

Switchgrass Pelletized For Biomass As Part Of UK Research Project



WURLAND, KY.

Round switchgrass pellets, resembling small pieces of wood, rolled off machines at Midwestern Biofuels in Wurtland as the crop from a biomass research project at the University of Kentucky College of Agriculture was pelletized for the first time.

Officials with East Kentucky Power Cooperative, a partner in UK's study, suggested this year's crop be pelletized for easier handling during the energy-making process. In 2008, the power company mixed switchgrass, ground into small pieces, with coal at its Maysville plant for the first time. The ground switchgrass proved to be cumbersome for the company to work with as it was used to handling coal, said Tom Keene, UK hay marketing specialist.

"Putting it in this form (pellets) allows them to use current operational procedures to incorporate this biomass into their system without any significant changes or major financial output," Keene said.

Like the ground switchgrass, the pellets will be mixed with coal to produce energy.

"Currently, we've tested up to an 8-percent blend with coal, and it's gone to another utility with no problems," said Jeff Lowe, president of Midwestern Biofuels. "It's handled well. It went through their mills and crushed down and went right to the furnace to make power."

In addition to being easier to handle, pelletized switchgrass is a much denser product than rolls or bales, which means more material can fit into a truck, rail car or onto a barge.

"A truckload with just plain biomass is around 11 tons. Our condensed product holds upwards of 27 tons on the same truck," Lowe said.

Tom Malone from Bracken County was one of several participating northeastern Kentucky farmers that viewed the pelletizing process. He continues to be encouraged about the future of this crop.

"As we stand here today, we find ourselves on

a verge of having a lot further interest and further development. I'm really excited and intrigued," he said.

2009 was the third year of the four-year research project, and Keene said UK researchers, cooperating farmers and their county Cooperative Extension Service agents continue to learn more about the crop's viability for northeastern Kentucky farmers. The two drought years of 2007 and 2008 followed by an exceptionally wet 2009 have allowed the group to learn about the crop's ability to tolerate hot, dry weather and wet, cool conditions.

If we have a drought, that's not the end of the world," Keene said. We still get production in a dry year so that's very good to know."

They've also learned the crop can stand some weed pressure, and it doesn't need a perfect stand like other crops, such as corn and soybeans, to produce a quality product. In addition, soil tests have shown that the crop requires few inputs.

The group also tested different sizes and types of packages of switchgrass to determine which is the most efficient in getting the product from the farm to the power plant or pelletizing plant.

"Mid-size square bales are the package of choice because they transport and store easier than round bales," Keene said. "However, those balers are not cheap. Farmers would have to go in together to purchase one, and then some of our slopes in northeastern Kentucky won't accommodate the baler. So we'll have to have a round bale component to any future program."



With all 20 plots harvested in 2009 for the first time, the amount of switchgrass burned will increase dramatically from 2008. In 2008, the six plots harvested produced 70 tons of switchgrass. In 2009, the plots produced 265 tons. Keene hopes production in 2010 increases to more than 400 tons. Δ



Link Directly To: **CASH RIVER**



The miracles of science™

Link Directly To: **DUPONT**



Link Directly To: **PIONEER**



Link Directly To: **RICETEC**