

Late Blight of Potato Communication Plan

Introduction

Late blight disease of potato is a regulated pest in Saskatchewan. This plan provides guidance for appointed pest control officers (PCOs), municipalities (as defined in *The Municipalities Act*, *The Cities Act*, and *The Northern Municipalities Act, 2010*), owners or occupants of land, industry stakeholders, producer groups and the public. It outlines key information on disease detection, regulatory guidelines, management practices and a response plan.

Legislative Authority

- [The Plant Health Act](#)
- [The Plant Health Regulations](#)

Overview

Late blight, one of the most damaging diseases of potato crops worldwide, is caused by an air-borne fungal-like oomycete *Phytophthora infestans*. While outbreaks in Saskatchewan are sporadic, when they do occur, the disease can spread rapidly from field to field. At present, there is no registered fungicide that can completely eradicate the pathogen from infected plants. Preventative fungicide applications are most effective in controlling late blight especially when other best management practices are used. The last reported case of late blight in Saskatchewan was in 2013. Late blight is one of the quality pests under the national seed potato program, meaning it is monitored during tuber storage and export. It is included in the dry rot tolerances outlined in the *Seeds Regulations*. Severe infestations may disqualify fields from seed certification if crop damage prevents proper visual inspection.

Symptoms

Early symptoms of late blight typically show up as dark water-soaked lesions on the leaves (Figure 1). As they expand, the lesions cross the leaf veins (unlike early blight). White mycelium may be found on the underside of affected leaves (Figure 2). Sometimes late blight grows on stems causing entire branches to droop, this is especially noticeable in leaf axils where spores are easily trapped. Tubers become infected when spores are washed by rain or irrigation from infected leaves into the soil. Infected tubers show a reddish-brown rot which starts at the surface but gradually takes over the entire tuber (Figure 3). A secondary infection of soft rot bacteria often speeds up the rotting of tubers.



Figure 1. Late blight lesion on a potato leaf

Photo credit: Dr. Ron Howard



Figure 2. Late blight lesion on the underside of a potato leaf

Photo credit: Dr. Ron Howard

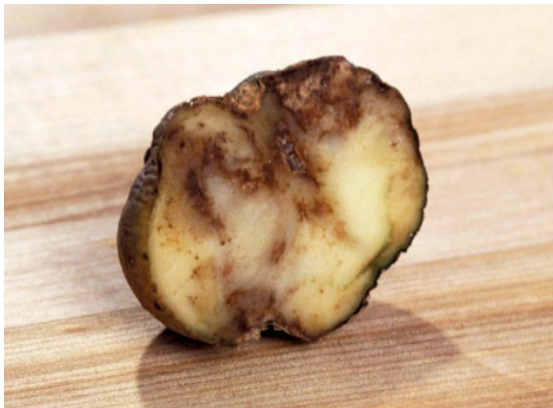


Figure 3. Infected potato tuber by late blight

Photo credit: Dr. Ron Howard

Spread

Late blight can be introduced into an area when potato growers inadvertently plant infected seed potatoes. Shortly after the plants emerge, they will begin to show signs of late blight. Fungal spores will become airborne, rapidly spreading the disease to adjacent plants, nearby fields and other farms. There is a risk of transmitting late blight via contaminated equipment or soil. The disease does not typically survive winters in Saskatchewan, except in cull piles which do not fully freeze, or in storage and equipment if an infected crop is harvested.

Regulatory Guidelines

Late blight has been a declared and regulated pest in Saskatchewan since 2002 and remains a regulated pest under *The Plant Health Act* (Act) and *The Plant Health Regulations* (regulations) which came into force in 2024. In Saskatchewan, only potatoes grown for commercial sale are regulated. Key provisions in the legislation and regulations include:

Authority and Enforcement

- Municipalities may appoint any person they consider qualified to serve as a PCO to enforce the Act and the regulations within the municipality.
- A municipality appointed PCO can enter any land or premises (excluding dwelling houses) to investigate pest infestations, collect samples, take necessary actions and enforce the Act (with agreements and orders).
- An authorized person may conduct surveillance and sampling for pests and nuisance pests or pest control for pests with the permission of the owner or occupant.
- If the minister is satisfied that a pest or nuisance pest emergency exists, the minister may by order make an emergency declaration for rapid response and biosecurity measures. During the declared emergency period, authorized persons do not require permission from the owner or occupant.

