Department of Agriculture

2009 Late Blight Management Plan

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In 2008 late blight occurred in many potato fields across PEI costing growers significantly more for crop protectants and resulted in crop losses in many areas. Late blight is a community disease that has been getting worse over the last few years and with the wet conditions in 2008 the situation became a major issue for the PEI Potato Industry. **The potential for 2009 to be another year with significant late blight pressure is very high.**

This document outlines some of the critical issues that can be done with the goal of reducing the late blight inoculum that is produced on PEI in 2009.

1. **Know your seed**. Growers will benefit from having a good relationship with your seed grower. If you buy or use seed within the region you should go take a look at the pile in the warehouse. If you are able to take an overall look at the pile you may be able to see some diseases that are showing up in storage. Take a sample of the seed and warm it up to see if any disease symptoms appear. While having a sample of the seed lot (e.g. 400 tubers) tested and examined by a plant pathologist may be useful, it may give growers a false sense of security. Testing the tubers only tells you what is in that sample that was submitted. Being present when the seed lot is graded allows many more tubers to be examined for disease problems before it's loaded on trucks and transported. Carefully grade the seed when it is delivered to your farm to see if there are any disease problems. Planting the best possible quality seed is the first thing that can be done to ensure a healthy crop this season.

2. **Fresh Cut seed versus Pre-Cut seed** - The recommendation for 2009 is to cut, treat and plant the potato seed. Pre-cutting seed produces moist conditions that allow late blight spore production. If you do pre-cut the seed, be sure to keep the pile dry by running fans to ensure there is good air movement through the potatoes. The use of mancozeb based products is only recommended on fresh cut seed that will be cut than directly planted.

3. **Potato Cull Piles** – Cull piles will be one of the largest sources of the airborne 'late blight' spores (the disease inoculum). This source of spores will pose the greatest threat to the crop during plant emergence stage in May-June as well as through-out the growing season if the cull piles are not eliminated. All cull potatoes should be disposed of as soon as possible. If you are still grading after June 15 it is critical that any potatoes be covered or disposed of as soon as possible. Late blight spores can be produced on potatoes without any sprouts.

   Options for disposal of potato cull piles:

   1. Feeding culls to animals
   2. Compost – Need manure and straw- See factsheet Potato Composting
   3. Bury culls – Permit needed – Contact Dept. of Agriculture -368-4044

4. **Early Fungicide Applications** - Growers should apply their first application of protectant fungicide when the potato crop is at 50 to 80% emergence and should have 2-3 sprays fungicide sprays on the crop before row closure. With the strong possibility of seed borne late blight developing in 2009 early application of protective fungicides is extra important. Most fungicides are protective in function and need to be on the plant prior to the arrival of the airborne spores. Also, frequent and adequate coverage of the plants with fungicides prior to row closure and during the rapid growth when new plant growth needs to be protected from airborne spores during June and July.

5. **Sprayer Application Coverage** – Growers should ensure that their sprayers are well maintained and calibrated to avoid misses and inadequate plant protection by the fungicides. Good coverage of fungicides with your sprayer is influenced by the forward speed, pressure and water volume. High water volumes (35 to 45 GPA) are needed during the rapid plant growth phase to get good coverage.

6. **Field Scouting** - Regular field visits are essential to monitor any potential disease outbreaks in the field. Field scouts and sprayer operators should be well trained as to what common potato diseases look like and take action if anything is found in a field.

7. **Late Blight Outbreaks** – It is important that all out breaks of late blight are reported to other growers in your area and to the Plant Diagnostic Lab.
   Steps if late blight is found:
   1. Identify in the field
   2. Submit sample for diagnosis
   3. Let your neighbours know so they can take action as well. Late Blight is a community disease.

8. **Management of Late Blight Finds** - If late blight is found in a field those hot spots should be killed down as soon as possible to reduce the spread to other areas of the field. If infection is limited to a few plants, pull out any disease infected plants and a surrounding buffer zone. If there is a defined 'hot spot' in the field kill diseased plants quickly with a desiccant. Growers should apply a 'locally systemic' fungicide to the field to help minimize the spread of the disease. The late blight outbreaks should be closely monitored to ensure they the disease does not continue to spread.

9. **Topkill** - A fungicide program should be maintained until plants are completely dead in order to minimize tuber infections at harvest. Ensure that vines are completely dead before harvesting to minimize late blight infection to the tubers.

Participants involved in developing this information:
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CropLife Canada
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