



Auditor General
MANITOBA

Report to the Legislative Assembly

Animal Disease Preparedness

Independent Audit Report

Website Version



January 2021

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Auditor General
MANITOBA

January 2021

Honourable Myrna Driedger
Speaker of the Legislative Assembly
Room 244, Legislative Building
450 Broadway
Winnipeg, Manitoba R3C 0V8

Dear Madam Speaker:

It is an honour to submit my report titled, *Animal Disease Preparedness*, to be laid before Members of the Legislative Assembly in accordance with the provisions of Section 28 of *The Auditor General Act*.

Respectfully submitted,

Original Signed by:
Tyson Shtykalo

Tyson Shtykalo, CPA, CA
Auditor General

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Auditor General's comments

Agriculture is a major economic driver in Manitoba. It is a key sector responsible for thousands of jobs and generates billions of dollars in revenue annually. If an animal disease were to disrupt the agriculture industry, it could hold disastrous consequences for Manitoba. We can look to the aftermath of Mad Cow Disease where the cash received by farms decreased by \$215 million (38%) in 2003 and recovery took years.

Animal disease in livestock is also a concern for animal welfare and food safety. Incidents of disease can result in widespread consumer alarm and culling of animals. As well, some diseases are transferable to humans and can lead to illness in people.

Currently, the world is experiencing the effects of a pandemic illness in humans (COVID-19) that may have originated from an animal disease. Events over the past year have demonstrated the importance of strong prevention practices to proactively manage and decrease these effects. At the same time, there is a need for preparedness and to have the appropriate resources and plans in place ahead of time to respond quickly to emergencies and to recover from their long-term effects.

In Manitoba, the Department of Agriculture and Resource Development has taken steps to prevent and prepare for animal disease emergencies, but significant work still needs to be done. The Department prioritized the diseases of most concern to Manitoba, but it did not document a risk assessment to support its prioritizations. As well, there were no response plans in place for most of these diseases of interest. As a result, it had not determined what equipment, supplies, and personnel would be needed to respond to an emergency.

We also found legislation authorizing prevention activities existed, but many regulations to authorize and clarify prevention activities had not yet been developed.

Consideration should also be given to recovery. In the case of an animal disease emergency, recovery may be in the form of financial assistance, mental health supports, and job retraining. We found there has been little consideration given to what would be required for potential recovery efforts.

This report includes 13 recommendations. I am pleased that the Department agrees with the recommendations and with their commitment to resolve the underlying issues. Our first follow-up of these recommendations will be as at September 30, 2022.



It is important to acknowledge that much of the audit work for this report was performed during the COVID-19 pandemic. I would like to thank all the Department officials we met with during our audit for their cooperation and assistance, especially as we found our way through these uncertain times together. I would also like to thank my audit team for their dedication and hard work.

Original Signed by:
Tyson Shtykalo

Tyson Shtykalo, CPA, CA
Auditor General

Animal Disease Preparedness

The audit examined whether the Department of Agriculture and Resource Development is prepared for an animal disease emergency in Manitoba

- Why?**
- Agriculture is a key economic driver in the province
 - Some animal diseases are transferable to humans

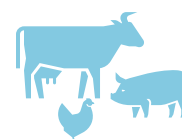
By the numbers:

\$6.6 billion

Farm cash receipts in 2019

Equal to 9% of provincial GDP

Includes \$2.4 billion from livestock



13 million+

Number of livestock in the province

What we found:

The Department is working to prevent and prepare for animal diseases, but significant work needs to be done



PREVENTION

- The Department identified higher-risk animal diseases—but no documented rationale to support these assessments
- Animal traceability system in place, but needs work
- More collaboration needed with federal government
- Legislation exists authorizing prevention activities, but many needed regulations not in place



PREPAREDNESS

- No response plans for most diseases of interest
- No assessments done to determine equipment, supplies, and personnel needed to respond to an animal disease emergency
- Some legislation creates hurdles in quickly responding to an animal disease emergency
- Limited consideration given to recovery



Report includes **13** recommendations

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What we examined

We assessed whether the Department of Agriculture and Resource Development is prepared for an animal disease emergency.

What we concluded

We concluded that the Department of Agriculture and Resource Development (the Department) is working to prevent and prepare for animal disease emergencies, but significant work needs to be done.

What we found

Our report includes 13 recommendations. An overview of our major findings follows:

PREVENTION

Steps are taken to prevent animal disease emergencies, but more could be done (Section 1)

Prevention is key to addressing emerging animal disease threats. Actions can be taken to reduce the probability of an event, although it is not guaranteed that all prevention efforts will work.

The Department has taken steps to prevent animal disease emergencies, but it could do more:

- Disease prioritization was done, but without a formal, documented risk assessment. The Department developed a reportable diseases regulation, and further refined this to a list of diseases of interest; however, it did not document its risk assessment to support these prioritizations.
- Activities were done to prevent and mitigate the impact of animal diseases. The Department:
 - Was a member of multiple surveillance networks.
 - Provided guidance to producers on how to help minimize the spread of disease.
 - Has a provincial laboratory in place, but it has limitations.
 - Has a traceability system in place, but it is not fully integrated.
- The Department collaborated with industry and other government departments, but more collaboration is needed with the Canadian Food Inspection Agency.
- Legislation authorizing prevention activities exists, but many needed regulations do not.

PREPAREDNESS

Inadequate preparation for animal disease (Section 2)

By definition, an emergency is a serious, unexpected situation that requires immediate action. A lack of preparation can have devastating impacts.

We found the Department has not taken sufficient steps to prepare for an animal disease emergency. We based this on the following findings:

- An Emergency Management Program was prepared as required under *The Emergency Measures Act*.
- No response plans were in place for most diseases of interest.
 - We found the Department had a response plan for Avian Influenza as well as policy and procedure documents which included some response plan elements for another 7 of the 36 diseases of interest.
- The Department supported others in their preparedness and response. It provided input on the development of national biosecurity standards and industry handbooks. It also assisted different commodity groups in managing recent diseases.
- Assessments were not done to determine the equipment, supplies, and personnel the province would need to have on hand to respond to an animal disease emergency.
- Legislation has created hurdles in animal disease preparation.
 - The *Waste Management Facilities Regulation of The Environment Act*, includes dead animals in its definition of solid waste, so carcasses need to be disposed of according to this regulation.
 - This legislation requires licensing of land for the disposal of carcasses, but given the large number of carcasses that could need to be disposed of in the event of an animal disease emergency, requirements for licensing could be problematic.
- Limited consideration has been given to recovery efforts related to financial assistance, job retraining or mental health supports.

Response from officials

We requested a response from officials of the Department of Agriculture and Resource Development. They provided a summary, which is included below.

The Province of Manitoba welcomes the “Audit of Animal Diseases Preparedness” report, covering the period of October 2019-November 2020 by the Office of the Auditor General. The department of Manitoba Agriculture and Resource Development (ARD) is committed to working with stakeholders to continue to strengthen our animal diseases preparedness and emergency response. Advance preparation is the key to protecting animals and the safety of our food supply.

The review will help guide our collective efforts to build a system that leverages our strengths and grows our disease response for Manitoba as a whole. Improving governance and accountability is a high priority and the department accepts all of the recommendations in the report. We will focus operations on clear priorities, transparency, and include measurables that can report on our performance.

We are pleased to share that significant work is already underway to address many of the recommendations that improve accountability, including:

- Substantial work continues in animal disease preparedness. This includes participating in the African Swine Fever (ASF) Executive Management Board, a joint industry / federal / provincial pilot project led by the National Farmed Animal Health and Welfare (NFAHW) Council and based on the Animal Health Canada initiative.
- Valuable diagnostic support and expertise to Manitoba veterinarians and their clients continues through Veterinary Diagnostic Services (VDS), to protect and advance animal and public health through diagnostic excellence.
- Animal Health and Welfare (AHW) staff resources are being increased including the hiring of an extension veterinarian.
- A number of disease plans and policies are being developed or updated, especially a provincial plan for ASF.
- An ASF simulation exercise with the Canadian Food Inspection Agency (CFIA) and the swine sector across Western Canada was conducted on December 3rd, 2020. This simulated coordination and communication between all partners in the case of an ASF outbreak.