Orders and Restrictions

- A municipality appointed PCO may issue an order to an owner or occupant (Section 24 of the Act) for the disposal of all potatoes that have tested positive for late blight, as well as potatoes that may have been in contact with infected potatoes.
- Orders may mandate cleaning and disinfection of storage locations, field equipment, packaging equipment and other materials. It may also restrict access and movement of equipment, crop or crop part, animal or animal part, waste material, conveyance and any other terms or conditions.

Seed and Planting Requirements

- To protect the potato industry in the province, every owner or occupant shall use only seed potatoes classified as Foundation class or higher as defined in the federal *Seeds Regulations*.
 - Equivalent certified seed from the United States may be used if approved by a recognized certification agency.
- All cull potatoes must be destroyed or disposed of by June 15 of each year.
 - Late blight can develop on potatoes sprouting in cull piles, resulting in the production of spores that can be carried in the wind, through water, through mechanical transmission and in the seed.
- Potato growers must keep accurate records for at least three years of all potato plantings (seeding date, location, weight and class of certified seed used), disposed cull potatoes and bill of sale of the certified seed used in each growing season.

Reporting and Notification

- Every owner or occupant of land is required to control, prevent and report declared pests.
 - Confirmed or suspected detection of late blight should be reported as soon as possible for rapid response to the Ministry of Agriculture (ministry) (crops@gov.sk.ca), the municipality or PCO.
- If late blight is reported to the municipality, PCO or authorized person, they must notify the ministry as soon as possible.

- Municipalities should submit an annual pest report to the ministry (crops@gov.sk.ca) by December 31 each year.
- Upon laboratory confirmation of late blight, the ministry/PCO will contact the owner or occupant of land with instructions on the response plan.

Best Practices for Prevention and Management

Strong biosecurity and agronomic practices are key to reducing the risk of introducing or spreading late blight. Regular self-monitoring is essential to maintaining a zero or low risk of this disease.

Recommended Practices

- Develop a farm biosecurity plan to prevent pest introduction, contain infestations and minimize losses. For guidance, refer to the *Resources* section below.
- Train all farm employees in disease identification, management, biosecurity measures and response procedures.
- Purchase certified, disease-free seed potatoes (Foundation class or higher) from reputable suppliers.
- Choose fields with good air movement that are easily accessed with spray equipment - including aerial applications.
- Apply contact fungicide prior to row closure to protect the young plant. Continue the spray program, with the type of fungicide applied and frequency of spray application being determined by varietal sensitivity, blight pressure in the area and prevailing weather conditions. Closely follow fungicide label restrictions.
- Practice appropriate resistance control measures when determining which fungicides to apply. This includes rotation of fungicide resistance groups.
- Time irrigation to avoid extended periods of leaf wetness.
- Hill the plants, providing good coverage of the tubers. Exposed tubers are prone to infection by blight spores washed off the foliage.
- Morning dew resulting from cooler weather conditions in the fall is ideal for the development of late blight. Early top kill and harvest reduce the length of time the crop is exposed to these conditions.
 - Desiccate the crop at least two weeks prior to harvest to avoid spores from the infected leaves infecting the tubers during harvest.
 - Cure the crop appropriately, looking for signs of late blight in the harvested tubers. If a significant amount of late blight is seen it is unlikely that the crop can be successfully stored. Instead look for immediate markets for the crop.
 - Store the crop under recommended conditions and monitor it carefully. While late blight is slow to develop and spread in storage, affected tubers are prone to secondary infection by other pathogens that can destroy a crop in storage. Here are some recommended conditions:
 - Make sure the potato tops are completely dead. Allow two to three weeks between top kill and harvest. Any green living plant tissue can harbour spores that can be washed down onto the tubers through cracks in the soil

or during harvest. The regular fungicide program should be continued until the potato tops are completely dead.

