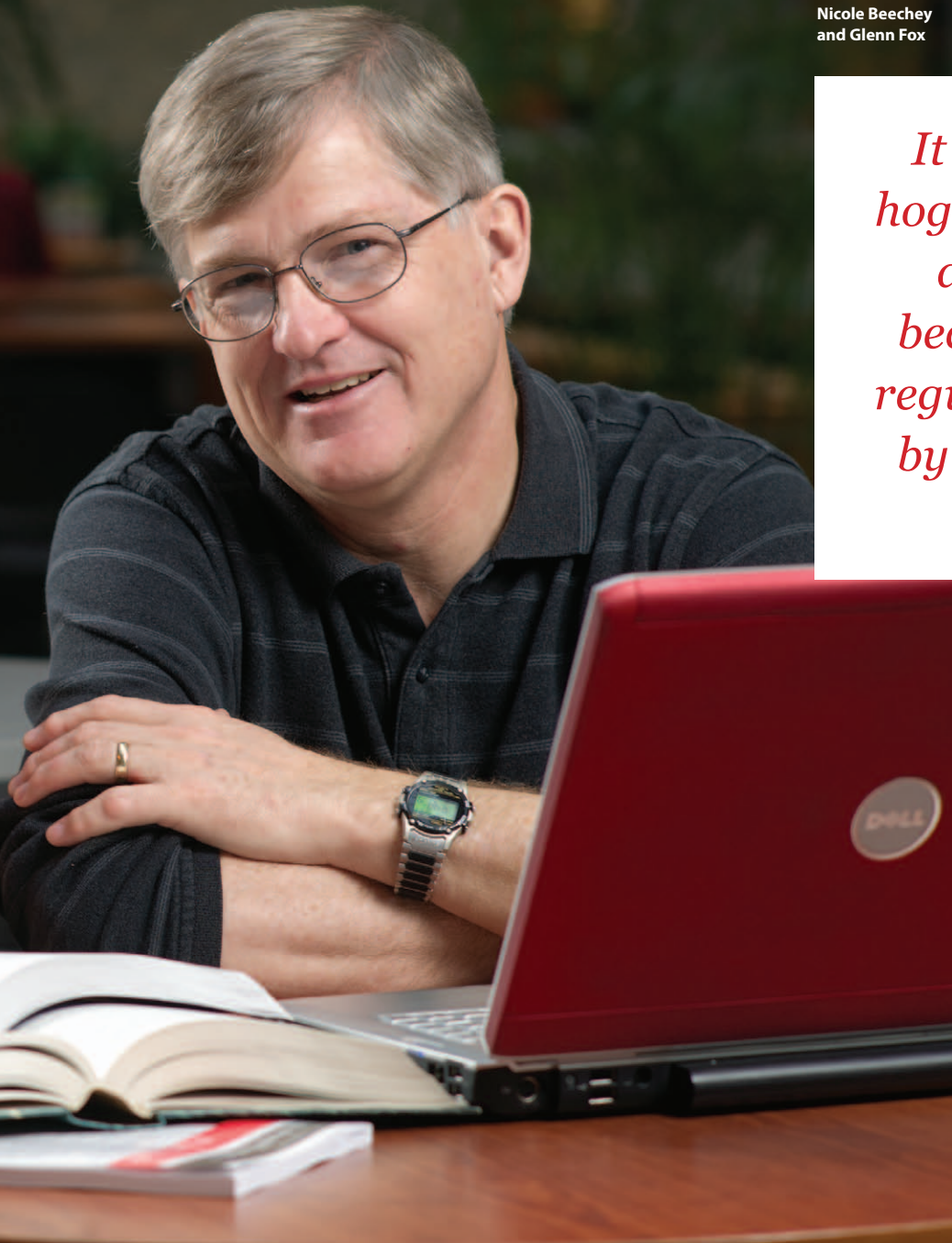


Guelph researchers hope to find out by developing mathematical models to determine the impact of regulations on productivity and profitability

BY BERNARD TOBIN



How much do **ENVIRONMENTAL RULES** really cost producers?



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province, indicates the number of hogs each farm type would produce and the projected profitability in the absence of regulation. Fox notes that it's important for the model to reflect different farm sizes because, in some cases, regulations are triggered by size and the number of animal units.

Fox and Beechey will then introduce the effects of a regulation on the model and determine the impact. Does the regulation reduce output? Increase costs? Change revenue or profits? Using these models, the research team can gain a better understanding of the impact of government legislation, including the Nutrient Management Act and the Clean Water Act.

"There's a lot of talk of regulations like the Nutrient Management Act increasing costs, but there is no real understanding of how much those costs might have increased or whether they did actually increase for the producers," explains Fox. "That's something this project is trying to determine. What sort of costs are actually associated with these regulations?"

However, reflecting the many facets of environmental regulations in a computer-generated model can be challenging. Regulations are imposed at various levels of governance, and municipal regulations are difficult to incorporate into a province-based model. Similarly, different regulations may have different measurement standards, depending on the goals of that regulation.

Once completed, Fox believes the project, which also includes developing models for other Ontario livestock sectors, will prove valuable to both regulators and the hog industry in evaluating the effects of current environmental policies and regulations. It can also be used to assess the potential impact of new policies on the drawing board.

Work on the project should wrap up this summer, reports Beechey. She expects the model to be released later in the fall. 

THE PROJECT IS
SUPPORTED BY
ONTARIO PORK
AND OMAFRA.

What impact do environmental regulations have on Ontario pork producers? What are the implications for productivity and profitability?

Answers to those questions are hard to find. Producers and industry groups say stringent requirements and the costs of compliance are detrimental to the future of pork production in the province, but the magnitude of this impact requires further examination.

That's where researcher Glenn Fox of the University of Guelph's Department of Food, Agricultural and Resource Economics and graduate student Nicole Beechey come in.

For the past 10 years, Fox has worked on environ-

mental issues in Canadian agriculture as well as in Europe, New Zealand and the United States.

He is now drawing on his past experience to help Beechey create mathematical models that can be used to gain a better understanding of environmental regulation in Ontario.

"In some cases, we have relatively new rules and we don't have many observations to know what has happened to actual compliance costs or what farmers have done," says Fox. "What we can do is create mathematical programming models which represent the decision-making process on a farm."

The first step is to set up a hog farm model that provides a baseline for comparison. The model reflects the variation in hog operations across the