

Chapter 27 Agriculture—Mitigating Risk of Livestock Diseases

1.0 MAIN POINTS

To prevent and control the spread of diseases among farmed animals in Saskatchewan the Ministry of Agriculture maintains a list of diseases it considers of sufficient threat to require provincial notification and monitoring. It carries out surveillance activities on about one-half of its listed provincially notifiable diseases and on other diseases that it considers a risk to Saskatchewan industries.

By July 2019, the Ministry implemented all four recommendations from our 2017 audit of its processes to minimize the risk of the occurrence and spread of diseases in farmed animals in Saskatchewan.

The Ministry developed a Standard Operating Procedures document and related decision trees to guide its decision making and help it document the rationale for its key decisions. Key decisions include adding new diseases to its notifiable list, developing response plans, and undertaking surveillance activities. It also kept complete and sufficient records of its actions when it received positive laboratory confirmation of the presence of notifiable diseases.

2.0 INTRODUCTION

2.1 Background

The Ministry of Agriculture is responsible for preventing and controlling the spread of diseases among farmed animals in Saskatchewan. This includes responsibility for developing regulations to prevent and control any disease, and to inspect, test, vaccinate and quarantine animals.¹

Cabinet, through regulations, identified 15 livestock diseases requiring provincial notification and monitoring (see **Section 4.0**). Notifiable diseases are laboratory-confirmed livestock diseases requiring monitoring to detect and understand their presence in Saskatchewan's farmed animals. The Ministry requires all positive laboratory-confirmed cases of notifiable livestock diseases to be reported within 24 hours of confirmation.

Based on the assessed risk, the Ministry may not take any actions for some notifiable diseases, but may require additional investigation for others.

Disease outbreaks can significantly affect production, price, and value of livestock products, which is particularly important for exporting jurisdictions like Saskatchewan.

¹ *The Diseases of Animals Act* Section 5(1): The Lieutenant Governor in Council may make regulations for the prevention and control of any disease.



The Ministry uses annual livestock-sector revenue as one of its performance measures. It set a target to increase annual cash receipts from farm livestock sales to more than \$2 billion by 2020. Saskatchewan met, and exceeded, this target since 2014, and generated an annual revenue of \$2.3 billion in 2018.²

2.2 Focus of Follow-Up Audit

This chapter describes our first follow-up of management's actions on four recommendations we made in 2017. We concluded, for the 12-month period ending August 2017, the Ministry had, other than the few areas of our recommendations, effective processes to minimize the risk of the occurrence and spread of diseases in farmed animals in Saskatchewan.³

To conduct this audit engagement, we followed the standards for assurance engagements published in the *CPA Canada Handbook—Assurance* (CSAE 3001). To evaluate the Ministry's progress toward meeting our recommendations, we used the relevant criteria from the original audit. Ministry's management agreed with the criteria in the original audit.

We examined the Ministry of Agriculture's procedures and records that relate to livestock diseases prevention and control. We interviewed staff at the Ministry responsible for mitigating the risk of occurrence and spread of livestock disease. We examined the records of positive test results of notifiable diseases.

3.0 STATUS OF RECOMMENDATIONS

This section sets out each recommendation including the date on which the Standing Committee on Public Accounts agreed to the recommendation, the status of the recommendation at July 31, 2019, and the Ministry's actions up to that date.

3.1 Rationale for Including Diseases on Notifiable Disease List and Requiring Response Plans Documented

We recommended the Ministry of Agriculture maintain support for its decisions on which livestock diseases to include on its notifiable disease list. (2017 Report – Volume 2, p. 113, Recommendation 1; Public Accounts Committee agreement October 3, 2018)

Status—Implemented

The Ministry maintains sufficient documented support of decisions about which livestock diseases to include on its notifiable disease list.

² Ministry of Agriculture, *Annual Report for 2018–19*, p.9.

³ Find the original report regarding these recommendations at www.auditor.sk.ca/publications/public-reports. We reported the original audit work in *2017 Report – Volume 2*, Chapter 20, pp. 107–120.

In September 2018, the Ministry developed written guidance where it listed all notifiable diseases and documented its rationale for each disease listed. The Ministry refers to this guidance as their Standard Operating Procedures document. Documented rationale often includes lack of federal response to a particular disease, impact on public health, or effect on livestock industry in event of outbreak (e.g., trade implications).

The Ministry also developed several decision trees to assist it in documenting decisions related to livestock diseases. In June 2019, the Ministry developed a decision tree to determine if it should add any new diseases to the list. This decision tree provides guidance in determining whether to add a disease to the list based on risk and impact (i.e., risk to public health, impact to the industry).