- Any tubers showing signs of late blight should be graded out. Fields with late blight should be left out as long as possible, so that infected tubers can break down in the field. If more than five per cent of the tubers show signs of late blight or are rotting, the field should not be harvested. Hot spots and low spots should be harvested last, and the tubers stored separately in an easily accessible location, in case they need to be removed from storage.
 - Harvesting potatoes in wet weather should be avoided. Free moisture on the tubers could cause more infection through bruises that occur during the harvest process. Handle the potatoes gently and remove as much soil and debris as possible so that airflow in storage is not restricted.
 - For healthy potato crops, cure the potatoes by lowering the temperature in storage by half a degree Fahrenheit each day until the desired storage temperature is reached. Where there is tuber breakdown, cool the pile to the holding temperature as quickly as possible and keep air moving through the pile to dry tubers and avoid hot spots.
 - Pink rot is not typically a problem in Saskatchewan, much like late blight. However, it is important to remain vigilant, especially in tubers harvested from low wet areas where conditions may favour disease development. Pink rot can infect healthy tubers through lenticels and wounds, leading to soft rot in storage. Therefore, it is important to keep the fans running to get the pile dried.
- Manage cull piles by burial, discing under, freezing or by spraying the piles with either a systemic herbicide to kill any sprouting potatoes or with protectant fungicides.
 - Inform visitors about the biosecurity risk posed by late blight and regulate visitor access to all fields and farm facilities especially on seed potato farms.
 - Control potato volunteers as well as other solanaceous volunteers, such as tomatoes and eggplant, and weeds such as hairy nightshade that may host the pathogen.