While notable work has been completed and is in progress, there is still work to be done to strengthen animal diseases preparedness by the department. Adequate preparation prior to an emergency occurring is essential to ensure that there is sufficient capacity, resources and legislative support to conduct the activities included in the emergency disease response plans of the province. We look forward to improving Manitoba's animal disease emergency and response activities as we continue to advance our shared goals of establishing an environment that supports profitable and sustainable agriculture and agri-processing sectors.

To do so, the department will undertake a collaborative approach to addressing the recommendations, beginning with the development of an audit Action Plan within 90 days of the report finalization containing planned actions and a timeline for the implementation of the audit recommendations. In doing so, we will continue to work closely with our stakeholders who are essential partners in achieving effective disease response to reportable and emerging diseases in animal health and public health. Emergency preparedness is a top priority to optimize Manitoba's response to a variety of disease emergencies such that diseases can be detected and controlled as effectively as possible to prevent potentially devastating impacts to producers, their livestock, the economy, and in some cases, threats to human health.

History of recent animal diseases in Manitoba

Animal disease has disrupted the agriculture industry in Manitoba to varying degrees over the years. There have been a variety of incidents, including:

- Cases where a single animal has fallen ill, been treated and recovered.
- Farms that have had to eliminate their entire herds and thoroughly clean their premise before resuming operations.
- Complete industry shutdowns that have taken years to recover from.

In 2003, Bovine Spongiform Encephalopathy (BSE), also known as Mad Cow Disease, was discovered in a single cow in Alberta. This led to the decision by more than 40 countries to impose import restrictions on live animals, meat products, and animal by-products from Canada (including Manitoba) immediately. The impact on the Canadian economy was substantial. In Manitoba, **farm cash receipts** for cattle and calves decreased by 38% from 2002 to 2003, going from \$560 million to \$345 million. Additionally, this highlights that the occurrence of a single animal disease can have significant effects.

Since December 2014, 2 provinces and 15 states in the USA have reported cases of Avian Influenza. Wild birds on their spring migration carry the disease and can easily pass it on to poultry flocks. Mortality in infected flocks can be up to 90% within 2-3 days of first symptoms. Jurisdictions neighbouring Manitoba have reported over 100 farms infected with the disease, but as of August 2020, there were no suspected cases in Manitoba.

Manitoba, along with other jurisdictions, is currently dealing with incidences of Porcine Epidemic Diarrhea virus (PEDv) in pigs. This virus does not transmit to humans or other types of animals; however, it is generally fatal in young pigs. PEDv first appeared in Manitoba in 2014 and there have been almost 200 premises infected to date. Since that time, through strict **biosecurity** measures and collaboration among the different industry stakeholders, 96% of the premises infected are now determined to be **PEDv Presumptive Negative**.

Farm cash receipts represent the cash income received by the farm from the sale of agricultural commodities as well as government support.

Biosecurity is measures taken to prevent exposure to harmful biological or biochemical substances.

A **PEDv Presumptive Negative** premise is a farm location where the producer has implemented strict measures to eliminate PEDv and have confirmed the virus has been eliminated through repeated animal and environmental testing.

Effects of animal disease on people’s mental health

Producers experience many stressors that make them vulnerable to mental health problems. Uncertainties such as weather events, environmental challenges, market fluctuations, and debt put producers under significant pressure, and an animal disease would add to it.

The impact BSE had on the mental health of producers, farm families, and farming communities in Canada was significant. Worries about finances and feelings of helplessness and loss of control caused many problems for producers. Related surveys showed significant numbers of producers reported anxiety attacks, suicidal thoughts, and taking medication for anxiety, depression, or stress.

Studies in other countries have also shown serious psychological impacts, including post-traumatic stress as a result of a Foot and Mouth Disease outbreak in the United Kingdom and Netherlands. Affected producers were reported to experience flashbacks, nightmares, helplessness, guilt, anger, and grief.

Significance of agriculture in Manitoba

Agriculture is a key economic driver in Manitoba. In 2018/19, the total Gross Domestic Product for Manitoba was \$72 billion. Farm cash receipts for 2019 for the agricultural sector were about \$6.6 billion with \$2.4 billion of this from livestock. **FIGURE 1** shows the significance of the size of herds and farm cash receipts in Manitoba.

Figure 1: Manitoba livestock is a significant portion of national herds with over \$2 billion in farm cash receipts			
Animal type	Number of head in Manitoba as at July 1, 2019	Percentage of national herd	Farm cash receipts in 2019 (in thousands)
Pigs	3,395,000	24.4%	\$1,086,579
Cattle	1,080,000	8.8%	\$905,473
Poultry*	9,000,000	5.8%	\$289,960
Other			\$77,149
TOTAL			\$2,359,161

* The data for chickens and turkeys (included in 'Poultry') is as at 2016, as this data is only updated every 5 years.

Sources: Statistics Canada
Province of Manitoba, Farm Cash Receipts 2019

Animal disease in livestock is a concern for food safety, animal welfare and the significant economic losses that could occur. Incidents of disease can result in widespread consumer alarm, disruption of trade and severe effects on income. As some diseases are transferrable to humans, it can also lead to illness and possibly death.

Currently, the world is experiencing the effects of a pandemic illness in humans (COVID-19) that may have originated from an animal disease. This has shown the importance of prevention and preparedness in terms of having the appropriate resources and plans in place ahead of time, and in understanding the effects and impacts that a specific occurrence can have across locations—even throughout the world.

Legislative framework for animal disease preparedness

Legislation in relation to animal disease preparedness is multi-layered. There is federal legislation that makes the federal government responsible for regulating a variety of diseases that threaten the health of both animals and potentially humans, or Canadian trade in livestock with other countries. There is provincial legislation that supports the federal legislation and includes other diseases that are of interest to the Province. As well, there is provincial legislation specific to managing emergencies that can potentially apply in some disease outbreak scenarios.

FEDERAL LEGISLATION

The federal *Health of Animals Act* outlines the process owners of animals and veterinarians must follow when an animal is suspected of having specific diseases. It outlines specific requirements for importing and exporting animals. The related regulations list different diseases as either reportable, immediately notifiable, or annually notifiable, with different requirements for each category.

A disease is prescribed as reportable for the purposes of implementing preventative, control or eradication measures. A disease is prescribed as notifiable for the purposes of monitoring to determine its presence, nature, effects, or spread. There are 51 federally reportable diseases (**SEE APPENDIX 1**), and 58 immediately notifiable diseases (**SEE APPENDIX 2**). The 72 annually notifiable diseases are diseases for which Canada must submit an annual report to the World Organisation for Animal Health.

PROVINCIAL LEGISLATION

The Animal Diseases Act outlines the process animal owners and veterinarians must follow in the event that an animal has a disease. It also gives the Director (the Chief Veterinary Officer) authority to perform various activities when a disease is found, or suspected.

The Animal Premises Identification Regulation outlines the requirements for commercial animal owners to provide premise information to the Department for the purposes of controlling, analyzing, preventing disease and to track movement of animals.

The Reportable Diseases Regulation designates a list (**SEE APPENDIX 3**) of provincially reportable diseases and requires those animals that have a reportable disease to be examined. The list includes all the federally reportable and immediately notifiable diseases and a further 15 diseases.

EMERGENCY MANAGEMENT LEGISLATION

The Emergency Measures Act outlines the oversight and coordination for all aspects of emergency preparedness in the province. A significant animal disease would trigger an emergency response under *The Emergency Measures Act*. An animal disease could be considered significant based on a number of characteristics such as how quickly it spreads, whether it is zoonotic (can pass to humans), and whether other countries will impose import restrictions.

Responsibility for animal disease preparedness

Responsibility for responding to animal diseases is shared between different levels of government. The federal government uses different agencies, such as the Canadian Food Inspection Agency (CFIA) and the Canada Border Services Agency to administer its responsibilities related to animal disease.

Within the provincial government, the responsibility for animal disease preparedness rests primarily with the Department of Agriculture and Resource Development (the Department). The Department is responsible for ensuring producers and veterinarians are in compliance with the processes required of them under animal health legislation. It is responsible for preventing and controlling the spread of known diseases among farmed animals in Manitoba, as well as identifying and learning about unknown (emerging) disease threats.

The Emergency Measures Organization is responsible for emergency response of all departments to a major emergency or disaster, including an animal disease emergency.

