

Biosecurity the key to controlling PED in Canada

Porcine Epidemic Diarrhoea virus rampaged through the US pig herd in 2013. Meanwhile, the Canadians had some time to learn lessons as to how to avoid the disease from having a similar extreme impact on their herd. A first good step is biosecurity.



Grower pigs affected by PEDv may not show obvious symptoms, making the disease hard to recognise. (Photo courtesy Prairie Swine Health Services)

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When the incidence of Porcine Epidemic Diarrhoea virus (PEDv) infections on pig farms in the USA soared during the second half of 2013, Canadian veterinarians, industry bodies and provincial governments were already working on plans to deal with this disease. Now that cases of PEDv have been confirmed on farms in Ontario, the focus is to implement these plans and minimise the spread of disease. The knowledge and experience from the USA has been a great help in understanding how PEDv spreads and how to respond when it enters a herd. This has given Canada a huge advantage, especially with regard to having laboratory testing for the disease in place, together with monitoring of critical areas of possible transmission, such as processing plant unloading docks, trucks and truck washing facilities. Biosecurity is the key to prevention, and provincial producer organisations have been very active in educating producers about the precautions they need to take on their farms. In addition, there is close cooperation between all the parties in the pig production chain, including truckers, processing plants and veterinarians.

The first case of PEDv in the USA was identified on May 17, 2013 and the number of cases escalated in the autumn because the virus survives better in cold and damp conditions. The disease has had a devastating impact in the USA, with an estimated 30% of the sow herd affected and losses in the region of 3 million pigs so far. While the impact in Canada has been minimal to date, if PEDv were to become widespread, it could cost the country up to \$50 million, according to Dr Julia Keenlside, a veterinary epidemiologist with Alberta Agriculture and Rural Development (AARD). Consequently, considerable funding is being made available at both provincial and national level to assist provincial producer organisations, which are at the forefront of the battle to keep the disease out of their members' farms.

Awareness

Creating awareness about PEDv, and especially the precautions that individuals at all points in the supply chain need to take, has been a priority in recent months and provincial producer organisations have established regular teleconferences and meetings. In addition, there is now a weekly teleconference between representatives of all the provinces in order to make everyone aware of the latest situation and to share experiences and information.

A producer information meeting at the end of January, in Red Deer, Alberta, was typical of those held across the country, with over 100 people attending. Local veterinarian, Dr Egan Brockhoff, urged producers to ensure the very highest standards of biosecurity.

"It's you that will keep the virus out of your farm – how you execute biosecurity protocols will define the outcome," he stressed. "If the virus comes in, it will be likely be via transport, so we need to focus on that. You should use disinfection on the loading ramp and add propylene glycol to the disinfectant to stop it freezing because a minimum of ten minutes contact time is normally required."

"We must assume that our yards are contaminated all the time and so we need to create barriers. It doesn't take a lot of manure to result in infection," Brockhoff continued. "Truckers should use plastic boot covers to get from the truck to a changing mat, then change into clean overalls and boots. Then they must get onto the loading ramp without touching the ground." He noted that many producers in western Canada were already doing this and urged everyone to follow the same practice.

Unnecessary entry

Unnecessary entry of people into the barn should be prevented, Brockhoff advised. "Keep all doors locked to stop uncontrolled entry by people who don't understand biosecurity," he said. "Make sure you have clear notices telling people the exact biosecurity procedures for entering the barn, because this increases compliance. Also, don't let people bring objects from outside into the barn."

If the worst happens and a farm is infected, it will result in almost 100% loss of suckling piglets, said Brockhoff, who has had experience of PEDv in the Far East. "In addition, there are effects on sow fertility because sows are effectively weaned early, leading to failure to show oestrus, lower farrowing rate and reduced subsequent litter size. This is a significant source of loss," he noted.

In growing and finishing pigs symptoms include vomiting and diarrhoea, but there may not be an increase in mortality. This means that an outbreak in a finishing barn could go unnoticed, creating the risk of further spread, Brockhoff pointed out.

He urged producers to be extremely vigilant and to report any suspicion of PEDv. "Early detection is critical! Our single biggest factor is being able to control the spread," he said. "If you see any change in diarrhoea levels, call your vet."

He noted that AARD was paying for testing and would send a veterinarian to help develop a plan to control it and stop it spreading. This was likely to include self-isolation of the farm as

had been done at the affected farms in Ontario. PEDv, together with TGE, which has similar symptoms, is now a reportable disease in Alberta.

"After infection, immunity must be created by feedback of faecal material to all animals in the herd," Brockhoff advised. "They must be exposed multiple times over several weeks to ensure every animal develops immunity." Closing the herd for 150 days will help to create a stable immunity, which should eliminate the virus from the site, he suggested. Bringing naive animals, such as replacement gilts or boars, into the herd, perpetuates the disease, making it endemic.

Movement of pigs and trucks, together with possible contamination via processor truck unloading bays and public truck washes, is the biggest potential source of infection.

500,00 weaned pigs

"Currently 500,000 weaned pigs per year go to the USA, representing 19% of the Alberta's production, so that is a risk, AARD's Julia Keenlside told the meeting. "There are no pigs going to Ontario or Quebec, or vice versa, other than occasional breeding stock. Also there is no PEDv in the northwestern US states, but if there was, or if it arrived in Manitoba, then the risk would go up for Alberta producers." There are no market hogs moving into Canada from the USA, or even breeding stock, she added.

It is ironic that the US Country Of Origin Labelling (COOL) legislation, that came into place in 2007, dramatically reduced the flow of pigs from Canada to the USA and, with it, the risk of transferring disease back to Canada on trucks. Weekly feeder pigs sales have halved from a peak of 160,000 per week in 2007, while the flow of market hogs has become a trickle at roughly 13,500 per week.

In western Canada, there are usually large distances between farms, which helps to reduce the risk of spread, whereas there are parts of Ontario and Quebec which have pig-dense areas, making rapid spread of PEDv a possibility, if it became well established.

Whether the incidence of PEDv in Canada will escalate in the same way that it did in the USA remains to be seen. Certainly, everybody involved in pork production, transport and processing is aware of what needs to be done, there is monitoring and testing being carried out to create an early warning system, there are action plans in place and there is an unprecedented level of cooperation and communication between all the players in the industry.

Source: Pig Progress magazine - 30.2 (2014)

by Bernie Peet Mar 24, 2014

Pig Progress