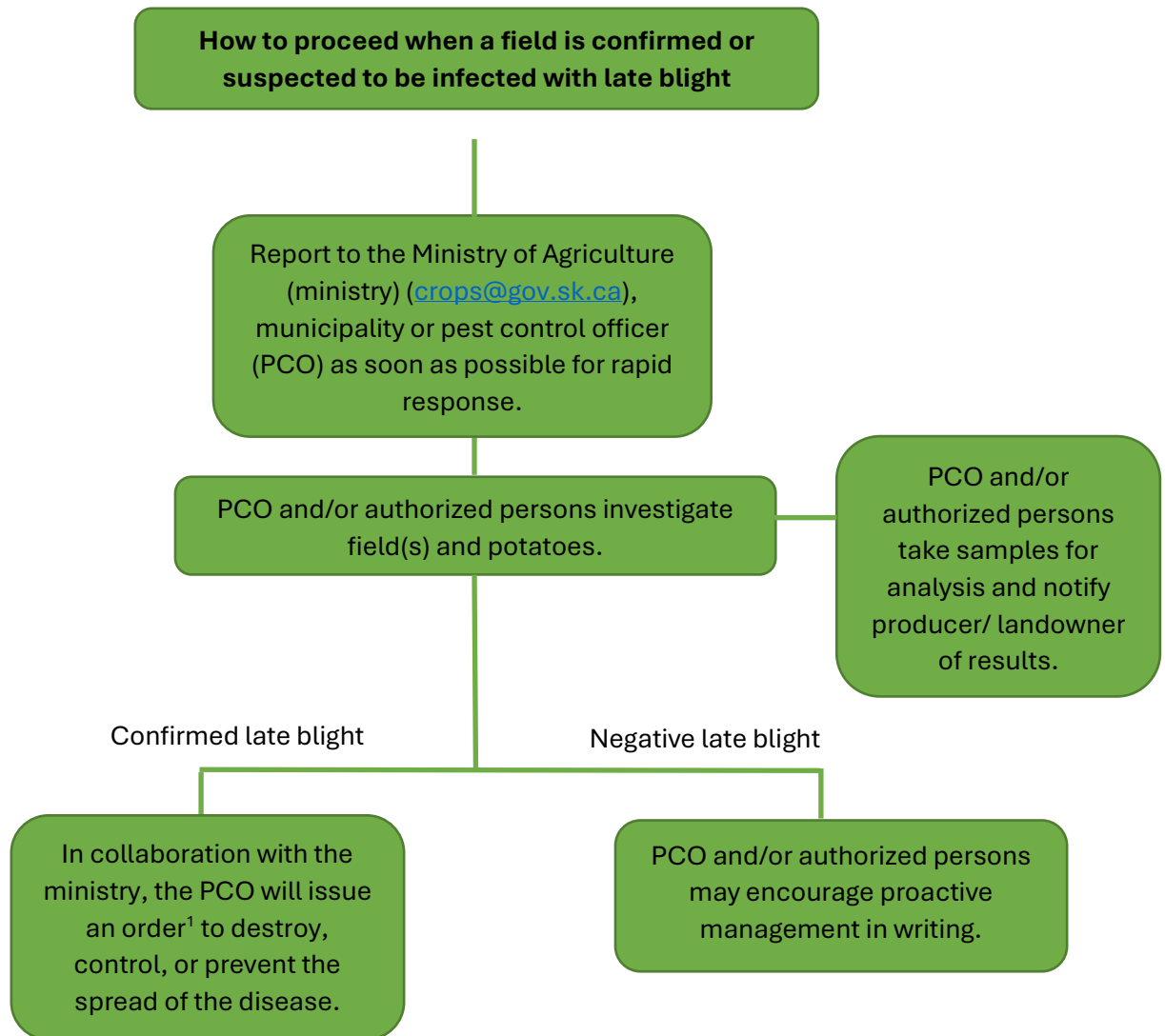
Surveillance and Testing

- Inspect all potato seed lots prior to purchase to ensure they are free of any disease and meet certification standards.
- Scout fields frequently, especially if weather conditions have been suitable for disease development and spread (wet and windy), and/or if other growers are reporting disease problems. Pay special attention to low spots, pivot points and sheltered areas where leaves tend to stay wet longer than normal.
- Scout fields with susceptible varieties frequently.
- Survey cull pile sites for signs of sprouting and disease.
- If late blight is limited to a small area of the field, immediately disc it under or chemically desiccate the affected area to prevent further spread. Do not harvest this area of the field.
- Late blight control measures should be implemented in all adjacent field areas.
- Maintain detailed surveillance records to support traceability and inform future management decisions.

- Perform tuber inspection as part of routine disease monitoring.
- Communicate proactively with anyone who has recently visited your farm, has access to your facilities or has purchased potatoes from your operation. This is required to raise awareness and prevent further spread if late blight is suspected or confirmed.

Response Plan

A response plan is designed to enable rapid and effective action when a pest outbreak occurs. The following steps outline the recommended procedures to follow when late blight is either confirmed or suspected on a farm.



¹ An order pursuant to section 24 of *The Plant Health Act* and part 3 of *The Plant Health Regulation*

When late blight is suspected or confirmed an investigation is conducted by a PCO and/or authorized persons. The purpose is to:

- Identify the source of infection (e.g., seed source or farm origin).
- Assess the extent of damage.
- Implement measures to prevent introductions and further spread.

Investigation Process

The investigation may include:

- An interview with the owner or occupant of land to gather details about farm type, location (e.g., topography, water sources), disinfection practices, biosecurity protocols and farm history.
- Sampling of potato leaves (preferred)
 - Choose a minimum of 15 to 20 leaflets showing symptoms from across the infected area in the field.
 - Place the leaflets between sheets of dry paper towel.
 - Place the stack of leaflets and paper towel in a paper bag.
 - Place sealed bag with samples in a small box to prevent damaging the sample in transit.
 - Immediately send the sample to:
 - Saskatchewan Crop Protection Lab
1610 Park St.
REGINA SK S4N 2G1
 - If there is any delay, air dry the samples.
 - If leaves are unavailable, 15 to 20 suspect tubers can be submitted to the Saskatchewan Crop Protection Laboratory for testing to confirm the presence of the disease.
 - Tubers should be put in a paper bag then shipped in cardboard box to prevent crushing. Keep the sample cool until shipping and prevent from freezing during shipping. Do not use plastic bags.

