



Study of Domestic Market Access in the 2014 Porcine Epidemic Diarrhea Outbreak

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NFAHW 
COUNCIL

This document was prepared by the National Farmed Animal Health and Welfare Council. The Council was formed in 2010 to advise governments and all other stakeholders in animal agriculture on matters of the health and welfare of farmed animals in Canada. The Council is funded jointly by non-government organizations with an interest in animal agriculture and federal, provincial and territorial governments. Council members are designated by their constituency because of broad expertise in animal health and welfare, public health and an interest in approaching topics and developing advice in the context of One Health.

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Background

Porcine Epidemic Diarrhea (PED) was first experienced in the US in May of 2013 and confirmed in Canada on January 22, 2014. This emerging disease is not a federally reportable disease in Canada and only reportable in some provinces. The disease was diagnosed in Prince Edward Island, Quebec, Ontario and Manitoba.

The CVOs of the affected provinces, the Council of Chief Veterinary Officers along with the Canadian pork industry through the Canadian Pork Council and Canadian Swine Health Intelligence Network (CSHIN) were able to raise awareness about the potential of a PED outbreak in Canada due to the closeness of the disease in the US and the integration of the industry and related transportation and slaughter capacity. The Canadian industry had open communication with its US counterpart during this process. This forewarning proved important in dealing with the outbreak in Canada.

National Biosecurity Standards and related materials were developed for the pork industry by the Canadian Swine Health Board in 2010. These voluntary standards were promoted to producers as a primary control measure and compliance was encouraged through written material and educational/information sessions. Provincial pork organizations have continued that outreach, using the standard as the basis for provincial programming.

The engagement of the pork industry with the provincial veterinary authorities and the Canadian Food Inspection Agency (CFIA) resulted in regular national teleconferences among stakeholders, the development of tests accessible to all provinces, the development of information materials, the initiation of research on the source of infection and the longevity of the virus, an attempt to standardize surveillance nationally, assistance with establishing of cleaning and disinfection standards and more consistent communication with producers and other stakeholders. The collaborative approach evolved over time and included a sharing of responsibilities. There was also good communication with the US industry organization which offered their input based on the US experience.

The resultant information dissemination, surveillance, and control efforts were active across Canada with ongoing communication and study as it progressed to advance the knowledge of the disease.

Once the disease was detected in Canada, it became apparent that some affected producers were having difficulty selling market hogs and cull sows due to fear of introduction of the virus into unaffected sites, and perceived risk in a scenario where the virus was not widespread in the Canadian swine herd. In addition, market access for isowean piglets and genetics (semen and animals) was restricted due to export certification requirements. The restrictions on

market access for affected farms resulted in a loss of farm revenue, animal welfare concerns, over-sized animals due to delays in marketing and producer distress and isolation.

Slaughter options in Canada are variable between provinces. Slaughter plants within Canada can be regulated federally or provincially. Animals must be slaughtered in federally inspected plants for the meat to be eligible for interprovincial or international trade. The federally inspected plants are typically larger capacity plants. Not all provinces have federally inspected plants for hogs and in order to access slaughter facilities and enhance market access some producers must transport animals interprovincially or internationally. Cull sows are typically sent to the US for slaughter. During the PED outbreak, long transport times, and interprovincial movement presented some challenges, however there was little difficulty in moving sows to the US for slaughter.

The challenges associated with domestic market access in the face of an emerging disease that is not federally reportable such as PED outbreak were seen as an opportunity for government and industry stakeholders to learn from these challenges and identify preventative measures and potential solutions for outbreaks of other emerging and non-federally reportable diseases in other species.

The members of the working group noted the positive relationship with the Canadian Pork Council (CPC), the Canadian Swine Health Board (CSHB), the Canadian Swine Health Intelligence Network (CSHIN), the Canadian Food Inspection Agency (CFIA), the federal and provincial Chief Veterinary Officers (CVOs), Provincial marketing agencies and the importance of collaboration in a disease response. It was also recognized that there was good cooperation between industry and the US and Canadian governments. This included participation by US industry and government in a workshop hosted in Ottawa by CFIA, as well as the sharing of communication materials and new information on the disease and the virus.