ANIMAL HEALTH AND WELFARE BRANCH: PURPOSE, ACTIVITIES, AND RESOURCES

The Animal Health and Welfare Branch (the Branch) of the Department, as led by the Chief Veterinary Officer, is responsible for protecting human, animal, and plant health as well as industry competitiveness through leadership, technical expertise, and an appropriate regulatory and enforcement framework. The Department is responsible for dealing directly with producers and veterinarians and ensuring they comply with the processes required of them under legislation, and for preventing and controlling the spread of disease among farmed animals in Manitoba. The Branch holds primary responsibility for animal disease preparedness although some aspects of general emergency response would fall to other departments (as noted above).

In 2018/19, the Branch initiated 14 disease investigations and conducted animal health surveillance using existing data from inspections and laboratory diagnostics. The Branch also maintains premises identification data. In 2018/19 there were 818 premises registered, updated or retired, with 7,925 premises validated. The Veterinary Diagnostic Services laboratory received 17,901 lab submissions and conducted 137,147 diagnostic tests in 2018/19.

The Branch also responds to animal welfare concerns. In 2018/19, it conducted inspections related to 1,054 concerns raised from the Animal Care Line.

Emergency Management Framework for Agriculture in Canada

In July 2014, federal, provincial, and territorial ministers of agriculture, including Manitoba, directed the development of a comprehensive and collaborative approach to emergency management, which resulted in the development of the Emergency Management Framework for Agriculture in Canada. This framework recognizes a need for shared responsibility and collaboration between governments, industry producers, and other stakeholders.

This emergency management framework consists of 4 pillars:

Prevention and mitigation – the actions taken to identify, prevent, and reduce the impacts and risks of hazards before an emergency occurs.

Preparedness – the actions taken to increase the ability to respond quickly and effectively to emergencies to recover quickly from its long-term effects.

Response – the actions taken during or immediately after an emergency to manage the consequences.

Recovery – actions taken after an emergency to re-establish or rebuild conditions and services to an acceptable level.

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Audit objective

We assessed whether the Department of Agriculture and Resource Development (the Department) is prepared for an animal disease emergency in Manitoba.

Scope and approach

The audit included review and analysis of legislation, policies and practices, information systems, files, records, reports, correspondence, and other documentation. We interviewed Department staff, including the Chief Veterinary Officer, department epidemiologists, managers, and individuals responsible for liaising with producers and other industry representatives. We also interviewed staff from the Emergency Measures Organization and representatives from numerous industry associations. In addition, we observed a pig farm in operation as well as the Emergency Operations Centre in action during the COVID-19 pandemic.

In total, we judgmentally selected and examined 3 of 8 animal disease policy and procedure documents, as well as the Department's Emergency Management Program, to help us assess the Department's preparedness to respond to an animal disease.

We also examined lab data for the period April 1, 2015 to March 31, 2020 to determine how often the most frequently performed tests (defined as those tests that comprise at least 1% of the lab tests) for swine, bovine, and avian species were within the lab's turnaround times.

Our audit was focused on animal diseases related to livestock and as such did not look at diseases related to pets or service animals. Additionally, our audit did not look at animal welfare concerns except in relation to an animal disease response.

Audit criteria

To determine whether the Department is prepared for an animal disease emergency in Manitoba we used the following criteria:

Criteria	Criteria source
<p>The Department should take steps to identify and prevent an animal disease emergency from occurring.</p>	<p>Emergency Management Framework for Agriculture in Canada</p> <p>Joint External Evaluation of the IHR Core Capacities of Canada, World Health Organization</p> <p>OIE Tool for the Evaluation of Performance of Veterinary Services, World Organization for Animal Health</p>
<p>The Department should have a response plan for an animal disease emergency.</p>	<p>Emergency Management Framework for Agriculture in Canada</p> <p>Joint External Evaluation of the IHR Core Capacities of Canada, World Health Organization</p> <p>OIE Tool for the Evaluation of Performance of Veterinary Services, World Organization for Animal Health</p>

The Department is working to prevent and prepare for animal diseases, but significant work needs to be done

The mission of the Department of Agriculture and Resource Development (the Department) is to create an environment that accelerates sustainable growth in the agriculture sector. An area of focus for the Department to achieve this mission is to provide regulatory oversight and an enforcement framework to support animal health and industry competitiveness. Prevention of animal disease is the best way to protect animal health, and being prepared to respond in the event of a disease will help protect industry competitiveness.

As of August 2020, there were 22 active animal diseases in Manitoba in varying stages of management. The Department has been collaborating with industry to deal with these diseases but more could be done. Without proper prevention and preparation for disease emergencies, the agriculture sector is at risk.

We concluded that the Department is working to prevent and prepare for animal diseases, but significant work remains. We based this conclusion on the following findings:

- Steps taken to prevent animal disease emergencies, but more could be done (**SECTION 1**).
- Inadequate preparation for animal diseases (**SECTION 2**).

1 Steps taken to prevent animal disease emergencies, but more could be done

Prevention of animal disease is key to addressing emerging threats. Actions can be taken to reduce the probability of an event, although it is not guaranteed that all prevention efforts will work. The Emergency Management Framework for Agriculture in Canada, developed by the agriculture ministers of Canada, states, "Given the potential for significant impacts, particularly to Canada's economy and environment, enhanced attention on preventing and mitigating emergencies will contribute to a more sustainable agricultural sector."

The Department has taken steps to prevent animal disease emergencies, but it could do more. This is based on the following:

- Disease prioritization was done, but without a formal, documented risk assessment (**SECTION 1.1**).
- Activities were done to prevent and mitigate the impact of animal diseases (**SECTION 1.2**).

- Collaboration occurred, but more is needed with the CFIA (**SECTION 1.3**).
- Legislation authorizing prevention activities exists, but many needed regulations do not (**SECTION 1.4**).

1.1 Disease prioritization done, but without a formal, documented risk assessment

As there are many animal diseases, it would not be practical to closely monitor all of them, therefore diseases must be prioritized. A process to determine the diseases to monitor is crucial in mitigating an animal disease emergency, as one incident of a particular disease can have significant consequences (as shown by the one case of BSE in 2003). We expected the Department to prioritize the diseases they would closely monitor based on risk and significance.

The Department identified a list of diseases, both known and emerging, that are of higher risk for Manitoba. The *Reportable Diseases Regulation of The Animal Diseases Act* lists these diseases (see **APPENDIX 3** for further details). The Department developed a list of 36 diseases of most interest. As of August 2020, the Department was focusing its efforts on the 22 diseases active in Manitoba and a further 14 diseases not currently active in Manitoba (including one not reportable either at a federal or a provincial level). These lists were determined based on expertise of staff veterinarians and consultations with industry representatives, considering each disease's impact on human health, animal health, trade, and the environment. Additionally, the Department discussed various aspects of the diseases with the CFIA, as well as other provincial government departments, before adding them to the list. However, the Department did not document its risk assessment to support these prioritizations so we could not assess the rationale for the decisions to include or exclude diseases on these lists.

A clear and documented assessment of the likelihood and impact of diseases occurring provides for stronger decision-making processes. Documenting the basis for decisions makes it easier to update initial assessments and to revisit decisions for changing circumstances.



Recommendation 1

We recommend that the Department periodically perform a risk assessment for all animal diseases to determine whether each disease is of concern to Manitoba. Assessments should consider the likelihood and significance of the impact if the disease occurs, and assessments for diseases already known to be of most significance to Manitoba should be prioritized.

1.2 Activities done to prevent and mitigate the impact of animal diseases

The Department undertakes numerous activities to prevent and mitigate the impact of animal disease, including:

- Membership in multiple surveillance networks.
- Guidance was communicated to producers to help minimize the spread of disease.
- A provincial laboratory is in place, but it has limitations.
- A traceability system is in use, but it is not fully integrated.

The details of these findings are discussed further below.

MEMBERSHIP IN MULTIPLE SURVEILLANCE NETWORKS

Members of surveillance networks share information about diseases they are facing or have information about, and how they are responding. Many of these networks have representation from industry. These networks generally met on a monthly basis and range in focus. A network may be general in nature and focus on a geographic region or jurisdiction. In these cases members would provide information on what is happening in the region. Networks may also be specific to a type of disease or commodity. We also found that the networks range in formality with some providing information through written notices and meeting minutes, while others provide information verbally.

In addition to disease-specific projects such as the National African Swine Fever surveillance pilot project, Manitoba is a member of the following surveillance networks:

- Canadian Animal Health Surveillance System.
- Veterinary Surveillance Epidemiologists Network.
- Canadian Animal Health Surveillance Network.
- Western Canadian Animal Health Network.
- Canada West Swine Health Information Network.
- Community of Emerging and Zoonotic Disease.

