



Post peeler automatically pulls log past a 22-in. dia. disk equipped with four 6-in. knives. They take off bark, leaving post smooth and round.

## Portable Post-Peeling Machine

Some people use this post-peeling machine to take the bark off fence posts. Others peel logs to make teepee poles. Still others use it to take bark off small limbs and branches to make natural wood furniture.

Anders and Debra Rosenlund, Kingston, Idaho, import the Austrian-built post peeler to the U.S. Their company, Scandinavian Forestry Tech, sells two versions of the post peeler, along with a variety of other machines for small-scale logging.

The larger, more expensive peeler automatically feeds up to 9 1/2 in. dia. logs past a 22-in. dia. disk equipped with four 6-in. knives. The automatic feeder pulls the log through the knives in a spiral pattern, taking off bark and stubs up to about an inch long, leaving the post smooth and round. A blower blows bark strips and wood chips into a pile away from the machine. Debra Rosenlund says the bark can be recycled as livestock bedding, mulch or fuel.

Logs must be fed manually through the smaller version and, since it has no blower, bark and chips must be removed from the work area manually. Rosenlund says by manually feeding the logs through the

machine, branch stubs can be left on the posts. It can peel off bark without leaving marks on the wood. "A lot of people who make rustic wood furniture use this machine," she says.

Both machines can also sharpen posts so they can be driven easily. Power is supplied by a tractor pto, gas or diesel engine, or electric motor. The larger automatic model requires at least 22 pto hp or a 15 hp motor or engine, while the smaller needs only a 5 hp single phase electric motor, 10 to 12 hp from a gas or diesel engine, or 15 hp at the pto.

The automatic feed sells for \$4,795 while the manual machine goes for \$2,295. Both prices are without add-on motors or engines to power the units.

Rosenlund says commercial post and pole makers generally find the bark is also a valuable commodity. "Horse owners like the bark strips better than shavings or sawdust for bedding," Rosenlund says.

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## They're Using Magnets To Heat & Cool

Magnetic heating and cooling? The idea is still four or five years away from commercialization, according to researchers and developers, but magnet-based heating and cooling systems will likely find their way eventually onto farms.

The concept was originally conceived in the 1920's, but other forms of refrigeration were more efficient and attractive at the time, so it got put on the shelf.

However, recent efforts by scientists at Astronautics Corporation of America, Madison, Wisconsin, and the Ames Laboratory, a U.S. Department of Energy lab operated by Iowa State University, have refined the process to the extent that it now promises to be more efficient and more environmentally friendly than the chlorofluorocarbon gas refrigeration systems we're now using. What makes the system unique, says Karl Gschneidner, one of the Ames Lab scientists involved in the project, is that it can be used for both heating and cooling.

The newest version of magnetic refrigeration uses gadolinium, a rare-earth metal discovered in 1880 that gets hot when exposed to a magnetic field.

Instead of a gas refrigerant, it circulates water (to which antifreeze can be added to

keep it from freezing) inside a closed loop through magnetic beds containing fine spheres of gadolinium and hot and cold heat exchangers.

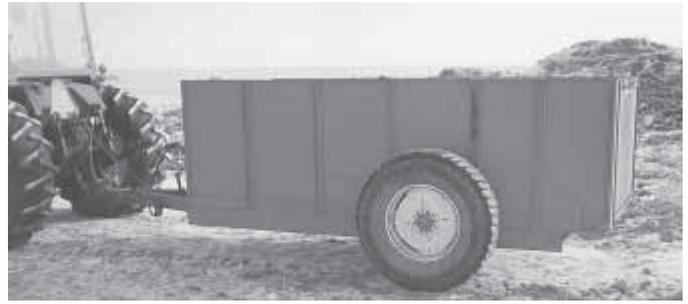
Heating the solution as it flows through the gadolinium magnetic beds has the same effect as compressing gas in a conventional refrigeration system.

The water-antifreeze solution is cooled by being circulated through a demagnetized chamber. Essentially no energy is lost during the magnetizing and demagnetizing processes, so the system can be up to 60 percent efficient, compared with no more than 40 percent energy efficiency for current systems.

Magnetic heating and cooling is expected to be more expensive to produce, at least initially, but Ames Lab sources project energy savings will pay for the system in about five years.

While Ames Laboratory is conducting research to perfect the materials for the system, the Astronautics Corporation is developing ways to commercialize the equipment.

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Two-wheeled wagon rides on 3 1/2-ft. high wheels and has a plywood box that's lined with slippery fiberglass.

## Hydraulic-Operated "Dump Spreader"

To save time when cleaning barns Samuel Wurz of Vulcan, Alberta, built a hoist-operated, pull-type "dump spreader".

"We had been using an apron-type spreader to haul manure from our chicken barn over to a pile, where we dumped it for spreading later. It took as long to dump the manure as it would have taken to spread it in the field," says Wurz. "Our home-built dump spreader has much more capacity and dumps the manure a lot faster. Also, we don't have to deal with all the maintenance costs of an apron-type spreader."

The 2-wheeled wagon has a 3/4-in. thick plywood box that measures 4 1/2 ft. wide, 11 ft. long, and 3 ft. high. The box is built on a steel frame made from 6 by 1-in. sq. tubing and is supported on both sides by a series of 2 1/2-in. steel bars. The floor and sides of the box are lined with slippery fiberglass. An easy-to-operate, scissors-action lever at the back of the box is used to release the tailgate. The box is raised and lowered by a pair of 5-in. dia. hydraulic cylinders off an old Dodge dump truck.

"It's built simple and strong," says Wurz. "We hire trucks and tractors in the spring to spread the piled-up manure on our fields. The wagon rides on big 3 1/2-ft. high wheels so it



Box is raised and lowered by a pair of 5-in. dia. hydraulic cylinders. A scissors-action lever at back of box is used to release tailgate.

pulls easy, and the manure slides easily off the fiberglass floor and sides. We used glue and anchors to fasten the fiberglass to the plywood. If we want we can flip the tailgate all the way over and store it on top of the wagon, where it's held in place by a pair of chains."

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## Pull-Type "Sky Jack"

"It comes in handy for a lot of different jobs around my farm," says Arthur Flath, Radisson, Sask., who converted a used warehouse "sky jack" designed for man-lift use into a pull-type cherry picker that goes up to 25 ft. high. He pulls the two-wheeled rig, which is equipped with a stand-in cage, behind a small Ford tractor.

Flath bought the sky jack for \$5,000 from a local rental company. The unit was only 30 in. wide and was equipped with small plastic wheels and a pair of outriggers. It had fallen off a truck and was no longer safe to use because the wheels had broken off. He put on bigger wheels (car spare tires) and replaced the original outriggers with four that he made from 2 1/2-in. sq. box iron. Each outrigger is operated by a 2-in. dia., 8-in. stroke hydraulic cylinder. He also added a hitch and mounted a hydraulic pump on it to operate the boom and the outriggers. The pump operates off tractor hydraulics.

The boom is built in six sections and folds up accordion-style for transport. A chain-drive system connects all the sections together and is used to raise and lower them. Flath uses controls mounted inside the cage to raise or lower the boom.

"It comes in handy for a lot of different jobs," says Flath. "I drive it around to my neighbors and use it to change their yard lights. It also works great for cutting limbs

off trees and for washing and painting barns. It's a lot safer than using a ladder."

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**Pull-type cherry picker is equipped with a boom - built in six sections - that raises up to 20 ft. high.**



Two-wheeled rig is equipped with a stand-in cage and four outriggers.