



PRRS Research Prompts Infectious Enthusiasm

By Geoff Geddes, for Swine Innovation Porc

If you don't think pig disease is a big deal, just ask a producer (or a pig) who has dealt with it. One of the most common and costly diseases in Canada today is porcine reproductive and respiratory syndrome (PRRS), which is estimated to cost the industry \$130 million per year. Like any battle, the effort to combat PRRS starts with getting to know the enemy, and that was the rationale behind research on the epidemiology of PRRS.

"PRRS is a very expensive disease, especially in Quebec and Ontario, so we've been looking at its epidemiology [the branch of medicine that deals with the incidence, distribution and possible control of diseases]," said Dr. Sylvie D'Allaire, Full Professor in the Department of



Researchers worked with breeding herds to determine the most common sources of PRRS contamination. Photo: University of Montreal

Clinical Sciences, Faculty of Veterinary Medicine at the University of Montreal.

"We feel that the more we know about it, the better we can control it."

Because PRRS mutates periodically and is transmitted in many different ways, such as by air, pigs or fomites (clothing, equipment, etc), controlling it is no easy task. With that in mind, researchers aimed to identify the leading modes of transmission. To determine the most common source of herd contamination, they worked with breeding herds, as eliminating the virus in that environment is extremely difficult and costly.

Risky business

Though their analysis of the results is not complete, they have identified some critical risk factors.

"One of the greatest areas of risk is sharing of employees among farms, and a close second is sharing equipment. Proximity to other operations is also important, and activities like feed delivery or dead animal disposal can pose a risk as trucks move from farm to farm."

This is critical data, as it guides industry stakeholders in deciding where to allocate funds for PRRS prevention. It also underlines the importance of proper biosecurity, especially in those areas identified as posing the highest risk for disease transmission.

Strained relationships

In addition to determining risk factors, researchers looked at which strains of PRRS were circulating in Quebec. Over a period of three and a half years, they tracked the strains to see how they evolved and how they differed between the two main pig producing areas of the province.

“We were surprised by the high diversity of the circulating strains. We’re hoping producers can use this information as part of their participation in the Quebec Area Regional Control and Elimination program (ARC&E), an industry-led initiative based on the concepts of known disease status, transparency and working together to control and eliminate swine diseases of significance.”

Based on project findings, some producers may want to start or join a particular ARC&E group that is geared to the viral strain in their geographic area, thereby increasing their chances of controlling the disease.

No warm welcome for PRRS

For researchers, this project was an eye-opener regarding the number of people who enter a barn or move between barns, as each entry poses a potential PRRS risk; ultimately, that revelation reinforced the need for a focus on prevention.

“Once it’s in the barn, PRRS is so hard to control, and producers are scrambling to figure out the best way of dealing with it when it hits.

While finding methods to control it once it’s in your herd is necessary, we must work harder on preventing it in the first place.”

Of course, some preventive measures are more expensive than others, so applying low-cost, proven methods will give producers the biggest bang for their biosecurity buck. Providing that guidance to producers is a major theme of this project and critical to success in the war against PRRS.

“We’re working with a lot of industry stakeholders and sharing our research results with each ARC&E project. For us, it’s very important to transfer our findings so these projects can use the data to be more proactive in implementing preventive measures.”

That type of knowledge sharing should leave producers more hopeful and empowered in battling PRRS, and if their pigs could talk, they would likely agree. 🐷

For more information....

To learn more about the work described in this article, please contact Dr. Sylvie D’Allaire at sylvie.dallaire@umontreal.ca.

You may find additional resources related to the project *Epidemiology of PRRSv among swine herds in Quebec, an applied research program supporting PRRS control projects* by consulting our website:

swineinnovationporc.ca/research-animal-health

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