Along with memberships in multiple surveillance networks, the Department remains up-to-date on animal diseases through other means. The Chief Veterinary Officer met with their provincial counterparts on a regular basis to discuss, among other things, animal disease concerns. Also, staff meet with other government departments to exchange surveillance information about diseases that are transferable to people and to assist with prevention of disease in wildlife.

The Department also keeps informed of animal diseases and responses by periodically reviewing the websites of international organizations such as the United States Department of Agriculture, the Food and Agriculture Organization, and the World Organisation for Animal Health.

GUIDANCE WAS COMMUNICATED TO PRODUCERS TO HELP MINIMIZE THE SPREAD OF DISEASE

Generally, producers know their animals best and they have a vested interest to maintain the health of their herds. It is in their interest to take the necessary steps to protect their herds and thereby their source of income. However, producers may not know all of the details of best practices, or new methods of protection, so the Department has provided some guidance for them for things like biosecurity, tick prevention, and fencing.

The Department has guidance on its website on disease control, surveillance for certain diseases, and resources outlining biosecurity practices. The website also provides links to other organizations that have developed biosecurity manuals. As well, there is contact information for the Department for anyone with further questions.

The website also has information designed to help producers in their emergency preparedness. This includes information on:

- Traceability systems and the Manitoba Premises ID program.
- When they need to prepare to evacuate livestock.
- Livestock mass mortality disposal.

A PROVINCIAL LABORATORY IS IN PLACE, BUT IT HAS LIMITATIONS

A laboratory is a critical piece of animal disease prevention and preparation. The World Organisation for Animal Health further affirms that any government's veterinary service should include access to laboratory diagnosis. Prior to an outbreak, lab-supported surveillance allows early detection of cases; and during an outbreak samples can be used to assess changes and guide decisions about the allocation of resources.

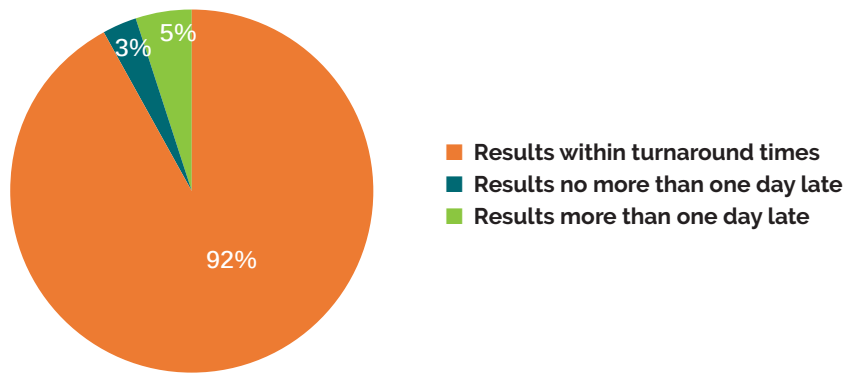
The Department runs the Veterinary Diagnostic Services (VDS) laboratory. Through this lab, the Department works with industry to detect threats in submitted samples. The lab provides diagnostic and surveillance testing services for livestock, companion animals, wildlife, and for animal research. Results of testing done for the producers are used by the Department in its surveillance efforts.

Timeliness of lab results

The timeliness of lab surveillance impacts both how quickly the Department can respond to animal diseases and whether clients will continue to bring samples to the provincial lab (potentially impacting the Department's ability to do surveillance). To this end, the lab established result turnaround times for tests.

We examined lab data for the period April 1, 2015 to March 31, 2020 to determine how often the most frequently performed tests for swine, bovine, and avian species were within the lab's result turnaround times.

Figure 2: 92% of laboratory test results within turnaround times



Source: Veterinary Diagnostic Services lab data analyzed by OAG Manitoba

As shown in **FIGURE 2**, measuring the time between when the sample was recorded in the system (which may be delayed from when it was received) and when results were received, we found 92% of the 1.25 million test results were within turnaround times. Of the 8% of tests that did not meet the lab's turnaround times, approximately 39% were no more than one day late, and the average delay was 2.7 days. It is important to note that the test results field does not take into account the time to communicate the results to the client.

Lab accreditation and certification

VDS holds a licence from the Public Health Agency of Canada authorizing the conduct of controlled activities with Risk Group 2 pathogens in accordance with the federal *Human Pathogens and Toxins Act* and related regulations and the *Health of Animals Act* and related regulations. VDS has been working towards level-2 enhanced certification, and accreditation by the Standards Council of Canada under ISO 17025 (for testing and calibration laboratories). These are both required for laboratories that receive, handle, and test samples for **foreign animal diseases**. The Department staff told us it is expected this will be completed in 2023.

A **foreign animal disease** is an animal disease not known to exist in Canada.



Recommendation 2

We recommend that the Department assess the risks faced by the Veterinary Diagnostic Services lab in meeting its goals and objectives, both on a day-to-day operational basis and in a disease-outbreak situation, and take steps as necessary to mitigate the risks.

TRACEABILITY SYSTEM IN USE, BUT NOT FULLY INTEGRATED

A livestock traceability system is a tool used in the protection of animal health. Traceability is the ability to follow an item or group of items, including animals, from one point to another. It enhances emergency management through timely, accurate, and relevant information. Livestock traceability systems in Canada are built on three basic elements: animal identification, premises identification, and movement reporting.

We found there is a traceability system in place, but:

- The information was incomplete.
- The information was not fully integrated.
- One of the information systems was old and in danger of losing functionality.

Animal identification is using a means to mark animals, such as ear tags. Federal legislation makes animal identification for cattle, bison, pigs, and sheep mandatory in Canada. It also requires movement reporting for pigs. The CFIA has responsibility for both of these requirements. Animal identification is overseen by industry-led non-profit organizations for each commodity type. The Department has access to animal identification information through a national traceability portal.

In Manitoba, all owners and operators of commercial livestock operations (excluding non-commercial owners) are required to apply for a premises identification under the *Animal Premises Identification Regulation of The Animal Diseases Act*. Non-commercial owners of livestock are not required to register for a premises identification, so they (and their livestock) are not tracked by the traceability system. Manitoba's premises identification system maps out parcels of land where livestock and poultry are grown, kept, assembled (for shipment), or disposed of. In a crisis, such as a disease emergency or natural emergency, officials can use the Department's premises identification database to quickly identify the organizations that may be affected.

There are no automated linkages between the different systems used for traceability. Positive results from the laboratory system as well as information needed and obtained from the Animal Identification systems must be manually entered into the Premises Identification system. Department staff expressed concern that their ability to update the system on a timely basis could be challenged by an outbreak of either a foreign animal disease such as African Swine Fever or a multi species disease such as Foot and

Mouth Disease. For example, these delays would hinder the Department's ability to notify premises in close proximity to infection or plan livestock transportation routes around areas of infection.

The information system the Department uses to integrate its premises identification information with animal identification information, case reports, and geospatial data, is old and in danger of losing functionality since the software will soon be unsupported. The Department considers this system to be an essential tool for accurate tracking of infected, suspect, and at-risk premises.

The Business Transformation and Technology (BTT) Branch of the Department of Finance manages technical upgrades to the Department's business applications, including its traceability system. In 2018, the Department had BTT get a quote for a replacement system, but Department staff said the estimate was cost prohibitive.



Recommendation 3

We recommend that the Department implement a reliable information management system that fully integrates all provincial traceability information (premises identification, lab disease reporting data, and geospatial systems) and that the Department work with industry-led non-profit organizations to obtain assurance of the completeness of the information in the national traceability portal.

1.3 Collaboration occurred, but more is needed with the CFIA

Preventing an animal disease emergency from occurring, or minimizing its significance when it occurs, requires collaboration between numerous parties. The Department is responsible for animal health, which includes collaborating with industry (including industry associations and producers) as well as the federal government. We expected the Department to collaborate in its:

- Identification, assessment, and prioritization of risks related to individual animal diseases.
- Surveillance and monitoring for early detection of threats.
- Development of biosecurity measures and provision of training to people in the industry.
- Identification and definition of all roles and responsibilities for prevention of animal diseases.

See **SECTION 1.1** for a discussion of the Department's collaboration in prioritizing individual animal diseases, and **SECTION 1.2** for a discussion of the Department's collaboration in its surveillance efforts.