This study includes input from Manitoba, Ontario and Prince Edward Island producer organizations and other industry stakeholders such as private veterinarians involved in the outbreak, provincial and federal government representatives, a transporter and the processing industry. A participant from Quebec was not readily available to the working group.

Industry Experiences

Industry experiences were not uniform across the country. To some extent, it depended on the extent of the outbreak, as well as the established relationships and preplanning between the CFIA, the Chief Veterinary Officers, the industry organizations and the processors. The nature of the outbreaks also affected market access. In ON, there were a large number of cases in a short time which meant industry stakeholders and the province, in addition to preventing disease spread and limiting transmission, had to move quickly and develop processes to minimize market disruption while in PEI and MB, there were a small number of cases and

industry stakeholders and government were focused on preventing spread and limiting transmission.

Prince Edward Island had a specific issue associated with the lack of federal slaughter plants in the Maritimes, they were unable to ship to Quebec and the distance to ship to Ontario risked exceeding allowable transport times. The usual slaughter plant in Quebec used by the PEI herd would not accept the hogs due to perceived risks associated with the presence of PED in the herd.

Prince Edward Island

The PEI pork industry in 2014 consisted of about 20 commercial producers shipping 62,000 market hogs, 3,900 isoweans and 1000 breeding stock. In 2014, the breeding stock sales were interrupted by the PED diagnosis.

Disease outbreak

In PEI, one herd was reported positive for PED. This herd was a high health multiplier herd which also sold genetics and semen to other producers. During the outbreak, there were 6400 market hogs shipped from the farm in addition to cull sows. Marketing alternatives had to be found as this producer was unable to maintain normal marketing practices due to the detection of PED on farm.

Challenges Associated with Slaughter of animals from positive herd in PEI

- There is no federally inspected slaughter plant for hogs on PEI or other Maritime province.
 - Provincial plants are small and did not have the capacity to slaughter the number of animals on the positive farm.
 - Some processors in other provinces were not receptive to receiving hogs from a herd which tested positive for PED. There may have been some pressure from producers and other stakeholders which influenced this decision.
 - The province of ON and industry stakeholders had developed plans with processors in advance of the ON outbreak which enabled affected producers to ship market hogs to ON processors while at the same time minimizing potential for disease transmission. PEI was able to adopt the plans developed by the ON industry however possible destinations were limited as transport time to some ON plants with market hogs was beyond the maximum allowable transportation time under CFIA regulations.
- Thanksgiving weekend scheduling meant that the plants were operating at full capacity and ON plants prioritized their regular shippers, delaying access for PEI hogs due to capacity.
- During busy periods, the plants would have delays in scheduling when they could receive hogs from positive farms.
- PEI was eventually able to make arrangements with QC processors through continued work of the PEI Hog Commodity Marketing Board.

- Ultimately, the infected PEI herd had a delay of about 5 weeks before they could market some hogs which resulted in overweight hogs which were sold at a loss on the sow market.
- Cull sows were shipped to Sarnia, ON for export to the US – shipments needed to be coordinated. This is the usual shipping route for cull sows but the presence of PED on the farm required coordination of shipment to minimize potential for disease transmission and transportation delays.
- The producer had significant financial losses due to delays and limited market access.
- Following the PED outbreak on the farm, in spite of achieving a negative status, the cumulative effect of the various impacts was that the producer left the industry.
- There was difficulty accessing sawdust or alternative material for composting on farm making it difficult to appropriately dispose of large numbers of animals.

Manitoba

Manitoba is Canada's largest pig production and exporting province according to 2014 Statistics Canada data. The province produces 29.3% of the national production and 59% of pig exports from Canada. Pig exports include: 2.01 million under 7kg, 0.17 million between 7 and 23 kgs and 0.37 million over 50 kgs exported to the US. In addition, 4.36 million Manitoba grown market hogs are slaughtered in Manitoba. Slaughter plants in Manitoba account for 24.8% of the national kill. The estimated value of Manitoba pigs produced is \$1.225 billion.

