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Bale Burner Turns “Waste Bales” Into Fuel

If you can put it through your baler, you can turn it into fuel for the “BaleBurner” from Heatwerks, Inc., Morland, Kansas.

Heatwerks makes two models of big bale burners that are being used to fire boilers for heating buildings, dry grain, and other purposes. Dave Goff, company owner, says one of his burners is being used in ethanol production. “To date, installations have used boilers, but the burner could easily be modified to a forced air system,” he says.

The Heatwerks Big Rig, which can produce up to 3 million btu’s, opens on the side, while the smaller 1 million btu Ranch Rig opens on the end.

Features of the Heatwerks burners include a grate made of four chain-driven rollers that rotate the bale as it burns, allowing for more even and complete combustion. “We found this was necessary in order to keep straw bales burning,” Goff says. “If we don’t keep turning the bale, a straw bale will actually smother itself out.”

An electric motor powers the chains. A



Grate made of 4 chain-driven rollers rotates bale as it burns, improving combustion.

popular option is an auger system that automatically removes ash, so the system never has to be shut down for cleaning.

Goff began making bale burners four years ago. He says most of his customers burn wheat straw, but says some have baled prairie grass, weeds and brush for fuel. “We also make a coal adapter for our burners since we have access to low cost coal,” he adds.

While larger Big Rig systems with all the options sell for around \$25,000, Goff is selling a no-frills version of the Ranch Rig with water jacket and roller grate for under \$5,000. “We have an arrangement with a trucking company, so we can help buyers out even more by arranging reasonable shipping from Morland to their location,” he says.

Goff says he’d welcome inquiries from potential customers and dealers as well.

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Hydroponics tower system consists of stackable pots mounted on a swivel plate.

Garden Towers Boost Production 800 Percent

You can raise two acres of plants on just a quarter acre of land with new Verti-Gro garden towers. The hydroponics tower system was designed for greenhouse and pick-your-own operators who wanted to do more in a limited area. Now homeowners can get the same benefits.

“We have about 100 commercial growers using this system,” reports Tim Carpenter, the brain behind Verti-Gro. “About half are out-of-doors. They can grow 30,000 plants in 1,200 pots stacked 4 to 5 high, all on a quarter acre.”

Carpenter claims that plants produce faster, too. Strawberries will bear fruit in six weeks in the spring and eight in the fall.

The Verti-Gro kits consist of stackable pots, a swivel plate, premixed growing media, a 4 to 6-month supply of fertilizer, a pump, timer and drip irrigation system, and detailed instructions. Larger systems require a nutrient reservoir. Kits don’t include the low-cost electrical conduit pipe used to support the stacks off the ground. Carpenter notes that it would cost more to ship than purchased off

the shelf.

“The indoor unit takes about 10 minutes to set up, and the outdoor unit about an hour,” says Carpenter.

The supplied growing media is perlite and vermiculite. He reports that organic growers often substitute a perlite and compost mix. With hydroponics, the organic producer doesn’t have to wait to get fields certified. All that is needed are organic inputs.

Kits range from a single stack for \$159.95 to \$499.95 for a four-stack kit. Components are also sold separately. Tomato towers are higher and only two pots per stack, as the tomatoes hang down rather than growing up.

“Peppers do phenomenally well,” says Carpenter. “Tomatoes just keep producing if they are trimmed. We would expect 20 to 30-lbs. per plant from two plants per pot.”

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Radar Finds Old Drain Tile Lines

Before you can upgrade existing field drainage, you need to find old drain tile lines. Engineers at Ohio State University have been getting the job done with “ground penetrating radar,” or GPR.

Until now, the only sure method has been the use of hand-held tile probes, which are extremely labor intensive. Tile contractors spend a lot of time and money locating old lines so they can upgrade drainage with new lines spaced evenly along old lines.

GPR works by directing radar pulses into the ground and measuring the time it takes for the signal to travel down and bounce back.

Soil type and condition effect the signal so equipment has to be carefully calibrated for each situation.

Tests by OSU engineers on 11 plots successfully found 80 percent of the tile, including both clay and plastic, down to depths of about 3 ft. Tests will continue this year and they hope to develop mobile equipment that can be used practically, according to Barry Allred, an agricultural engineer with the USDA Agricultural Research Service (contact him by phone at 614 292-9806 or email allred.13@osu.edu).

Some of the best new ideas we hear about are “made it myself” inventions born in farmers’ workshops. If you’ve got a new idea or favorite gadget you’re proud of, we’d like to hear about it. Send along a photo or two, and a description of what it is and how it works. Is it being manufactured commercially? If so where can interested farmers buy it? Are you looking for manufacturers, dealers or distributors? Send to FARM SHOW, P.O. Box 1029, Lakeville, Minn. 55044 or call toll-free 800 834-9665. Or you can submit an idea at our Website at www.farmshow.com.

Mark Newhall, Editor

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