SIGNIFICANT COLLABORATION OCCURS WITH INDUSTRY

The Department supported industry in the development of biosecurity standards through involvement in the surveillance networks. They have also promoted the standards through conversations with producers and formal documents (guidance) provided on the website.

Roles and responsibilities for the prevention of animal disease, although often not specifically documented, seemed to be understood. Each of the industry groups we met with indicated the collaborative nature of the Department in working through the most recent diseases for their respective industry—Avian Influenza in poultry (2010), Bovine Tuberculosis in cattle (1997 to 2020) and Porcine Epidemic Diarrhea in pork (2017 to 2020).

In addition to industry and the Department both knowing its roles, they also support each other in their roles. This was evident in the shared news conferences with both industry and government representatives during animal diseases, and industry representatives accompanying department staff when enforcement of legislation is necessary.

COLLABORATION OCCURS WITH OTHER DEPARTMENTS

Along with collaborating with industry, the Department also collaborates with other provincial departments to prevent and prepare for animal diseases.

- A One Health steering committee, with representatives from the departments of Manitoba Agriculture, Manitoba Health, Seniors and Active Living, Manitoba Growth, Enterprise and Trade and Manitoba Sustainable Development, work together to solve health problems through the interdependence of human, animal, and ecosystem health and develop response plans for zoonotic diseases such as Rabies and Salmonella.
- The Department worked with the Department of Sustainable Development (now the Department of Conservation and Climate) to identify diseases in wildlife that could potentially transfer to livestock. This has included working together to locate the wildlife and to collect samples for testing.
- The Department also works with the Department of Health, Seniors and Active Living on preventing the spread of animal diseases that could transfer to people.
- Additionally, they have taken part in Interagency Emergency Preparedness Committee meetings. This committee consists of stakeholders from across government and organizations such as Manitoba Hydro and Bell MTS. The Department gave two presentations to this committee during 2019 on animal disease.

COLLABORATION WITH THE CFIA EXISTS BUT COULD BE IMPROVED

Collaboration between the Department and the CFIA is important to prepare for and prevent foreign animal diseases, as the federal government is responsible for federal borders and making decisions about what is allowed into the country.

The CFIA has developed national biosecurity standards, protocols, and strategies in collaboration with producer organizations, provincial/territorial governments (including Manitoba), and academia. The Department promotes these biosecurity standards with links to them on its website.

The Department worked with the CFIA, representatives from other jurisdictions, as well as industry groups in the development of the Livestock Market Interruption Strategy. This is a national strategy to enhance industry and government preparedness to deal with the potential impacts of a livestock market interruption on healthy animals and the livestock sector. Likewise, the Department was involved in the CFIA's response to Bovine Tuberculosis providing veterinary expertise, and providing support to the CFIA's work in relation to Bovine Spongiform Encephalopathy. Similarly, the Department has been involved in reviews that the CFIA does after an event to determine lessons learned.

Despite these efforts, Department staff and one commodity group that we met with identified that there is not a fully collaborative relationship between the Department and the CFIA. They identified the lack of collaboration as a risk as it may result in confusion about roles in a disease response situation and the flow of information may not be timely.

At the time of our audit, the Department had not signed a Foreign Animal Disease Emergency Support (FADES) plan with the CFIA since 2006. The FADES plan outlines the roles and responsibilities of the different government organizations (federal, provincial, and municipal) that may be required to support the CFIA during a foreign animal disease response. We were told the Department has not signed a more current plan as it is concerned that the current version does not adequately reflect all of the Province's interests and responsibilities in a disease response.

A memorandum of understanding was signed by the Department and the CFIA in 2017 agreeing to work together towards common objectives, including responses to animal diseases. The FADES plan signed in 2006 is considered to still be in effect under this memorandum of understanding.



Recommendation 4

We recommend that the Department take steps to improve their working relationship with the CFIA.

1.4 Legislation authorizing prevention activities exists, but many needed regulations do not

The Department requires sufficient authority to effectively perform prevention activities to identify and prevent an animal disease emergency from occurring. Although the Department has legislation that allows it to perform these prevention activities, supporting regulations have not been developed. Regulations are necessary as they provide specifics on how to apply legislation to avoid misinterpretation or misuse of power.

The Animal Diseases Act (the Act) gives the Department authority related to prevention of animal disease. For example, the Act requires producers and veterinarians to report an animal that has, or they suspect has, a disease to the Department. This legislation also gives the Director (the Chief Veterinary Officer) the power to:

- Conduct surveillance for the systematic collection, analysis, interpretation, and publication of information on the health status of animal populations in Manitoba.
- Make orders, for example, to confine or quarantine an animal, or to implement biosecurity standards by an owner.

The Act indicates regulations can be made for numerous things, but in most cases, no regulation has been made. Examples of matters regulations may be made, but have not, include:

- Respecting the destruction or disposal of carcasses of animals.
- Respecting biosecurity measures that must be taken.
- Respecting programs and measures that may be undertaken in a disease prevention, management or control area for the purpose of preventing, managing or controlling disease.

The Act states, "Subject to the regulations, the director may..." This statement gives the director the power to act, but without the regulation, those powers become unlimited. The Act also states "...the director must...in accordance with the regulations..." The Act is requiring the director to perform an action in a set way. But without the regulations, it is not clear what the director must do so the director may either make assumptions on the intention of the Act or decide not to perform the action as it is not clear.



Recommendation 5

We recommend that the Department develop regulations, as necessary, to be able to fully execute its authority under *The Animal Diseases Act* to take necessary, reasonable actions to prevent animal diseases in a timely manner.

2 Inadequate preparation for animal diseases

Even with rigorous prevention activities, some animal disease will still occur. Therefore, it is important that appropriate preparation is done to minimize the impact of diseases when they occur.

By definition, an emergency is a serious, unexpected situation that requires immediate action. A lack of preparation can have devastating impacts. Disorganized leadership, confusing messages, uninformed staff, and insufficient resources may put animals (and possibly people) in danger, slow down response time, and make it more difficult to recover. The goal of preparedness activities, and the existence of documented response plans, is to ensure the government is ready and able to respond quickly in the event of a disease emergency.

We concluded that the Department has not taken sufficient steps to prepare for an animal disease emergency. We based this conclusion on the following findings:

- An Emergency Management Program was prepared as required under *The Emergency Measures Act* (SECTION 2.1).
- No response plans were in place for most diseases of interest (SECTION 2.2).
- Department supports others in their preparedness and response (SECTION 2.3).
- No assessments to determine equipment, supplies, and personnel needs (SECTION 2.4).
- More emergency response simulation exercises needed (SECTION 2.5).
- Legislation has created hurdles in responding to an animal disease emergency (SECTION 2.6).
- Limited consideration given to recovery (SECTION 2.7).

2.1 Emergency Management Program prepared as required under *The Emergency Measures Act*

The Emergency Measures Act (the Act) requires all departments to prepare an Emergency Management Program that identifies, among other things, an assessment of the hazards and risks posed by the various potential disasters and emergencies.

The Department developed an Emergency Management Program as required by the Act. We examined the 2019 version of the Department's Emergency Management Program and found it:

- Does not include an assessment of the hazards and risks posed by the various disasters and emergencies possible.
- Identifies the general roles and responsibilities of the Department. It also identifies duties and responsibilities of individual staff members designated by the Department to deal with an emergency incident.
- Does not identify the person responsible for all communications decisions. Instead it notes that emergency staffing will determine the departmental communication spokesperson for the incident and work with Communication Services Manitoba. There are other communication tasks identified but these are also not directly attributed to an individual or position.

- Notes some of the different types of emergencies the Department may have to deal with and identifies actions to take as part of the planned response.

The Emergency Management Program indicates that for a foreign animal disease outbreak response plan the reader should refer to the *Manitoba Emergency Plan Annex, Manitoba Avian Influenza Coordination Plan (AI Plan)*. It also indicates that response plans for Foot and Mouth Disease and African Swine Fever are under development. At the time of our audit these were not complete. As each possible disease carries its own specific risks, we expected that there would be an assessment for each disease of interest to Manitoba as identified in **SECTION 1.1**.

Specifically related to an animal disease emergency, the Emergency Management Program document notes that the Department will provide support and assistance to the CFIA based on a mutually agreed upon FADES plan for foreign animal disease eradication. We note that the most recent FADES plan that the Department agreed to is dated 2006. See **SECTION 1.3** for a full discussion on the Department's relationship with the CFIA.

