

## AGCO Fine-Tunes Baler For Biomass

When ethanol plants are finally ready to use crop residue instead of grain, AGCO Corp. intends to be ready to help farmers collect. Retrofitted Challenger LB34B balers pulled behind Challenger 680B combines were field tested this fall. The combines harvested grain normally, while the chaff and straw were baled up in 3 by 4-ft. square bales.

"Crop goes directly from the combine into the throat of the baler, never touching the ground," says Dean Morrell, AGCO.

The only changes made to the combine was a hitch to connect and power the baler, which was modified to operate without a pickup unit. A funnel-type opening was fabricated to help move crop material into the bale chamber. The tongue also had to be modified to accommodate the wider throat opening.

"The existing straw chopper sends stalks, cobs, and husks 6 to 8 ft. through the air into the baler mouth," says Morrell.

Ironically, the combine/baler combination may be of interest to crop and livestock producers, whether or not biomass demand

for ethanol production develops. "We had two units running in Iowa this fall, and the customers really liked them," says Morrell. "This machine makes lots better cattle feed versus chopping the stalks up and baling them as they normally would."

Morrell says the company is continuing to test the equipment. Such R&D projects are not usually released to the public, but this is an unusual situation, he adds.

"We're evaluating market interest," says Morrell. "A lot depends on the biomass market and what it does."

Morrell believes the system will be easily adapted to other sources of biomass such as cereal grains. AGCO has indicated that the modified large square baler is expected to be offered for all Class VIII combines from AGCO and other manufacturers.

Contact: FARM SHOW Followup, AGCO, 4205 River Green Parkway, Duluth, Ga. 30096 (ph 770 813-9200; www.agcocorp.com).



Combine harvests grain normally, while crop residue is baled up in 3 by 4-ft. square bales. Crop goes directly from combine into baler without touching the ground.

## Veggie Oil Stove Solves Clogging Problem

Burning used vegetable oil can be challenging due to BCB's (burnt crispy bits) but Tom Leue believes he has developed a burner that works efficiently without clogging.

He's been refining the used oil burner design for the past nine years, and uses one to heat his 30 by 40-ft. shop with 12-ft. walls in Williamsburg, Mass.

"I've always felt used vegetable oil is an underused resource," Leue says. "It's kind of a difficult fuel to use, though, because it's wet (water is often added) and dirty. Filtering can be difficult."

Leue's breakthrough came when he learned about Babington technology, which is used by the Army and is supposed to be uncloggable. He incorporated it into his heater.

To burn used oil, Leue first pours it through a stainless steel screen into a barrel, catching the "BCB's". "I feed them to my chickens," Leue says.

Water settles to the bottom. A German floating draw-off device pulls the cleanest oil off the top and dribbles the oil onto the outside of the Babington ball, which has tiny laser-drilled holes and small air jets that create a shearing action to mist the oil to burn. Some of the oil falls back into the fuel tank and recirculates.

"Our furnace is better than most others because of the seven-tube heat exchanger. It's almost smokeless and smells like fast-food cooking - like lunch is ready," says Leue.

For maintenance he recommends daily brushing carbon residue off the electrodes that provide spark to the Babington ball. It only takes a few seconds, he says. The burner should also be thoroughly cleaned once a year.

With only small motors and a 100-watt compressor, his "Yellow Heat" burner only requires about 200 watts of electricity to operate. Two solar panels could run it easily.

Leue sells the burner and oil handling system for \$1,500 for customers who want to retrofit it to their furnaces. He sells the whole system for \$2,500. It includes a doubled-wall barrel stove and has all the necessary safety features such as automatic fire sensors, flare fittings, etc. In a free downloadable manual on his website, Leue offers complete instructions for setting up the burner and connecting to a chimney.

"I intend these to be used in shops, greenhouses, barns and commercial spaces," Leue says. Waste oil burners are not eligible for



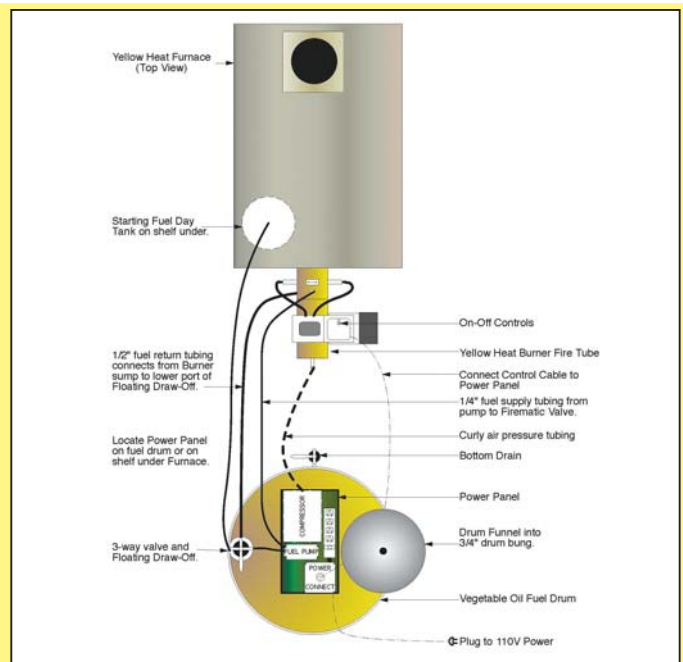
Tom Leue says his "Yellow Heat" burner efficiently burns used vegetable oil without clogging.

a UL rating to be used for residential heating.

Besides vegetable oil, used motor oil works well in the Yellow Heat burner, but Leue is hopeful his burner will help make use of the 350 million gallons of vegetable oil that is thrown out or exported from the U.S. every year.

He uses about 25 gal./week to keep his shop toasty warm. Since restaurants average 10 gal. of waste vegetable oil per week he only needs three restaurants to supply his needs. Most are happy to get rid of it, Leue says.

Contact: FARM SHOW Followup, Tom Leue, Homestead Inc., 1664 Cape St., Williamsburg, Mass. 01096 (ph 413 628-4533; www.yellowheat.com).



"My furnace is almost smokeless and produces a smell like fast-food cooking," says Leue.

## "Window Washing" Step For Deere 8000-8030 Series Tractors

This convenient step and handrail combination - designed for Deere 8000-8030 series tractors - makes it easier to clean the tractor's windshield, says Kevin Mulder, K&M Mfg., Renville, Minn.

"These tractors have an approach step on the left side of the tractor. Unfortunately, you have to stand on the tire or ladder in order to wash the cab's windows on the right side," says Mulder. "Our step is designed to go around the exhaust stack, providing easy and safe access to clean the windows."

The step and handrail are easy to install, with no holes to drill. It matches original equipment color and mounting hardware is included. Fits the right side on Deere 8000-8030 series tractors. Call with specific tractor model to get correct part number.

Sells for \$298 plus S&H.

Contact: FARM SHOW Followup, K&M Mfg., 308 NW 2<sup>nd</sup> St., P.O. Box 409, Renville, Minn. 56284 (ph 800 328-1752; Kevin@tractorseats.com; www.tractorseats.com).



Step and handrail combination makes it easier to clean the windshield on Deere 8000-8030 series tractors.