

With acute PRRS outbreaks costing \$255 per sow, it is vital to verify how this virus is moving and changing among Ontario herds

by TREENA HEIN

Porcine Reproductive and Respiratory Syndrome (PRRS) continues to cause staggering financial losses in the Ontario swine industry and across North America.

To help create a centralized database to track the virus, the Ontario Pork Industry Council (OPIC) Swine Health Advisory Board (OSHAB) has received a \$25,000 grant from the Ontario Pork Producers' Marketing Board.

The database, to be developed in collaboration with the Animal Health Laboratory (AHL), Laboratory Services Division, University of Guelph, will allow comparisons of percent similarity between PRRS virus isolates already in the AHL database and isolates from new PRRS cases.

"Conservative estimates put the cost of PRRS at \$100,000,000 in Canada and \$560,000,000 annually in the United States," says OPIC's managing director, Lori Moser. "The impact of the PRRS virus reaches beyond the production sector, affecting the viability of all parts of the pork industry – from transport to processing, feed to genetics."

term quest to reduce the prevalence of PRRS in the Ontario swine population.

Minimizing introduction is directly linked to improved biosecurity and surveillance. Realizing that a co-ordinated industry effort is required to control – and ultimately eliminate – PRRS virus, various stakeholders in the Ontario swine industry have pledged their financial support and volunteered their time to the OPIC Swine Health Advisory Board PRRS Project.

"This new database tool will allow comparisons of percent similarity between PRRS virus isolates from farms throughout Ontario," says Dr. Doug MacDougald, chair of OSHAB.

"This is of significant value to Ontario swine veterinarians and producers. We need help in understanding viral spread, and prevalence and severity of clinical symptoms seen with specific variants through improved communications between veterinarians."

Dr. Cathy Templeton, vice-chair of OSHAB adds, "It may also assist veterinarians and producers in identifying possible routes of entry of the virus. This gives us opportunities to improve on-farm biosecurity."

The \$25,000 grant includes a pilot project to assess the effectiveness of the program. "The budget also includes development of a standardized submission form to