Additional specifics related to roles and responsibilities, communication, and activities to be taken in response to specific diseases are identified in some individual disease response plans. See **SECTION 2.2** for further details on this.

2.2 No response plans in place for most diseases of interest

Each specific disease carries its own set of risks and circumstances. We expected that, along with a more generic response plan for responding to any animal disease emergency (discussed in **SECTION 2.1**), the Department would have a response plan for each of the 36 diseases of interest. However, no response plans were in place for most diseases of interest.

We expected each disease response plan to:

- Identify the actions to take when the federal government is involved in a response.
- Clearly define roles and responsibilities, including who will be the provincial lead in the response.
- Identify clear channels of communication, including who would be the main contact in industry and how they would be communicated with.
- Include activities related to the risks identified for the specific disease.
- Identify what would be communicated to other parts of government and other stakeholders that would need to be part of recovery, and how this would be communicated.

We found the Department had a response plan for Avian Influenza (AI). The Department also had policy and procedure documents which included some elements of what we expected to see in a response plan for another 7 of the 36 diseases of interest.

We selected and examined a judgmental sample of 3 of the 8 Department's disease response planning documents. We examined the AI Plan, and the policy and procedure documents for Porcine Epidemic Diarrhea virus (PEDv), and Anaplasmosis. We found that none of the 3 documents we reviewed included a full assessment of the risks associated with the disease. Without a full understanding of what the Department viewed as the risks related to each disease, we were unable to determine whether the response plans were complete. Therefore, our conclusions were limited to the information contained in the plans.

In examining the 3 documents we found each identified:

- What the provincial response would be when the CFIA was involved.
- The provincial lead in the response.
- The main contact in industry and how they would be communicated with.

We also examined the plans to determine whether roles and responsibilities were clearly defined, clear channels of communication were identified, and whether the plan included activities to be taken in response to risks.

Figure 3: Disease response planning documents often incomplete

Animal disease	Roles and responsibilities clearly defined	Clear channels of communication identified	Activities to take in response to risks are detailed	Other parts of government that would need to be part of a response identified	Other stakeholders that would need to be part of response identified
Avian Influenza	Yes	Yes	Partial – some activities identified were general	Yes	Yes
Porcine Epidemic Diarrhea (PEDv)	Yes	Yes	Partial – only some activities identified, and some tasks general	No	Yes
Anaplasmosis	Yes	Partial – one task not assigned	Yes	Yes	Yes

Source: Departmental disease response planning documents

As shown in **FIGURE 3**, the 3 disease response planning documents we examined were often incomplete. One communication task in the Anaplasmosis plan was not assigned. As well, the Avian influenza plan and the PEDv plan were not always detailed in the response to take for specific risks. For example, the PEDv plan did not mention manure-spreading practices for PEDv positive farms. Lastly, the PEDv plan did not identify what would be communicated to other parts of government.



Recommendation 6

We recommend that the Department, as part of its risk assessment in **RECOMMENDATION 1**, promptly, and periodically thereafter, assess the resources needed to respond to each disease identified as significant to Manitoba.



Recommendation 7

We recommend that the Department prepare a complete response plan for each disease identified as significant to Manitoba in **RECOMMENDATION 1**. Complete response plans should:

- Specify activities related to the risks identified for the specific disease.
- Clearly define roles and responsibilities, including who will be the provincial lead in the response.
- Identify clear channels of communication, including who will be the main contact in industry and how they will be communicated with.
- Identify others (governments, government departments and agencies, and other stakeholders) that may be impacted by the disease and should be included in the response plan.
- Be developed in collaboration with industry and, for federally reportable diseases, with CFIA.

2.3 Department supports others in their preparedness and response

A holistic approach is necessary to effectively prepare for and respond to an animal disease emergency. To that end, the Department has supported both the CFIA and commodity groups in their preparation for animal disease emergencies.

The Department has provided input to the CFIA for its development of national biosecurity standards. It also provides level-2 enhanced training to VDS lab staff. In the event of a significant foreign animal disease, the Department can provide support to the federal lab in the form of staff sharing.

Although some commodity groups are more self-reliant and do not work as closely with government, the Department supports commodity groups in the development of their disease response plans. Many industry groups have developed plans with assistance from the Department. Specifically, the beef, dairy, and pork sectors have each developed producer handbooks, with input from the Department, that provide guidance on how to prepare for disease-related, sector-wide emergencies. As well, representatives from all of the industry associations we met with indicated the Department had been collaborative and helpful during recent disease occurrences, including Avian Influenza, Bovine Tuberculosis, and Porcine Epidemic Diarrhea.

2.4 No assessments to determine equipment, supplies, and personnel needs

As the recent COVID-19 pandemic has shown, the lack of necessary equipment and supplies in an emergency can result in panic, concern and even unnecessary death. *The Emergency Measures Act* requires a department's Emergency Management Program to identify the resources required to provide the essential services if various disasters or emergencies occur. As outlined by the Emergency Management Program, the Department follows an incident command system including an Emergency Operations Centre. However, they do not have a backup location identified.

A risk assessment, prepared for each disease of concern for Manitoba, would identify the types and quantities of equipment, supplies and personnel the Province would need to have on hand in preparation for these animal disease emergencies. The government could then decide, based on its risk tolerance, what equipment and supplies to stockpile.

As of August 2020, the Animal Health and Welfare Branch was staffed with 52 people, with only 6 staff that work directly in the Animal Health Unit, including the CVO. Thirty two staff work in the Veterinary Diagnostic Services Laboratory within the Branch. The 6 people (in addition to the lab staff) are responsible for all ongoing prevention and surveillance activities and would also be responsible for any response activities in the case of an animal disease emergency (although others would assist as required).

Branch management and staff told us that if an animal disease emergency were to occur, many of their day-to-day responsibilities would be left undone as they do not have back-up staff. Industry groups told us Department staff may not be able to provide the level of service expected of them if an animal disease emergency were to occur. As well, the Branch does not have a documented plan that outlines what is expected of the different units of the Branch on a day-to-day basis, nor how those expectations would change in the event of an animal disease emergency.



Recommendation 8

We recommend that the Department prepare an operational plan for the Animal Health and Welfare Branch that identifies the expectations of the Branch on a day-to-day basis as well as how those expectations would change in the event of an animal disease emergency.

The Department has identified in its Emergency Management Program a list of 51 department staff that should undergo the Province's Emergency Training Program. This shows that the Department has identified the need for personnel in an emergency response. We were told they expect this number of people to be sufficient to allow for rotating schedules so that staff will not get overly fatigued. However, departmental documentation indicated emergency staff training plans for two other provinces included plans to train more staff than in Manitoba.

A consultant's report on Lessons Learned from the 2017 Manitoba PED Outbreak has also identified a limited surge capacity in Manitoba to deal with an animal disease outbreak. Specifically, the Lessons Learned document noted:

- *"The general feeling is that Manitoba has limited surge capacity to deal with this size of outbreak. Specifically:*
 - *Trailers and feed trucks are limited, mostly due to time required for Cleaning and Disinfection (C&D), forcing people to prioritize what gets cleaned.*
 - *Staff is limited in the sector due to segregation, etc., and limited in MB Ag (the Department) and Manitoba Pork Council.*
 - *Veterinarians are stretched thin and may struggle to get communications to all the producers in a timely fashion.*
 - *The provincial lab (VDS) has limited staff and overtime capacity.*
 - *Biosecurity supplies can become limited."*

Department staff told us that they do not have any supplies stockpiled.



Recommendation 9

We recommend that the Department, in the assessment performed in **RECOMMENDATION 6**, determine the equipment, supplies, and personnel necessary to respond to an animal disease emergency.



Recommendation 10

We recommend that the Department stockpile the necessary equipment and supplies, and ensure personnel required for each disease response are available, based on the risk tolerance of government.

2.5 More emergency response simulation exercises needed

Emergency response simulation exercises are a recommended activity of the Emergency Management Framework for Agriculture in Canada as well as the World Health Organization. An emergency response simulation exercise is a planned event where the key emergency response personnel get together to discuss a simulated or imaginary emergency. These exercises are often used to clarify roles and responsibilities and to identify additional threat mitigation and preparedness actions.