We found the Ministry documented the use of the decision tree to support the decision to include one disease on the notifiable list and not to include another disease.^{4,5} The Ministry also used this decision tree to support its consideration for including two other diseases (salmonella dublin in cattle and american foulbrood in bees). As of July 2019, these diseases were still under consideration. As part of its assessment process, the Ministry consults with stakeholders (e.g., industry representatives, Canadian Food Inspection Agency representative).

We found the Minister's Order for adding chronic wasting disease to the notifiable diseases list documents the rationale for including this disease on the list and a summary of public consultation.

Having a documented basis for decisions provides key support for decisions made. In addition, it makes it easier to revisit for changing circumstances and defends decisions by capturing the logic behind them (e.g., rationale for including certain diseases on the notifiable disease list and excluding others, or requiring response plans for some diseases, but not others).

We recommended the Ministry of Agriculture maintain support for its decisions on which livestock diseases require response plans.

(2017 Report – Volume 2, p. 113, Recommendation 2; Public Accounts Committee agreement October 3, 2018)

Status—Implemented

The Ministry's Standard Operating Procedures (developed in 2018) includes sufficient details on the Ministry's response to each of the notifiable diseases (e.g., a response plan for some and only monitoring for others). For these diseases, it also documented why or why not the Ministry required a response plan.

⁴ The Ministry of Agriculture through the Minister's Order from April 6, 2018 added Chronic Wasting Disease (CWD) to the Provincially Notifiable Animal Diseases list. CWD is a designated disease pursuant to Section 2 of *The Domestic Game Farm Animal Regulations*. It is a fatal, infectious disease of deer, elk, reindeer and moose (cervids) that affects the central nervous system (www.saskatchewan.ca/business/agriculture-natural-resources-and-industry/agribusiness-farmers-and-ranchers/livestock/animal-health-and-welfare/chronic-wasting-disease) (1 October 2019). No case of humans infected with CWD has been identified, but transmission to humans cannot be excluded. This disease is federally reportable.

⁵ The Ministry assessed Bluetongue serotype 13 and concluded the Ministry would not add it to the notifiable list. Bluetongue serotype 13 is a disease of domestic and wild ruminants. Insects, particularly biting midges spread the disease. The disease can affect animals such as cattle, bison, deer, goats and sheep. This disease is federally notifiable. (www.inspection.gc.ca/animals/terrestrial-animals/diseases/reportable/bluetongue/fact-sheet/eng/1306116803992/1306121522520) (1 October 2019).



For example, the Standard Operating Procedures note the Ministry will not respond to confirmed cases of bovine anaplasmosis, other than to notify industry and partners.⁶ It does not have response plans in place for this disease since it is not a human health concern and industry has not yet indicated a need.

The Ministry has response plans for anthrax, rabies and porcine epidemic diarrhea. As at July 2019, the Ministry continued work on developing a response plan for chronic wasting disease (a recently added disease). For each of these diseases, the Ministry sufficiently documented rationale, which includes consideration of the impact on industry in case of outbreak and significant impact on human health.

In June 2019, the Ministry developed a separate decision tree to determine if a particular disease requires a response plan. For example, it used this decision tree to document its rationale for requiring a response plan for chronic wasting disease. It documented the federal response program changed in 2018. As a result, if chronic wasting disease is detected, most herds in Saskatchewan would be ineligible for a federal response, warranting a Ministry response. The Ministry is concerned about the effects of this fatal disease on farmed cervids (e.g., elk) as well as potential food safety risks. The Ministry noted the Ministry of Environment is also concerned about uncontrolled diseases on farms contributing to the spread of disease in wild cervid (e.g., deer) populations. The Ministry plans to finalize the chronic wasting disease response plan in spring 2020.

Determining which diseases to assess, and which to develop response plans for is crucial to mitigating the occurrence and spread of livestock diseases. One incident of a particular disease can have significant economic consequences to the livestock industry.

3.2 Procedures for Surveillance Activities Developed

We recommended the Ministry of Agriculture maintain support for its decisions on which notifiable livestock diseases to have surveillance activities performed. (2017 Report – Volume 2, p. 116, Recommendation 3; Public Accounts Committee agreement October 3, 2018)

Status—Implemented

The Ministry of Agriculture developed a separate decision tree to guide the decision to undertake active surveillance for a specific disease. It is applying the guide to document its decisions about undertaking active surveillance activities.

To help detect livestock diseases early, the Ministry undertakes surveillance activities, including taking samples from animals for laboratory testing. Testing allows for analysis of disease strains occurring in the province.

