

Making Sense of Greenhouse Gas Production

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Small changes in feed composition can provide big dividends in reducing your overall farm nitrogen load, and reduce your greenhouse gas emissions.

You may have seen headlines in the news lately about Russia ratifying the Kyoto protocol, and the recent carbon credit purchase by TransAlta Corp. from a Chilean hog producer. It is becoming evident that you may soon have a new commodity market where reductions in greenhouse gas (GHG) emissions, caused by increased production efficiency on your farm, can be sold to the highest bidder.

If carbon credits do, indeed, become a new commodity in agriculture, how will a trading system work? Essentially, final emitters of GHG, coal fired power generation plants for example, will purchase credits from other industries that successfully reduce their own GHG emissions, presumably more cheaply than if the final emitters were to reduce their own emissions directly. Allowing these trades to occur is one way of allowing the whole country to benefit from reduced GHG emissions, while keeping costs in check, and pork producers may be able capitalize on the development of this new commodity.

The problem is that few producers know how much GHG they are currently producing, and

how much they were producing in 2001. This date is especially important as it will be likely used as a baseline year to quantify GHG reduction practices on Canadian farms. To trade any carbon, your farm would be assessed for GHG emissions in 2001 and in the current year. Any improvements you have made for reducing GHG production during this time will be eligible for credit creation.

In order to carry out these assessments and ensure that they are done within a proper scientific framework, an evaluation protocol must be established. A Pork Technical Working Group comprised of policy, science and industry representatives is working together to develop a system of farm practice analysis tools, which will allow you to determine how much GHG your farm is producing currently, how much you were producing in 2001, and how your current GHG production might be reduced.

Take feeding strategies as an example of how a protocol might work. A finishing barn operator is planning to finish 1000 hogs from 23 to 110 kg, and has decided to lower his feed crude protein content by 0.5% to reduce the farm's GHG emissions.

The difference in manure nitrogen production from lowering the crude protein in the diet is 1,458 kg N. As a portion (1.25 per cent) of all manure nitrogen is assumed to end up as nitrous oxide, a potent GHG, reducing nitrogen output can reduce the farm's overall GHG production.

Employing this practice for ONE cycle through the barn will generate 9.4 tons worth of carbon credits. Assuming \$10 per ton of

GHG reduction, reducing nitrogen output would put \$280 in the producer's pocket annually if all the GHG reduction credits are sold. This assumes that the producer turns the barn THREE times a year.

Ration	High CP (%)
Grower	19.5
Finisher I	17.5
Finisher II	17
Manure Nitrogen	5678 kg
Ration	Low CP (%)
Grower	19
Finisher I	17
Finisher II	16.5
Manure Nitrogen	4220 kg
Nitrogen Reduction	1458 kg

This example may not forecast a lucrative new income stream, however, this is a viable practice that you may be thinking about adopting on your operation, perhaps to reduce your required land base for manure application, which could present real economic benefit. The mandate of the Pork Technical Working Group is to provide the industry with practical information for your farm, including real-life examples of GHG production, and commercially available and viable management practices to reduce your GHG emissions.

GHG management is a complicated field, but we are working to bring you answers that work. For more information on this process, or greenhouse gas production and management on your operation, contact Cedric MacLeod at the Canadian Pork Council 613.236.0011 or macleod@cpc-ccp.com

