Turning Ag Plastic Into Pelleted Fuel

Jeff Rabl is turning feed bags, bale bags, netting and twine into a high-energy fuel. Combined into pellets with wood fiber and other materials, the plastic burns well, producing 10 to 15 percent more btu's than straight wood fiber, wet or dry.

"We worked with Fountain Head Engineering to develop a machine to process plastic and wood fiber into pellets," says Rabl. "They have patented techniques for using plastic as a binder for wood, corn stover and even paper."

Rabl chose to concentrate on 1 1/4-in. dia. pellets. This means they can't be used in standard wood pellet stoves with auger feeders, which are normally sized for 1/4-in. dia. pellets. The larger pellets require less energy to make, since the fiber doesn't have to be milled so fine. There's also less concern about burning plastic-bound pellets in industrial boilers.

Burning ag plastic rather than trying to recycle it also eliminates the need to wash it. "It only needs to be clean of dirt clumps, rocks and metal," says Rabl. "If there is a thin coating of crop residue on the bag, it won't hurt anything.

Though he is still in the testing stage, Rabl is confident there's a market for his pellets. He's working with a proposed power plant in Madison, Wis. and is having the pellets tested in existing power plants.

Finding a supply is also not expected to be a problem. Rabl is working with the state of Wis. and county agents to devise a system for centralized receiving. Bales of plastic would be hauled to a processing facility from various recycling centers. There they would be shredded, mixed with wood or other fiber, and pelletized.

Rabl says other fibers tested include cardboard, corn stover, paper, paper sludge and some grasses. "We hope to expand our facility with another machine and put a couple more near other locations that could use the fuel," says Rabl.

Photo courtesy Jan Shepel, Wisconsin State Farmer

Ag plastic made into pellets with wood fiber and other materials, burns well, says Rabl.

Contact: FARM SHOW Followup, Wood Residual Solutions LLC, 509 Mill St., Montello, Wis. 53949 (ph 608 297-7141; jeffr@woodresidualsolutions.com).

Installing Geothermal Without Trenching

Dan Halsey found a way to install geothermal ground tubes for his new home heating system without digging trenches.

"I had seen machines drilling cable under freeways and asked why that wouldn't work for geothermal tubes as well," recalls Halsey. "The company putting in my system thought it was worth a try."

Halsey knew that trenching would be expensive and would rip up his heavily wooded yard, damaging trees. Also, his home is next to a wetland, so the water table would be a problem when trenching 10 to 12 ft. deep.

Halsey considered drilling vertical geothermal pipes but that would have required five holes drilled at $1,000 each. Ground piercing would cost about $2,500.

Jeff Eccles, Logical Heating & Air Conditioning, rented a ground-piercing machine. The machine was anchored in place at the spot selected for the manifold. Using a hand held control, Eccles guided the drill to the 8 to 12 ft. depth required and ran it out a little more than 100 ft. When it surfaced, a pair of pipes was hooked to the drill head and pulled back through the hole to the starting point. The pipes were connected at the end of each run to create 200-ft. ground loops.

Eccles laid five sets of pipe this way, simply pivoting the machine slightly with each new set. Using the controls, he could precisely guide the drill head around trees and other obstacles.

Once all 2,000 ft. of pipe had been laid, a backhoe was used to dig down to the drilling depth. A manifold was installed to connect the pipes to the house.

"It only took a day and a half to get it done instead of perhaps a week with a backhoe, and the lawn was hardly disturbed," says Halsey.

To run the pipe into the house, the contractor opened up a small hole in the basement floor. He guided the drill head from the manifold pit to the foundation wall and under it. He was then able to direct the drill up through the floor opening.

"It was so easy, I couldn't believe it," says Halsey. "It also cost a lot less than trenching would have."

Ground piercing drill head buries pipe 8 to 12-ft. deep and goes out as far as 100-ft.

Contact: FARM SHOW Followup, Daniel Halsey, 17766 Langford Blvd., Prior Lake, Minn. 55372 (612 720-5001; dhalsey@integra.net) or Logical Heating & Air Conditioning, 14595 Raspberry Dr., Rogers, Minn. 55374 (ph 763 428-6358).

To run pipes to furnace, Eccles guided pipe up through hole in basement floor.

"Hands Free" Slip-On Shoe Covers

You can walk through the house with your muddy boots on if you get a pair of these new slip-on shoe covers.

Tidy Trax shoe covers are made of flexible foam rubber and feature a tub-like design that traps mud or debris. They're easy to put on – you just step in and go, without having to bend over to take them on or off. "Gripping fingers" in the front part of the shoe holds it to your foot. The flexible fingers bend just enough to allow your shoe to go into the encasing footwear, yet are firm enough to hold the shoe in place. A heel kicker at the rear makes removal easy.

Tidy Trax sizing is based on shoe length, not shoe size. According to the company, a work boot and tennis shoe of the same size can vary in length up to 1 in. When determining what size Tidy Trax will fit your shoe best, measure the boot from heel to toe, then compare to a size chart on the company's website to determine what size you need.

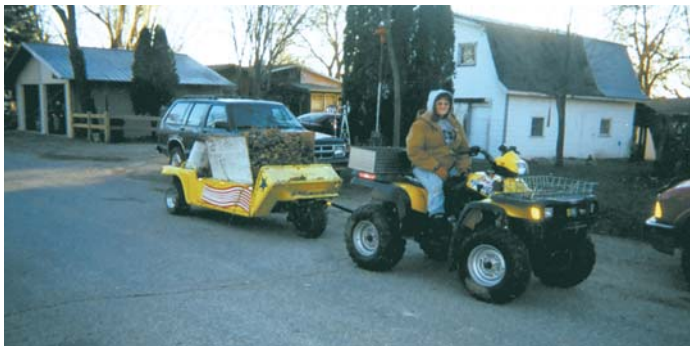
The shoe covers are easy to keep clean – just bang them together to remove dried mud and debris or blast them with a garden hose.

They sell for $34.99 plus S&H.

Contact: FARM SHOW Followup, General Shoes Corp., 434 Airport Rd., Endicott, N.Y. 13760 (ph 607 846-4520; info@311industries.com; www.tidy-trax.com).

TidyTrax shoe covers are easy to put on – you just step in and go, without having to bend over.

"Gripping fingers" at front part of shoe cover holds it in place.



Converted 3-wheeled golf cart makes a handy trailer that pulls easily behind any 4-wheeler.

Slick Trailer Made From Golf Cart

Doug Johnson, Little Cedar, Iowa converted an old 3-wheeled golf cart into a handy trailer that he pulls behind his Polaris 400 cc 4-wheeler.

He got the 20-year-old golf cart free from a friend. He removed the seats, then cut the cart in half and welded in new I-beam material to lengthen the cart by about 2 ft. He added metal panels on each side to close it in. They can be easily removed by pulling a couple of pins. He also added a hitch made from angle iron.

"It works slick and because of the golf cart's suspension system I can put on a heck of a load. And if I want I can put the seats back in and haul passengers," says Johnson. "I use it in the woods to haul firewood. I also use it to haul dirt and rocks. To unload the dirt I pull the sides off and shovel dirt off.

"I spent almost nothing to build it. A trailer of comparable capacity would sell for about $700."

Contact: FARM SHOW Followup, Doug Johnson, 4261 Patent Ave., Little Cedar, Iowa 50454 (ph 641 983-4414).