

## Mini Hay Baler Automatically Ties Bales

"It's the only machine out there that will automatically tie bales that small," says Sam Esch, Strasburg, Penn., who sells a stationary mini hay baler he built from scratch.

He says the electric or hydraulic-powered machine makes decorative bales that measure 8 by 6 by 4 1/2 in. and weigh about 3 1/2 lbs.

Crafters and pet store owners sell the bales for about \$6 each.

Esch says you can put a slice of a large bale on the table and manually feed it into the auger. A lever turns the baler on and off. "Should something happen, you can shut it

off with your elbow," he says. A plunger pushes the hay through the chute and the New Holland knotter automatically ties each bale with twine. Two spring-loaded levers set bale tension. The twine spools are stored in a pair of metal cylinders. Esch says one person can make 8 bales per minute.

The 8 by 6 1/2 by 5-ft. high baler weighs about 500 lbs. "It fits in the back of your pickup," says Esch. Sells for \$7,800.

Contact: FARM SHOW Followup, Esch Hay Equipment, 1324 Village Rd., Strasburg, Penn. 17579 (ph 717 687-0321).



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Almost any oil source will work in this multi-fuel generator. It's available with 12.5 or 20 KW output, which will provide plenty of power for most homes, small businesses, and farms.

## Biodiesel Generator Powers Up On Veggie Oil (Or Almost Any Oil!)

Got waste motor oil? How about waste vegetable oil, even lard? Almost any oil source will work in this unique multi-fuel generator from Affordable Power. The 2-71 Detroit Generator Sets were originally designed to run on diesel fuel, but have been adapted to produce power from a wide variety of waste oils.

They're available with 12.5 or 20 KW output, plenty of power for homes, small businesses and many farms. In some states excess power can be sold back into the existing power grid, notes Jim Cole, Affordable Power.

A 20 kw generator will produce about 14,400 kw in a month. At a rate of 7.5 cents/kw, that comes to a little over \$1,080 a month. If you set up a route to pick up waste motor oil and restaurant grease, it wouldn't take too long to pay for that generator. It will also burn extruded soybean oil, so livestock producers could extrude the oil and feed the remaining meal to animals.

"The 2-71 Detroit Generator Set is probably the best small generator ever built," says Cole. "The ones we have been used for years on refrigerated rail cars and designed to run for 5 to 6 weeks unattended. The 2-71 is a two-stroke diesel and is super charged for very high compression and efficiency. We have rebuilt all the systems and modified them to run on all kinds of oil."

What makes the 2-71 ideal for alternative oil fuels is its positive displacement fuel pump. It delivers fuel to injectors on each cylinder, each of which is a small plunger

pump. Newer engines with centralized injector pumps can be a problem. Vegetable oil can attack the seals and other components in the fuel system.

"We have only one seal on the fuel pump shaft, and we changed it to a material that won't break down from vegetable oil," says Cole.

The major modification made by Affordable Power is the addition of a two-compartment fuel tank. One holds 10 gal. of diesel fuel, and the other holds 30 gal. of an alternative oil that has passed through a 5 micron filter.

The engine starts up on diesel fuel. As it warms up, cooling water from the engine is directed through a heat exchanger in the alternative oil. Once it has warmed sufficiently (usually above 80° F.) the system switches over to run on the new fuel source. When the generator set is turned off, the fuel system switches back to diesel to purge the pumping system and engine of the alternative oil.

"These systems are built to last," says Cole. "They have 6-pole brushless alternators that turn at 1,200 rpms. Most alternators have two or four poles requiring 3,600 or 1,800 rpms. Slower rpms give them longer life. Plus they have 5-gal. oil sumps and special oversize oil filtration units that allow them to go 1,000 hours between oil changes. I had a farmer tell me he had used one on an irrigation rig since 1985 without a problem."

Affordable power has priced the systems at \$4,995 for a 12.5 KW used system with a manual control fuel system or \$7,995 for a



Flexible rubber mat is embedded with a special compound along the top. When an animal steps on or touches the mat, an electric shock turns it away.

## Drive-Over Electric Cattle Gate

Drive-through electric gates have been available for years, but have you ever heard of a drive-over electric gate? A Missouri company recently introduced one at the recent National Farm Machinery Show in Louisville, Ky. It lets you get into pens, feedlots, and pastures without climbing off the tractor.

The Gap Zapper is a flexible rubber mat that's 4 ft. wide by 14 ft. long. A special compound along the top of it gives the rubber surface the same conductivity as an electric fence, with the same shock value. A regular electric fencer provides the power. When an animal steps on or touches the mat, an electric shock turns it away. Vehicles and equipment can cross with no harm to the mat, and you can walk across the mat if you have on rubber or vinyl-soled shoes.

The mat can be easily unhooked from the fence charger, rolled up, and moved to a new location at any time.

"It's less expensive than pit-style cattle guards or portable steel cattle guards, and more reliable than drive-through electric gates. A big advantage over drive-through gates is there's no swinging arm to bump or scratch your vehicle," says inventor Herb Beck, Farmington, Mo.

The mat can be placed across any fence opening, road, or other gap, says Beck. "It

really works well for rotational grazing, because when cattle are moved into new areas of a pasture they already know that the Gap Zapper will deliver a shock if they touch it. The mat comes with two leads at each end, which you can hook up directly to an electric fence if you want. The mat won't reduce the voltage farther on down the fence."

According to Beck, animals will first have to be trained so they know the Gap Zapper is there and won't run right through the opening. "You can put a piece of twine or a rope across the opening, from post to post, to provide a visible barrier that animals will investigate. In the process they'll touch the mat and get a shock. After a day or two you can take the visible barrier down."

He says rain and snow won't affect the mat's performance. "If the mat is wet or has snow on it, the animals will still get shocked. More than likely they will already be trained and won't even approach the mat whether they can see it or not."

Sells for \$1,095 and has a 3-year warranty. Discounts available for multiple mats.

Contact: FARM SHOW Followup, Gap Zapper Corp., 2519 Oak Ridge Dr., Farmington, Mo. 63640 (ph 573 756-2050 or 573 897-2943; hbeck@thegapzapper.com; www.thegapzapper.com).

reconditioned 20 KW generator set with automatic fuel system. A rebuilt 20 KW generator set with automatic fuel system, is priced at \$8,795. All prices for the 2,400-lb. units are FOB, and the reconditioned and rebuilt systems come with a 90-day warranty.

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