



NEWS RELEASE

June 24, 2013

Humboldt, SK

Immediate Release

PAMI Solid-State Digester makes waves in Europe

June 24, 2013, HUMBOLDT — The Prairie Agricultural Machinery Institute (PAMI) is proud to announce that one of its major energy research projects has been recognized at a recent conference in Europe.

The poster describing PAMI's Solid State Anaerobic Digester (SSAD) pilot project, designed by PAMI researchers, was on display at the 21st European Biomass Conference and Exhibition in Copenhagen, Denmark June 3-7. The poster's content and style impressed the judges to the extent that it was chosen to receive the award in the Anaerobic Digestion for Biogas Production category, over 50 other entrants. Unfortunately, due to travel conflicts, PAMI could not be present to accept the award and therefore had to forfeit it.

About 600 posters were on display at the conference, divided into 15 categories. Poster sessions are an innovative way the scientific community has developed to make a large amount of research information readily and interactively available. It's like a tradeshow, only in this case, the booths contain a display of a researcher's work. Scientists walk through the show area, just as customers do at a tradeshow, stopping to discuss with the researcher the science that interests them. In this way, hundreds of discussions can all be happening simultaneously, which accommodates a tremendous flow of information.

The SSAD, a key component of PAMI's Applied Bioenergy Centre (ABC), converts agricultural residue and waste into energy through the natural process of digestion. The digester provides an oxygen-free environment in which microorganisms break down the material, and collects the energy-rich gases that emerge in the process. What's unique about the SSAD as opposed to other digesters around the world is that it processes solid waste material. Liquid digesters exist all over Europe, and some are now located in North America, but solid state digesters are much less common.

The goal of the SSAD is to determine the most practical and efficient way to digest solid biomass, and this work has put PAMI at the forefront of this technology. PAMI's research focuses on adapting the technology for the prairie climate, and using solid agricultural waste – primarily feedlot manure, as it is readily available from a nearby feedlot. This year, they will be experimenting with other organic matter, including animal remains and wet distiller grains, which are also available from the feedlot.

This exciting “green-energy” research has real-world implications. Any solid organic waste could be put into the digester – from leftover feed to grass clippings. From this waste, energy in the form of gases is produced – gas that be converted to heat and electricity or eventually be upgraded to natural gas and fed back into the provincial grid. And the material left inside the digester after the gases have been taken off can be composted

and applied to land as fertilizer. Digestion reduces the greenhouse gas and odour emissions, compared to traditional waste management. It also puts something normally considered waste material to “green” use.

At the end of the day, PAMI researchers are hoping their research and knowledge of operating parameters will inspire a manufacturing operation to build solid-state digesters for commercial sale.

PAMI’s own Patricia Lung attended the Danish conference and presented the poster on behalf of the large research team at PAMI. She was also there to learn more about green energy and technology. There is greater interest in green technology among European people and governments, she noted, which means there is a lot North Americans can learn from what they are doing in Europe.

Cutline for photo: PAMI researchers (from left) Patricia Lung, Joy Agnew and Carrie Sampson with the poster they designed, outlining the Solid State Anaerobic Digester project, which was recognized at a recent conference in Denmark.

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