ill., who became a dealer after buying a Pellefier, says he can heat his house for around \$1.25 per day with the corn burning stove versus \$4.00 per day with LP gas. During the first year he used the stove his heat bill dropped from about \$1,000 to LP



A feed auger carries corn to a pre-burning chamber that gasifies the fuel. Smoke and gases generated burn in a secondary combustion chamber that exhausts the heat through a heat exchanger that blows out into the room.

gas to \$288 with shelled corn. "Except for keeping the hopper filled with corn, it's as easy to operate as a gas furnace. You just empty the ashes out about every 2 weeks," says Kinsella.

The Pellefier measures 26 by 24 by 30 in. and sells for \$1,695. An optional copper coil can be installed in the stove to heat hot water.

For more information, contact: FARM SHOW Followup, C.B. Energy Inc., Winfield Ave., Mt. Pleasant, Iowa 52641 (ph 319 385-7117).

"Smokeless" Cornburner

Once you light the thermostatically controlled Apache corn stove, all you have to do is keep the 50-lb. capacity hoppers on either side of the firebox full. Two small augers at the bottom of each hopper feed corn into the firebox and two fans fuel the fire and blow heated air out of the stove.

The stove, which was first featured in FARM SHOW's Vol. 11, No. 2, is unique in that all combustion takes place in a small 4 by 10-in. area inside the firebox. Air is forced into the small fire chamber from all directions to keep the fire hot enough to burn the corn with no smoke, no creosote and only 1% ash. Corn feeds into the fire from the bottom, pushing up into the fire area. Thanks to the fan-controlled burn and restricted fire chamber, flue temperatures do not rise above 350 degrees so you can vent the stove out a sidewall the same way you'd vent a clothes dryer. No chimney required.

"The best thing about this stove is that it's as easy to control as a furnace. You set the thermostat and it'll maintain steady, even heat. It'll burn for 1 to 5 days without refilling, depending on the weather, and you don't have to make a mess hauling wood into the house," says Myers.

The cornburner stove sells for \$1,395.

For more information, contact: FARM



Thanks to the fan-controlled burn, flue temperatures do not rise above 350° so you can vent the Apache stove out a sidewall the same way you'd vent a clothes dryer.

SHOW Followup, Nu Energy Marketing, Inc., Rt. 4, Box 253, China Grove, N. C. 28023 (ph 704 983-2544 or 857-6166).