- Local slaughter plants wouldn't accept market hogs from positive farms, triggered initially due to pressure from other producers during Manitoba's index case. The fallback plan was to ship positive non clinical pigs to slaughter to the US.
- There was no good solution for the marketing of isoweans to the US because export requirements require that a barn be free of "communicable" disease for 90 days prior to export.
- Holding isoweans which were not eligible for export until the export certification requirements of "free from communicable disease" could be met created issues with space requirements in housing and potential animal welfare issues.
- Efforts were made to find domestic markets and markets for BBQ pigs to accommodate pigs from positive isowean farms that could not be exported. These alternate markets could be an economic loss to producers but did move some animals from the farms.
- As Canadian transporters were reluctant to transport positive pigs due to potential disease transmission risks, producers had to utilize American trucks which posed other challenges in terms of disease risk and transport regulations.
- Transport challenges were experienced in moving hogs from positive farms. Industry stakeholders were concerned about potential transmission risks due to potential contamination of trailers attending positive farms, or transporting positive animals.
- A process needed to be established to allow for the introduction and monitoring of naïve breeding stock going into a barn that had conducted cleaning and disinfection while maintaining the existing animals in the barn of a previously-positive herd.

- Communication
 - Communication with affected producers was difficult for industry and stakeholders because they had a fear of being identified and singled out.
 - Client confidentiality made it difficult for practitioners to share information about infected herds.
- Openness regarding positive status and transit through the USA with state veterinarians may have limited market access options.
- Farm services
 - There was pressure from other producers and stakeholders for manure contractors and truckers not to go to PED positive farms due to fear of spreading the disease. This created a need for alternative mechanisms to provide these services to affected farms.
 - Trucking became an issue re risk of contamination – using US transport for positive farms had its own challenges and risks because of the prevalence of the disease in the US and the multiple use of trucks.
 - There were challenges in sourcing US wash facilities with appropriate cleaning and disinfecting protocols. Canadian facilities had a higher biosecurity standard. This difference continues in 2016.
 - There was inadequate cleaning and disinfecting capacity for affected barns – eventually a PED specific C and D team was established but were inexperienced and it took a long time to get the job done.
 - Feed delivery and shuttling challenges arose due to fear of spread of the disease.
- Awareness of service providers of biosecurity requirements
 - Service providers were not aware of or trained in their role in biosecurity.
 - There was a lack of focus on important practical high impact biosecurity measures.
 - Producer compliance re animal movement was sometimes a problem.
 - Biosecurity for barns in the same system or premise was difficult to manage due to movement of people, equipment and animals between barns.
 - Challenges were associated with limitations on technical support from CFIA for biosecurity standards development.

Ontario

In 2014, 1,524 producers marketed 4.97 million hogs. Statistics Canada for July 1, 2014 identified 2.9 million pigs in ON including 302,800 sows and bred gilts. The total value for ON market hogs in 2014 was \$1.014 billion. ON exported 813,774 pigs under 50 kg to the US. ON meat processors handled 84% of all hog sales with the balance shipped to the US, Quebec and other provinces.

- ON plants needed more market hogs to maintain slaughter numbers and took hogs from PED positive farms with conditions – such as segregated slaughter times on specific days.

- Preplanning and scenarios with ON Pork, the Chief Veterinary Officer and processors established relationship which were important when the disease appeared.
- ON was focused on ensuring commerce continued and biosecurity was maintained.
- Animals from negative farms had to be tested to ship out of province to demonstrate negative status.
- There was little interference to movement to the US.

Processors

Slaughter plants are privately owned facilities. Inspection of the plants is provided by either the CFIA or the province where the plant is located. If meat is shipped between provinces or exported from Canada, it must be inspected by CFIA.

In an emerging disease, there may be limited knowledge of the nature of the disease and the measures required to minimize the potential risks of transmission. It is important to establish biosecurity requirements to ensure the safety of staff and minimize the risk of the slaughter plant becoming a potential source of further disease transmission.