Ministry Contacts for Investigation

Ministry staff who may be initially involved include:

- Provincial Specialist, Vegetable Crops, 306-535-0987
- Provincial Specialist, Pest Regulatory, 306-787-7474
- Provincial Specialist, Plant Disease, 306-787-4671
- Manager, Crop Protection Laboratory, 306-798-0100

Following the implementation of phytosanitary measures and restrictions, an inspection will be conducted by the PCO and/or ministry staff.

Emergency Response Coordination

In a plant health emergency:

- The ministry leads the response, in collaboration with municipalities and other plant health partners.

Responsibilities

Saskatchewan Ministry of Agriculture

- Administer legislation and regulations related to late blight as a declared pest.
- Compile and distribute the late blight communication plan.
- Support and stay informed on current research of late blight.
- Provide education and outreach to the vegetable industry on late blight.
- Investigate reports of suspected or confirmed late blight cases and ensure samples are submitted for laboratory confirmation.
- Inspect facilities following cleanup activities to ensure compliance with orders.
- Communicate confirmed cases of late blight to producer groups (RM level) and other stakeholders as needed.

Municipalities and Pest Control Officers

- Municipalities may appoint a PCO to investigate and take appropriate measures with respect to declared pests like late blight.
- Collaborate with the ministry on any necessary investigation and the implementation of appropriate management actions.
 - Ensure that diseased plants are removed from fields, or infected area is disced down. Also ensure that cull piles are disposed.
- A municipality appointed PCO can enforce *The Plant Health Act*, including issuing orders or entering agreements with owners or occupants of land to control, destroy, and prevent the spread of declared pests like late blight.

Producers

- Implement best management practices and a biosecurity plan in alignment with the late blight communication plan.
- Report any suspected or confirmed late blight cases to the ministry (crops@gov.sk.ca), municipality and appointed PCO.
- Take necessary actions to control, destroy and prevent the spread of late blight on any land or premises owned or occupied by them. This includes the destruction of any crop, vegetation that may spread the pest and propagation materials like seeds and roots.
- Comply with any orders issued by a PCO to control, destroy and prevent the spread of late blight.

Producer Groups - Saskatchewan Seed Potato Growers Association and Saskatchewan Vegetable Growers Association

- Promote best management practices and biosecurity plans in alignment with the late blight communication plan.
- Raise awareness among members and stakeholders of the risks of late blight and the importance of timely reporting.
- Share reports of suspected or confirmed late blight cases with the ministry (crops@gov.sk.ca), municipality and appointed PCO.
- Collaborate with governments agencies to support coordinated response efforts when needed.

Contacts

For questions about late blight and management practices, contact:

- Provincial Specialist, Vegetable Crops - 306-535-0987.

For questions on legislation and regulatory guidelines, contact:

- Provincial Specialist, Pest Regulatory - 306-787-7474.

Resources

[Potatoes | Horticultural Crops | Government of Saskatchewan](#)

[Potatoes: Guidance documents - inspection.canada.ca](#)

[Crop Biosecurity Guidelines](#)

[Farm Biosecurity Guide for Saskatchewan Vegetable Crop Producers](#)

References

Note: The websites cited within the following references were accessed in August 2025

1. D-95-18: Seed Potato Certification Program- Investigation Procedure after *Clavibacter michiganensis* subsp. (subspecies) *sepedonicus* has been detected on a Seed Potato Farming Unit. Website: [Link](#)
2. D-97-12: Seed Potato Certification Program- Bacterial Ring Rot Testing Program for Field Grown Seed Potatoes. Website: [Link](#)
3. National Potato Wart Response Plan. Website: [Link](#)