



Outdoor biomass boiler can burn almost anything that will feed through a typical farm auger, including old moldy grain.

Free Fuel Powers Biomass Boiler

Adam Brandt fuels his outdoor biomass boiler with “free” material that would otherwise be wasted.

“Since the fuel only needs to be dry and fed through the auger system, we usually burn what would otherwise be waste, like grains that would be unsellable due to mold. We have burned corn so moldy it was rainbow colored,” Brandt says. “We’ve also used wood pellets, barley, oats, and more. This year we are burning a combination of kidney/navy/black beans.”

The oldest grain he’s burned was barley that was more than 20 years old and contaminated by birds and rodents.

“Our boiler can burn almost anything that will feed through a typical farm auger, from large kidney beans down to barley or apple seeds, even rice. Moisture content should be under 14 percent to burn, with an ideal content between 10 to 12 percent moisture,” Brandt explains.

He avoids soybeans because of their high oil content which creates a sooty burn, though soybeans can be 10 to 20 percent of a mix with other grains.

The “fuel” is run through a screen and automatically augers from a 350-bushel grain

bin, which is enough to heat the Brandts’ central Minnesota home through a normal winter. Brandt plans to replace the bin with a 1,500-bushel bin, which should last 3 to 4 years. He also wants to expand the system to heat hot water and outbuildings.

While feeding the fire is automatic, Brandt emphasizes there is daily maintenance.

“This type of system (biomass) does require more of a watchful eye than other outdoor boiler systems,” he says. “You need to clean the burn chamber and flues daily, as well as check the auger system for any clogs.”

He also checks the chimney monthly. In a power outage, the burn pot must be cleaned and the fire put out, unless a generator is hooked up to keep the unit running.

Getting the “free” material also requires labor as Brandt and his helpers travel to farms and load the grain. He says it’s a win/win deal for both sides.

“It helps the person we get the materials from in that they get their storage space back to use for profitable storage of their current crop or rental storage for another person’s crops,” says Brandt, who advertises on Facebook for damaged grain. “We try to stay within 60 miles of home.”



Multi-bale handler uses a single clamping side design to nudge bales into line before grabbing them.

Skid Steer Multi-Bale Handler

This bale handler from Crossroads Welding grabs 5 small square bales off the field and stacks them on a flatbed or unstacks them with speed and agility. The single clamping side design nudges bales quickly into line before grabbing them. At the same time, the narrow non-clamping side can quickly settle down between sets of bales.

“I was tired of picking up 2 bales at a time with forks on my skid steer,” says Cletus Holmes, Crossroads Welding. “There are lots of bale accumulators on the market, but if a bale breaks when using one, you can spend half an hour cleaning it out. With this design, that’s not a problem.”

Holmes builds a wide range of products for area farmers and ranchers. They include fence panels, gates, and steel buildings of all

sizes and shapes, from double-wide barns to simple well coverings. Everything can be customized, explains Holmes.

“I wanted it well-built, but not too heavy,” says Holmes. “Those small squares can weigh 80 to 100 lbs. I didn’t want a small skid steer to overbalance forward when it picked up 5 bales.”

“I made it for small farmers. It makes collecting bales a one-man job.”

The bale handler is currently priced at \$2,000, but that is subject to the price of steel, advises Holmes.

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Skyhawk Kiwi monitor uses new cell technology to let you know right away when an animal has been caught.

Monitor Calls When Animal Trapped

With new cell technology, Skyhawk Kiwi monitors give trappers real time notification when there is activity at their live traps.

A Kiwi monitor detects vibration when a trap door closes. It sends an alert to a phone via email, text or push notification.

The biggest advantage of the Skyhawk monitor is that it has built-in (Verizon LTE) cellular technology.

“Our saying is: No Wi-Fi. No power. No problem,” says Rich Shevelow, CEO of The PICA Group. The system connects automatically and reliably in fringe areas where only text messages work.

With the purchase of a Kiwi Monitor (\$105), customers choose a subscription plan (ranging from \$8/month for two years to \$14/month quarterly) through Skyhawk.

The system comes with an app to download on a cell phone and options for attaching the monitor including magnetics, Velcro or zip ties. The monitor is the size of a deck of cards, and is powered by three AAA lithium

batteries that last up to three years and work in temperatures down to 40 degrees below zero.

“Our first market focus was on trapping, but it’s also being used for private homes to monitor back gates,” Shevelow says.

For farm applications the Kiwi monitor can be placed in sheds, barns, remote buildings and on equipment parked in a field for added security.

“Next year we’ll be launching suites of products that will be like a hub or router to serve multiples,” says Shevelow.

They will work with everything from rodent traps to monitoring leaks on water pipes. Kiwi is available through Skyhawk as well as Tomahawk Live Trap, Wildlife Control Supplies, and Animal Traps & Supplies.

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Anti-sway assembly (right) holds lift arms securely in place for easier and safer equipment hookup. Locking bar installs on lift arms to hold them up when not in use.



Anti-Sway “Locks” Stabilize Tractor Lift Arms

Minnesota inventor Mark Rinke says the anti-sway bars on his tractor’s lift arms didn’t always hold them the correct distance apart for the equipment he was hooking up. So he built a device that lets him adjust the width incrementally and hold it there.

Rinke’s 3-pt. anti-sway assembly allows a few inches of left or right restricted arm swing. More important, he says, the spring pin lock stabilizes both arms once width adjustment and hookup is finalized. When the lock pin is pulled, a slot within the square tubing securely holds the lift arm and prevents it from getting off course during hookup.

The device uses a swivel fine-threaded bolt shank and barrel that can be rotated to make final width adjustments to match the implement being connected. Rubber seals and grease fittings keep the joints lubricated and free of dust and dirt.

Rinke says he has nothing against the OEM

anti-sway chains used on most lift arms, but those always allow an inch or two of side-to-side movement, even when secured. His device maintains a constant width without any sway so equipment hookup is easier and safer.

To complement his anti-sway device, Rinke made a stabilizer bracket that holds the lift arms and 3-pt. assembly securely in a raised/parked position when it’s not in use. “By locking them up mechanically, I don’t have to worry about lowering the arms if I accidentally hit the hydraulic lever while dismounting the tractor,” he says. Rinke made the bracket out of 3/4-in. tubing with cradles on each end that fit onto the bottom of the upper lift arms. The curved center of the bracket tucks into the tractor frame just below the oil fill.

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