LEFT:
Greg Simpson

A computer model that helps trouble-shoot production problems

The result of collaboration by scientists in three countries, the PorkMaster computerized growth model allows producers and feed consultants to predict how different strategies will affect the animals and the bottom line

BY
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What if you could try out a different feed or management strategy on the computer instead of in your barn? Greg Simpson, swine nutritionist with the Ontario Ministry of Agriculture, Food, and Rural Affairs, is now helping producers and the industry do just that by trouble-shooting their production problems and trying out new technologies through the use of a computerized growth model.

The model, called PorkMaster, was developed over a number of years by the University of Guelph's Dr. Kees de Lange in co-operation with Massey University in New Zealand and Wageningen University in the Netherlands. The model simulates how a pig grows from 15 kilograms to market weight and allows producers and feed consultants to predict how different strategies will affect the animals and the bottom line.

Recently updated with a new graphical user interface, reports and graphing capabilities, the PorkMaster model can also predict the economical impact of using phytase and Paylean. After using the model with producers, Simpson says it comes close to predicting real results. "If you have good data coming in, and the pigs intake and growth well described, you can get to between three and five per cent of real-world results," he says.

In 2008, Simpson was able to help one group of pork producers save between $6 and $7 per pig by collecting feed intake, carcass and growth data and running it through the model. They conducted two series of growth and feed intake trials, as well as looking at carcass data in order to fine-tune the rations and how they were being fed. "We figured out what the producer and feed company had to do to solve the performance issues in their system," says Simpson.

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While producers may think it would be useful to have such a program on their laptop computer, Simpson says it is quite a complex tool that requires specialized training. "You can convince yourself of the wrong answer pretty quickly if you don't know what you're doing," he says.

Simpson prefers to use the model with groups who are having problems they can't solve or who wish to predict how a change in feed or strategy will affect their animals. Once a pig is properly characterized, it is possible to consider many different scenarios that actually happen in the barn. "It has a lot of power, but it requires good data to come in," says Simpson.

Producers could help themselves analyze their animals simply by keeping track of weights more closely — both of the animals and of the feed they are consuming. Ideally, Simpson says that weighing a group of at least 25 pigs every two weeks, and recording their feed usage, would give producers the data they need to make better decisions about how they feed their pigs. P

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