The processors are also initially unsure of the impact of the disease on the sale of meat and processed products due to pressure from food safety, consumer concerns and international market demands.

When handling animals with disease, it may be necessary to manage the delivery and flow of animals to segregate the slaughter as part of the biosecurity requirements. In an emerging disease outbreak, there are many unknowns with regard to the biosecurity requirements.

Processors had concerns about the spread of the disease to other producers due to the risk of contamination of trucks.

When slaughter animals must be redirected to plants other than the usual plant, capacity of the plant could be exceeded, especially when additional biosecurity measures are imposed.

Analysis

In 2014 in Canada, 14000 farms reported hog production. Approximately 20.25 million hogs were marketed. Hog farm cash receipts for 2014 were over \$5 billion and economic impact in 2013 of the pork industry was estimated at \$13.1 billion. Products include isowean piglets, market hogs, cull sows, semen, breeding stock in addition to meat and meat products.

Producers

- National biosecurity standards were developed through the Canadian Swine Health Board and the CFIA Office of Biosecurity. Provincial boards led the implementation process with producers through voluntary programs.

- Producers have limited capacity on farm to manage an interruption in marketing of animals. This interruption results in loss of value due to overweight animals, interruption of usual market plans as well as potential animal welfare impacts. Provincial marketing boards have a role to play in maintaining the marketing of animals through solutions with their usual processors or alternative markets.
- Holding animals may increase animal welfare concerns. In some cases, euthanasia, pregnancy termination and delayed breeding may be necessary to manage overcrowding and marketing delays.
- Producers may experience mental stress and isolation when experiencing a disease event and need access to appropriate supportive measures.
- Producers will experience considerable economic loss during a disease event.
- Producers require the support of industry groups, government, and veterinarians to assist in solving marketing issues.

Processors

- Processors (and collection areas) are a mixing point for trucks and hogs. There is potential for the contamination of trucks which may in turn contaminate other farms in their normal course of business.
- Processors need to maintain access to their markets and maintain efficiency of production.
 - There may be certification issues for trade which influence their decisions.
- The handling of animals from positive herds requires segregation of slaughter and results in efficiency losses. There will be an increased requirement for enhanced biosecurity protocols for facilities and trailers, and in the event of the introduction of disease, implementation of biocontainment measures as well.
- Processors may pay less for animals from positive herds due to the potential increase in cost associated with handling positive animals.

Recommendations

In this report, the “Canadian Animal Agriculture Industry” is all participants (groups or individuals) in the value chain, including producers, producer organizations, processors, transporters, livestock and poultry service providers, veterinarians, feed industry and other allied industry services.

These recommendations are focused on early identification, risk mitigation and response in the event of an emerging disease.

These recommendations recognize the integrated and collaborative nature of the industry and FPT governments in animal agriculture and make recommendations to stakeholders as a whole. A proposed lead is suggested but it is not intended that the lead will operate independently as for each of the recommendations, all stakeholder groups will need to be engaged.

Industry in the context of the recommendations means industry organizations and processors, the two groups which have most impact on communication and implementation of standards.

1. The Canadian animal agriculture industry, provincial governments and federal government should develop a coordinated approach to risk mitigation for an emerging disease. (Lead Federal and Provincial governments)

- Early Detection/Surveillance - Ensure a robust national surveillance program with rapid reporting is in place.
- Intelligence - Ensure national intelligence networks are well developed and active.
- Preparedness
 - Discuss and plan for the issues of transportation and moving animals to market
 - Establish collaboration and networking in advance of an event with those in the value chain.
 - Ensure there is government support to drive preparedness and education initiatives.
 - Ensure emergency plans consider potential long term challenges associated with an ongoing disease event rather than just the first few weeks of the response.
- Establish communications tools and communication plans in advance of an event (disease information, town halls, calls)
 - Build a plan to ensure transparency while preserving confidentiality.
 - Ensure communications are established which ensure industry and public trust.
- Biosecurity
 - Implementation of on farm biosecurity standards – e.g. Controlling movement at the farm gate.
 - Development and implementation of biosecurity plans beyond the farm gate including third party service providers.
 - Ensure adequate border biosecurity such as livestock transport cleaning and disinfection capacity and standards in Canada.
- A process of establishing transparent and harmonized approaches nationally with respect to preparing for and responding to emerging diseases that are not federally reportable.