The Ministry did not add any new diseases from its notifiable diseases list for active surveillance since our audit in 2017. At July 2019, its surveillance activities included regular testing for rabies, porcine epidemic diarrhea, anthrax, swine delta coronavirus, swine

⁶ Bovine Anaplasmosis is a disease caused by a vector-borne micro-organism (*Anaplasma marginale* and *A. Centrale*) that is a parasite of red blood cells. It affects domestic and wild ruminants, including cattle, sheep, goats and deer.

influenza, and transmissible gastroenteritis. The Ministry did not identify a need to undertake surveillance activities for other diseases from the notifiable list.⁷

The Ministry spends about \$1 million on surveillance activities; most of this funding is provided through the Canadian Agricultural Partnership (CAP) agreement.⁸ Supporting documents for CAP include rationale for each of the Ministry's surveillance activities including the risk to human health and industry losses.

The Ministry cannot prevent instances of livestock disease in the province, but doing sufficient surveillance activities are key to minimizing risks of livestock disease occurrence. Having documented support for the basis of selecting which diseases to do surveillance on and when, helps show the Ministry's actions to reduce the risk of the occurrence and spread of diseases in farmed animals in Saskatchewan.

3.3 Improved Record Keeping on Actions Taken

We recommended the Ministry of Agriculture consistently document its analysis of the sufficiency of actions taken on all positive cases of notifiable livestock diseases. (2017 Report – Volume 2, p. 119, Recommendation 4; Public Accounts Committee agreement October 3, 2018)

Status—Implemented

The Ministry staff kept complete records for each of the 15 diseases on the notifiable diseases list including the history, outcomes and action taken as required. We found that the records of the action taken correspond with the documented responses the Ministry recorded for each disease in its Standard Operating Procedures, 2018.

Keeping complete, accurate records will help the Ministry to manage livestock diseases and ensure that its contracted third parties take appropriate actions to resolve positive cases of notifiable livestock diseases.

4.0 FEDERALLY REPORTABLE LIVESTOCK DISEASES AND PROVINCIALY NOTIFIABLE LIVESTOCK DISEASES

The regulation and control of certain animal diseases is a shared responsibility between federal and provincial governments.

Both federal and provincial governments require reporting of the livestock diseases listed in the following table. Saskatchewan is in the process of developing a list of reportable diseases, but currently calls these notifiable diseases. Both Canada and Saskatchewan require reporting of instances for anthrax, rabies, and chronic wasting disease (see **bold font**).

⁷ For the newly added chronic wasting disease, testing is mandatory under the provincial *Domestic Game Farm Animal Regulations*. All farmed cervids that die or are slaughtered for meat must be tested, providing the animal is located early enough for a suitable testing sample. The Ministry pays for the testing.

⁸ The majority of this funding comes from the Government of Canada through grants from the Canadian Agricultural Partnership (CAP). The Canadian Agricultural Partnership is a five-year, \$3 billion investment by federal, provincial and territorial governments to strengthen the agriculture and agri-food sector.



Federally Reportable Livestock Diseases ^A	Provincially Notifiable Livestock Diseases ^B
<ul style="list-style-type: none"> ➤ African horse sickness ➤ African swine fever ➤ Anthrax ➤ Bluetongue ➤ Bovine spongiform encephalopathy (BSE) ➤ Bovine tuberculosis ➤ Brucellosis ➤ Chronic wasting disease ➤ Classical swine fever ➤ Contagious bovine pleuropneumonia ➤ Contagious equine metritis ➤ Cysticercosis ➤ Equine infectious anaemia ➤ Equine piroplasmiasis ➤ Foot and mouth disease ➤ Fowl typhoid ➤ Lumpy skin disease ➤ Newcastle disease ➤ Notifiable avian influenza ➤ Peste des petits ruminants ➤ Pseudorabies ➤ Pullorum disease ➤ Rabies ➤ Rift Valley fever ➤ Rinderpest ➤ Scrapie ➤ Sheep and goat pox ➤ Swine vesicular disease ➤ Trichinellosis ➤ Venezuelan equine encephalomyelitis ➤ Vesicular stomatitis 	<ul style="list-style-type: none"> ➤ Anthrax ➤ Bovine anaplasmosis ➤ Chronic wasting disease ➤ Equine herpes virus ➤ Infectious laryngotracheitis ➤ Lyme disease ➤ Malignant catarrhal fever ➤ Porcine epidemic diarrhea ➤ Q Fever ➤ Rabies ➤ Salmonella enteritidis ➤ Swine delta coronavirus ➤ Swine influenza ➤ Transmissible gastroenteritis ➤ West Nile virus

^A Reportable diseases: Terrestrial animals: www.inspection.gc.ca/animals/terrestrial-animals/diseases/reportable/eng/1303768471142/1303768544412 (30 September 2019).

^B www.saskatchewan.ca/business/agriculture-natural-resources-and-industry/agribusiness-farmers-and-ranchers/livestock/animal-health-and-welfare/notifiable-disease-list (6 September 2019).