Over the past 10 years, the Department has organized or participated in emergency response simulation exercises related to Avian Influenza, African Swine Fever, and COVID-19. Some of these exercises have been just for government and other organizations (CFIA and Manitoba Pork Council), while others have included only industry members. The Department's COVID-19 exercises in May 2020, although not animal disease specific, reviewed approaches to abattoir (slaughterhouse) closures due to human illness in staff.

There have been two different types of simulation exercises to date:

- **Personnel** – All of the key people from the various organizations, government departments, and industry meet to get to know one another and what they do. This enables quick communication in the event of an emergency, as people know who to call for a specific task.
- **Response** – Select people meet, based on their expertise and job function, to brainstorm possible scenarios and determine specifically the course of action to take in an event.

Each of the exercises done focused on a different commodity group, with each group only experiencing one simulation exercise over the past 10 years. As people, positions, and practices change, the exercises lose their usefulness if they do not occur more regularly. Most of the commodity groups we met with indicated more simulation exercises would be useful.



Recommendation 11

We recommend that the Department, based on the response plans developed in **RECOMMENDATION 7**, plan, facilitate, and participate in emergency response simulation exercises on a regular basis to ensure key emergency response personnel know and understand their roles and those of others involved in an emergency response.

2.6 Legislation has created hurdles in responding to an animal disease emergency

Some Manitoba legislation presents a challenge to the timeliness of the Department's response in an animal disease emergency.

At the time of our audit, the Department was preparing a response plan for African Swine Fever. A welfare cull would be a potential outcome of this disease, and some others. A welfare cull is when producers kill their livestock and subsequently dispose of the carcasses because there is no longer a market for the animals. The *Waste Management Facilities Regulation of The Environment Act*, includes dead animals in its definition of solid waste, so carcasses would need to be disposed of according to this regulation.

The Department has estimated that the number of swine that would need to be culled in response to African Swine Fever would require more licensed waste disposal ground space than is currently available. However, the time necessary to go through the process of licensing more ground space, including the necessary environmental assessments, would not be available during an animal disease emergency.

At the time of our audit, Department staff were working to determine:

- Possible sites for a mass burial of this size:
 - Determining whether they need to get a licence, now, for sites on a preliminary basis.
 - Determining whether someone with the proper authority would have the ability to override the requirement for a licence in an emergency situation.
- Whether the regulation should be changed to accommodate this scenario. As this regulation is the responsibility of another department, this would have added complexities.



Recommendation 12

We recommend that the Department take steps to ensure that, during an animal disease emergency, it has the legislative authority to respond, including in its disposal of carcasses.

2.7 Limited consideration given to recovery

Dealing with the aftermath of an animal disease emergency can be a significant challenge. Recovery may require restoring public confidence that the situation is contained and that there is no longer any danger. As well, recovery often requires a great deal of time and money. We found the Department has no firm commitments for what recovery would be for any animal disease scenario, as it will depend on the specifics of the situation.

FINANCIAL ASSISTANCE

Financial compensation is one possible type of recovery assistance. This could take the form of insurance that is purchased ahead of time, or a program set up by government after an event to assist in recovery.

Currently under the Canadian Agricultural Partnership, the federal and provincial governments jointly provide a number of different insurance programs. Although these programs would provide some assistance, they are not geared towards disease scenarios and would not be sufficient to carry an industry through a significant animal disease emergency.

There are few private insurance products that cover animal disease, and products that exist have limitations. Some only cover animals that have the disease, so any animals that are destroyed in a welfare cull would not be covered by the insurance; while others may not cover secondary costs such as disposal of carcasses. Poultry producers in Manitoba have developed a fund to provide some coverage for one disease, and the pork sector is currently researching options for private insurance.

The Department has identified different types of financial assistance in some of their policy and procedure documents. **FIGURE 4** shows the inconsistency in how they will handle financial compensation to producers that experience an animal disease.

Figure 4: Disease response documents inconsistent with respect to financial assistance

Response document indicates:				
Animal disease	Compensation available for diagnostic testing or sample collection	Compensation for loss of animals		
		Not available	Determined on a case-by-case basis	Available under the federal <i>Health of Animals Act</i>
Anaplasmosis	✓	✓		
Anthrax	✓	✓		
Avian influenza				✓
Bovine tuberculosis				
Infectious Laryngotracheitis			✓	
Porcine Epidemic Diarrhea				
Rabies	✓			
Salmonella Enteritidis				

Source: Departmental disease response planning documents

There are risks associated with government compensation programs. If programs are not developed properly, it can be more lucrative for the producer to endure a welfare cull than to try to market their animals in a low-market situation. Conversely, if a government program is designed to compensate for healthy animals and the cull does not happen on a timely basis, more animals become infected lowering the payout to the producer.

In the past, the provincial and federal governments have provided cost-shared financial assistance programs for producers affected by animal disease. Since 2003, over \$180 million in assistance has been available to Manitoba producers through a number of programs for producers related to the BSE crisis. These programs included:

- Low-interest loans to help producers with cash flow challenges.
- Assistance with the added expense of shipping hay and straw in drought years.
- Funding during times with depressed slaughter prices.
- General income supports.

JOB RETRAINING AND MENTAL HEALTH SUPPORTS

In addition to financial compensation, consideration should be given to job retraining and mental health supports.

The BSE crisis of 2003 resulted in the estimated loss of 75,000 jobs nationwide. If a similar scale emergency were to happen again, or even if a single producer had to exit the industry because of animal disease, there could be one or thousands of Manitobans that lose their job and would benefit from retraining.

Similarly, consideration should be given to the provision of mental health supports. The emotional impact on a producer, a farm family, and farm workers of an animal disease emergency on their farm could be significant. This emotional impact could go beyond the farm to veterinarians and Department staff. A worst-case scenario could consist of the euthanization of a whole herd, as well as any family pets on the farm. The effects of significant loss of life on top of the economic dangers their business would be in could be more devastating than some people would be able to handle.

The Department and Manitoba Health, Seniors and Active living cohosted an international One Welfare conference in 2016 which included some discussion about mental health issues for farmers. However, Manitoba has done little in this area since that time.



Recommendation 13

We recommend that the Department, in developing its emergency response plans for each disease, consider to what degree recovery of the industry will be expected, and what potential levels of financial assistance, job retraining, and mental health supports may be required.

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Additional information about the audit

This independent assurance report was prepared by the Office of the Auditor General of Manitoba on the Department of Agriculture and Resource Development's preparedness for an animal disease emergency. Our responsibility was to provide objective information, advice, and assurance to assist the Legislature in its scrutiny of the government's management of resources and programs, and to conclude on our audit objectives and criteria.

All work in this audit was performed to a reasonable level of assurance in accordance with the *Canadian Standard for Assurance Engagements (CSAE) 3001—Direct Engagements* set out by the Chartered Professional Accountants of Canada (CPA Canada) in its Assurance Handbook.

The Office applies CPA Canada's *Canadian Standard on Quality Control 1* and, accordingly, maintains a comprehensive system of quality control, including documented policies and procedures regarding compliance with ethical requirements, professional standards, and applicable legal and regulatory requirements.

In conducting the audit work, we have complied with the independence and other ethical requirements of the *Rules of Professional Conduct* of Chartered Professional Accountants of Manitoba and the *Code of Values, Ethics and Professional Conduct* of the Office of the Auditor General of Manitoba. Both the Rules and the Code are founded on fundamental principles of integrity, objectivity, professional competence, due care, confidentiality, and professional behavior.

In accordance with our regular audit process, we obtained the following from management:

1. Confirmation of management's responsibility for the subject under audit.
2. Acknowledgement of the suitability of the criteria used in the audit.
3. Confirmation that all known information that has been requested, or that could affect the findings or audit conclusion, has been provided.

Period covered by the audit

The audit primarily covered the period between January 1, 2020 and August 31, 2020, and this is the period to which the audit conclusion applies. However, in some cases, we also examined periods prior and/or subsequent to this timeframe to better understand audit matters.

Date of the audit report

We obtained sufficient and appropriate audit evidence on which to base our conclusion on November 20, 2020 in Winnipeg, Manitoba.

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Summary of recommendations

Recommendation 1

We recommend that the Department periodically perform a risk assessment for all animal diseases to determine whether each disease is of concern to Manitoba. Assessments should consider the likelihood and significance of the impact if the disease occurs, and assessments for diseases already known to be of most significance to Manitoba should be prioritized.