2. The Canadian animal agriculture industry and government should support, communicate and exercise effective and practical enhanced biosecurity with their producers and service providers. (Lead – industry)

- National standards for on farm biosecurity have been developed for pork and most commodities. These standards and related materials have been distributed to producers. Biosecurity is part of commodity sustainability programs.
- Biosecurity for moving animals to slaughter is essential in managing disease, including cleaning and disinfecting of trucks used for transportation.
- When implementing biosecurity, focus on implementation of biosecurity measures that both prevent disease transmission but are also practical and achievable. Establish

“simple steps” for producers, service providers and other stakeholders including those that are not typically at the front line or aware of biosecurity requirements.

- Ensure industry stakeholders and government systems understand and support sound and science based biosecurity requirements.
- Due to the benefits observed in ON with the active engagement of the CFIA Office of Biosecurity, consideration should be given to expand the national leadership in biosecurity standards for disease management. The office could work collaboratively with industry and the provinces/territories to provide direction.
- Develop programming to ensure adequate and consistent application of biosecurity standards through the value chain.

3. The Canadian animal agriculture industry, provincial governments and federal government should commit to development, communication and exercising emerging disease emergency preparedness. (Lead – Industry and Provincial government)

- Preplanning and scenarios with all stakeholders are an important part of preparedness. One cannot overemphasize the importance of established networks and plans in advance of a disease event.
- Establish a national body to coordinate emergency planning and preparedness initiatives of the federal government, provinces/territories and industry. Build on the FPT Emergency Management Framework under development.
- Support the further development of national animal and plant health strategies engaging all stakeholders.
- Advance work on options, technology, training and availability for humane large scale euthanasia.
- Negotiation with trading partners to facilitate export in face of non-reportable disease and consistently navigate the communicable disease requirements.
- Negotiation with trading partners to advance the potential of zoning recognition.

4. The Canadian animal agriculture industry should ensure there is adequate support for producers and others impacted by a disease outbreak. (Lead – Provincial governments, Provincial Organizations and Producer Groups)

- Ensure a support system for producers, veterinarians and other workers in allied support services involved in an emerging disease outbreak is developed in advance to be used when needed. Components include financial (response and recovery), market access, service provision, as well as mental health programming. Preplan for most benefit:
 - Build recovery tools and establish a recovery process in advance of an event and incorporate them in the first stages of a disease response.
 - Establish a mediation or conflict resolution process for use in response to an event.

5. The Canadian animal agriculture industry should investigate the potential of assured access to slaughter/processing plants in a disease outbreak under specific conditions. (Lead – Provincial governments and Industry)

- Establish conditions and a protocol for accepting animals for slaughter which will allow producers and processors to maintain biosecurity, efficiency and product segregation.
- Conduct an investigation of slaughter options should include consideration for biosecurity, plant efficiency and product movement in the face of an emerging disease when there may be a lack of knowledge of risk factors to animal and human health. Potential options include federal plants, provincial plants, mobile slaughter and on farm slaughter.

Summary of Recommendations

1. The Canadian animal agriculture industry, provincial governments and federal government should develop a coordinated approach to risk mitigation for an emerging disease.	Lead Federal and Provincial governments
2. The Canadian animal agriculture industry and government should support, communicate and exercise effective and practical enhanced biosecurity with their producers and service providers.	Industry
3. The Canadian animal agriculture industry, provincial governments and federal government should commit to development, communication and exercising emergency preparedness.	Industry and Provincial Governments
4. The Canadian animal agriculture industry should ensure there is adequate support for producers and others impacted by a disease outbreak.	Provincial governments, Provincial Organizations and Producer Groups
5. The Canadian animal agriculture industry should investigate the potential of assured access to slaughter/processing plants in a disease outbreak under specific conditions.	Provincial governments and Industry