

Biogas production for hog farms

One reason why hog farms aren't currently active in biogas production is the manure itself and how it is managed BY LILIAN SCHAER

THERE IS ONLY one biogas facility in all of Ontario that's on a pig farm. An associate professor in the University of Guelph's School of Environmental Sciences is looking to change that with a newly launched research project at the institution's Ridgetown Campus.

"The biogas industry is still very new and still developing and we know that there is interest from Ontario hog farmers in biogas technology," says Dr. Brandon Gilroyed, who came to Guelph from Agriculture and Agri-Food Canada in Lethbridge in 2012 and specializes in bioenergy, bioproducts and converting waste into renewable uses.

His project, which got underway this spring, will evaluate alternative anaerobic digester designs and compare them to the technology currently in use in order to determine if and how biogas could fit onto Ontario hog farms.

New federal and provincial carbon pricing programs in Canada will have an impact on how farmers manage manure and on-farm emissions. There's also growing policy support for renewable natural gas as the provincial government pulls back from feed-in-tariff (FIT) electrical pricing, which is how most current biogas facilities currently run.

"The market will probably be improving for biogas, so it could be a good for pork producers to

become involved," Gilroyed says. "We're going to look at whether the alternative design works, is it better and is it feasible for producers."

Another reason why hog farms aren't currently active in biogas production is the manure itself and how it is managed.

According to Gilroyed, most hog farms use deep pit storage with relatively high water content; dairy manure is a better substrate due to its natural microbe population. As well, most current biogas facilities rely on off-farm feed stocks, which would present biosecurity problems for hog farms.

Gilroyed's work will be looking at how much biogas can be generated on a hog farm using only on-farm resources, like combining manure with corn stover or other materials producers can easily source locally. As well, it is anticipated that anaerobic digestion will reduce pathogens in the manure, making it safer to spread on the land, and could reduce greenhouse gas emissions.

"We want to know how this process will work, how it will fit into a farm and whether it is economically feasible," he explains. "All the research is nice but you have to have a number to deliver to farmers, and we hope to have this at the end of the project."

The three-year project has received funding from Ontario Pork



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and Gilroyed is hoping to secure additional financial support as well. **H**

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