DON STONEMAN

Dr. Doug MacDougald



KATE PROCTER

Dr. Cathy Templeton

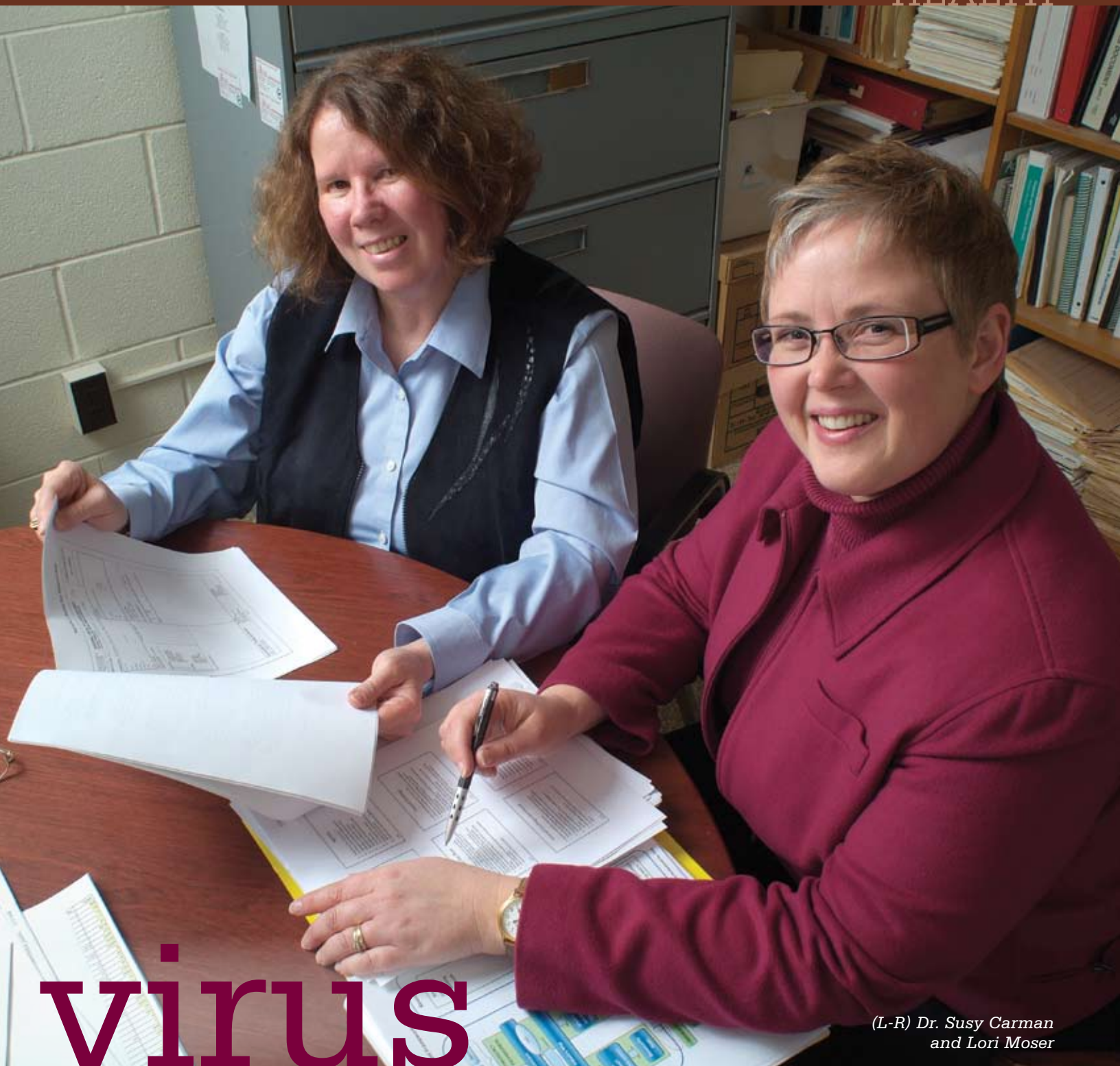
Creating a centralized database to track the PRRS

Data summarized in the 2003 PRRS Compendium estimates that the average cost of an acute PRRS break in the breeding herd is \$255 per sow. "This cost includes lost opportunities for revenues due to decreased productivity, increased mortality and increased medication or vaccination costs," says Moser. "In a 1,000-sow operation, for example, PRRS may be costing over \$250,000 per year during an acute breakout in the farrowing room alone."

PRRS viruses have high mutation rates resulting in great strain diversity. Producing a wide variety of strains is advantageous to the survival of the PRRS virus as new strains are able to overcome their hosts' immune systems. Minimizing the introduction of new strains is, therefore, critical in the long-

address issues of producer confidentiality," says Moser. "However, this funding will not include sequencing of PRRS viruses. This fee would be administered through veterinarians, as it is currently."

The system will work as follows. Upon observing a case of PRRS, the veterinarian takes a sample of blood and sends it to AHL for analysis. The genetic make-up of the virus is then sequenced and compared to all other sequences of PRRS viruses in the OSHAB Ontario PRRS virus database. The location of the farm and the farm owner are kept confidential.



(L-R) Dr. Susy Carman
and Lori Moser

A summary report is then issued to the veterinarian who submitted the new case, highlighting cases in the OSHAB database with 98 per cent or greater degree of homology to the new sequence. The results can then be shared among appropriate researchers and veterinarians.

Dr. MacDougald says improved vet-to-vet communication will assist in regional eradication programs and help veterinarians to provide producers with improved management plans in the face of new PRRS breaks.

The OPIC Swine Health Advisory Board has been working since 2006 to understand how PRRS is moving and changing among herds in Ontario in order to develop effective control and elimination strategies. OPIC is a volunteer industry organization with a mandate to help build a stronger pork industry for the province.

“Through transfer of information and bringing the right people around the table to develop solutions to industry issues, OPIC strives to help move the pork industry forward,” says Moser.

The funding for this project was provided by Ontario Pork.