Recommendation 2

We recommend that the Department assess the risks faced by the Veterinary Diagnostic Services lab in meeting its goals and objectives, both on a day-to-day operational basis and in a disease-outbreak situation, and take steps as necessary to mitigate the risks.

Recommendation 3

We recommend that the Department implement a reliable information management system that fully integrates all provincial traceability information (premises identification, lab disease reporting data, and geospatial systems) and that the Department work with industry-led non-profit organizations to obtain assurance of the completeness of the information in the national traceability portal.

Recommendation 4

We recommend that the Department take steps to improve their working relationship with the CFIA.

Recommendation 5

We recommend that the Department develop regulations, as necessary, to be able to fully execute its authority under *The Animal Diseases Act* to take necessary, reasonable actions to prevent animal diseases in a timely manner.

Recommendation 6

We recommend that the Department, as part of its risk assessment in **RECOMMENDATION 1**, promptly, and periodically thereafter, assess the resources needed to respond to each disease identified as significant to Manitoba.

Recommendation 7

We recommend that the Department prepare a complete response plan for each disease identified as significant to Manitoba in **RECOMMENDATION 1**. Complete response plans should:

- Specify activities related to the risks identified for the specific disease.
- Clearly define roles and responsibilities, including who will be the provincial lead in the response.
- Identify clear channels of communication, including who will be the main contact in industry and how they will be communicated with.
- Identify others (governments, government departments and agencies, and other stakeholders) that may be impacted by the disease and should be included in the response plan.
- Be developed in collaboration with industry and, for federally reportable diseases, with CFIA.

Recommendation 8

We recommend that the Department prepare an operational plan for the Animal Health and Welfare Branch that identifies the expectations of the Branch on a day-to-day basis as well as how those expectations would change in the event of an animal disease emergency.

Recommendation 9

We recommend that the Department, in the assessment performed in **RECOMMENDATION 6**, determine the equipment, supplies, and personnel necessary to respond to an animal disease emergency.

Recommendation 10

We recommend that the Department stockpile the necessary equipment and supplies, and ensure personnel required for each disease response are available, based on the risk tolerance of government.

Recommendation 11

We recommend that the Department, based on the response plans developed in **RECOMMENDATION 7**, plan, facilitate, and participate in emergency response simulation exercises on a regular basis to ensure key emergency response personnel know and understand their roles and those of others involved in an emergency response.

Recommendation 12

We recommend that the Department take steps to ensure that, during an animal disease emergency, it has the legislative authority to respond, including in its disposal of carcasses.

Recommendation 13

We recommend that the Department, in developing its emergency response plans for each disease, consider to what degree recovery of the industry will be expected, and what potential levels of financial assistance, job retraining, and mental health supports may be required.

Appendix 1 – Federally Reportable Diseases

The *Reportable Diseases Regulations* to the federal *Health of Animals Act* prescribes the following list of diseases as federally reportable under Section 2 of this act.

Federally Reportable Diseases

African horse sickness	equine piroplasmosis (<i>B. equi</i> and <i>B. caballi</i>)	pseudorabies (Aujeszky's disease)
African swine fever		
anthrax	foot and mouth disease (FMD)	pullorum disease (<i>S. pullorum</i>)
bluetongue (serotypes not listed in Schedule VII to the <i>Health of Animals Regulations</i>)	fowl typhoid (<i>Salmonella gallinarum</i>)	rabies
<i>Bonamia ostreae</i>	<i>Haplosporidium nelsoni</i>	Rift Valley fever
bovine spongiform encephalopathy	highly pathogenic avian influenza and low pathogenicity avian influenza – subtypes H5 and H7	rinderpest
bovine tuberculosis (<i>M. bovis</i>)		scrapie
brucellosis	infectious haematopoietic necrosis	sheep and goat pox
ceratomyxosis (<i>Ceratomyxa shasta</i>)	infectious pancreatic necrosis	spring viraemia of carp
chronic wasting disease of cervids	infectious salmon anaemia	swine vesicular disease
classical swine fever (hog cholera)	koi herpesvirus disease	Taura syndrome
contagious bovine pleuropneumonia	lumpy skin disease	trichinellosis
contagious equine metritis	<i>Marteilia refringens</i>	Venezuelan equine encephalomyelitis
cysticercosis	<i>Marteiliodes chungmuensis</i>	vesicular stomatitis
epizootic haematopoietic necrosis	<i>Mikrocytos mackini</i>	viral haemorrhagic septicaemia
equine infectious anaemia	Newcastle disease	whirling disease (<i>Myxobolus cerebralis</i>)
	<i>Perkinsus marinus</i>	white spot disease
	<i>Perkinsus olseni</i>	white sturgeon iridoviral disease
	peste des petits ruminants	yellow head disease

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Appendix 2 – Federally Immediately Notifiable Diseases

Schedule VII of the *Health of Animals Regulations* to the federal *Health of Animals Act* identifies the following list of diseases as immediately notifiable.

Federally Immediately Notifiable Diseases

abalone viral mortality (Abalone Herpes-like Virus)	enterovirus encephalomyelitis (Teschen disease)	Nairobi sheep disease
aino virus infection	epizootic haemorrhagic disease	necrotizing hepatopancreatitis
akabane disease	epizootic lymphangitis	Nipah virus
anaplasmosis (<i>A. marginale</i>)	epizootic ulcerative syndrome (<i>Aphanomyces invadans</i>)	<i>Oncorhynchus masou</i> virus disease (Oncorhynchus Masou Virus)
avian chlamydiosis (<i>C. psittaci</i>)	equine encephalomyelitis, western and eastern	red sea bream iridoviral disease (Red Sea Bream Iridovirus)
avian encephalomyelitis	fluvalinate-resistant Varroa mite	screwworm (<i>Cochliomyia hominivorax</i>) and (<i>Chrysomyia bezziana</i>)
avian infectious laryngotracheitis	fowl cholera	small hive beetle (<i>Aethina tumida</i>)
besnoitiosis	glanders	theileriasis
bluetongue (serotypes 2, 10, 11, 13 and 17)	goose parvovirus infection (Derzsy's disease)	tick-borne fever (<i>Cytoecetes phagocytophilia</i>)
<i>Bonamia exitiosa</i>	gyrodactylosis (<i>Gyrodactylus salaris</i>)	tissue worm (<i>Elaphostrongylus cervi</i>)
<i>Bonamia roughleyi</i>	heartwater (<i>cowdriosis</i>)	trypanosomiasis (exotic to Canada)
borna disease	hendra virus	turkey viral rhinotracheitis or swollen head disease in chickens
bovine babesiosis (<i>B. bovis</i>)	herpes virus of cervidae	viral haemorrhagic disease of rabbits
bovine ephemeral fever	Ibaraki disease	Wesselbron's disease
bovine petechial fever	infectious hypodermal and hematopoietic necrosis (Infectious Hypodermal and Haematopoietic Necrosis Virus)	West Nile fever
brown ring disease (<i>Vibrio tapetis</i>)	infectious myonecrosis (Infectious Myonecrosis Virus)	white tail disease (White Tail Virus)
contagious agalactia	Japanese encephalitis	withering syndrome of abalone (<i>Xenohaliotis californiensis</i>)
contagious caprine pleuropneumonia	louping ill	
crayfish plague (<i>Aphanomyces astaci</i>)	<i>Marteilia sydneyi</i>	
dourine		
duck hepatitis		
egg drop syndrome (<i>adenovirus</i>)		

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Appendix 3 – Provincially Reportable Diseases

In Manitoba, *The Animal Diseases Act* designates the following list of diseases as provincially reportable.

Provincially Reportable Diseases

All federally reportable diseases
(SEE APPENDIX 1)

All federally immediately
notifiable diseases
(SEE APPENDIX 2)

acarine (*Acarapis woodi*)

American foulbrood
(*Paenibacillus larvae*
subsp. Larvae)

Coxiella burnetii (Q Fever)

European foulbrood
(*Melissococcus pluton*)

Francisella tularensis (tularemia)

influenza A

Mycobacterium
paratuberculosis

nosema (*Nosema apis*)

ovine chlamydiosis (enzootic
abortion of ewes)

porcine epidemic diarrhea

Salmonella abortus equi

Salmonella choleraesuis

Salmonella enteritidis

Salmonella typhimurium
(multi-drug resistant isolates)

transmissible gastroenteritis
in swine (TGE coronavirus)

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