Hog Sector Greenhouse Gas Management: *Top 10 List*

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Since January 2003, the Canadian Pork Council has worked towards bringing the greenhouse gas management message to the Canadian pork producer community.

Through the Greenhouse Gas Mitigation Program for Canadian Agriculture, numerous environmental management practices and technologies have been examined and demonstrated, highlighting their potential to provide real reductions of greenhouse gas (GHG) emissions on Canadian hog farms. The challenges and successes of implementing these practices and technologies have been presented to the Western Canadian pork industry in a series of Western Hog Journal articles, and through numerous demonstration partnerships between the Canadian Pork Council and the research and extension community in Western Canada.

Funding for the Greenhouse Gas Mitigation Program (GHGMP), responsible for bringing you this ongoing source of GHG information, is set to expire in March of 2006. Thus, this will be the final article brought to you by the Canadian Pork Council, focusing on GHG management.

Achieving a real reduction in GHG emissions on a Canadian hog farm is not a goal that can be achieved with the adoption of any one management practice or technology. Effective reductions will come from analyzing the whole farm system and making a few changes in management, ranging from small adjustments to barn ventilation or feeding systems, to medium intensity modifications of manure application equipment or the installation of manure storage cover systems, to larger capital expenditures on technologies such as anaerobic digestion systems. Many of these management practices have been presented previously in some detail in the *Western Hog Journal.*

In an attempt to leave you with a comprehensive resource guide for evaluating your own operation, the following checklist of practices known to reduce on-farm GHG emissions, will help you to determine how far you have come in your reductions of GHG emissions already, and where you might go to achieve even more reductions.

√	***Top 10 Greenhouse Gas Reduction Practices***
	Increase feed conversion rate
	Lower hog ration crude protein levels
	Reduce overall barn water use
	Install a manure storage cover
	Regularly monitor manure and soil nutrient levels
	Apply manure nitrogen at agronomic rates only, offer excess nitrogen for sale to others
	Switch manure application timing from fall to spring/early summer
	Apply manure using injection techniques for small grain, forage and row-crops
	Install manure flow rate meters on application equipment: achieve accurate application rates
	Install an anaerobic digestion system: produce on-site green heat and electrical energy

The Canadian pork industry has recognized the potential for GHG management to increase hog farm revenues in several ways.
For one thing, the practices listed above are tried and true, and already at work on many Prairie hog operations, improving production efficiency and improving the bottom line. Secondly, the Canadian market for the sale of carbon credits (credit for each tonne of GHG emissions reduced) is heating up, providing an opportunity for producers who have reduced their GHG emissions and generated carbon credits for to offer them for sale as a new line of farm revenue. After all the improvements and efforts made by the pork industry to advance environmental performance, a true market has evolved which will allow producers to capture value from these improvements.

More information will be available as the Canadian carbon market develops, providing new opportunities for the Canadian agricultural sector to bolster revenues. Environmental management staff at provincial pork associations will be working with hog producers to capitalize on the opportunities that the carbon market will bring. For more information, contact your local pork association.

Greenhouse gas management on Canadian hog farms, although a bit complex when it comes to the science, is not a new concept to agricultural producers. It all comes down to carbon and nitrogen management. To really sum it up: feed energy (carbon) and feed protein (nitrogen) come into the barn as inputs. The more that stays in the pig, the less potential there is for this carbon and nitrogen to become a source of GHG in the manure storage. Further, the more that stays in the pig, the better your feed conversion efficiency, and your bottom line. Farming is all about the management of systems, so if greenhouse gas emissions are considered a part of your system, GHG reductions become another route to putting more dollars in your pocket.

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