



Canadian Food
Inspection Agency

Agence canadienne
d'inspection des aliments

Bacterial Ring Rot

Presented to PEI potato industry January 16 & 17, 2025



Canada 

What is Bacterial Ring Rot(BRR)

- Regulated non-quarantinable disease
 - It is regulated in accordance with the Seeds Act & Regulations but not under the Plant Protection Act
- Zero tolerance for BRR in all classes of seed potatoes
- Once a crop is infected it can spread quickly and carry over from year to year

Definitions

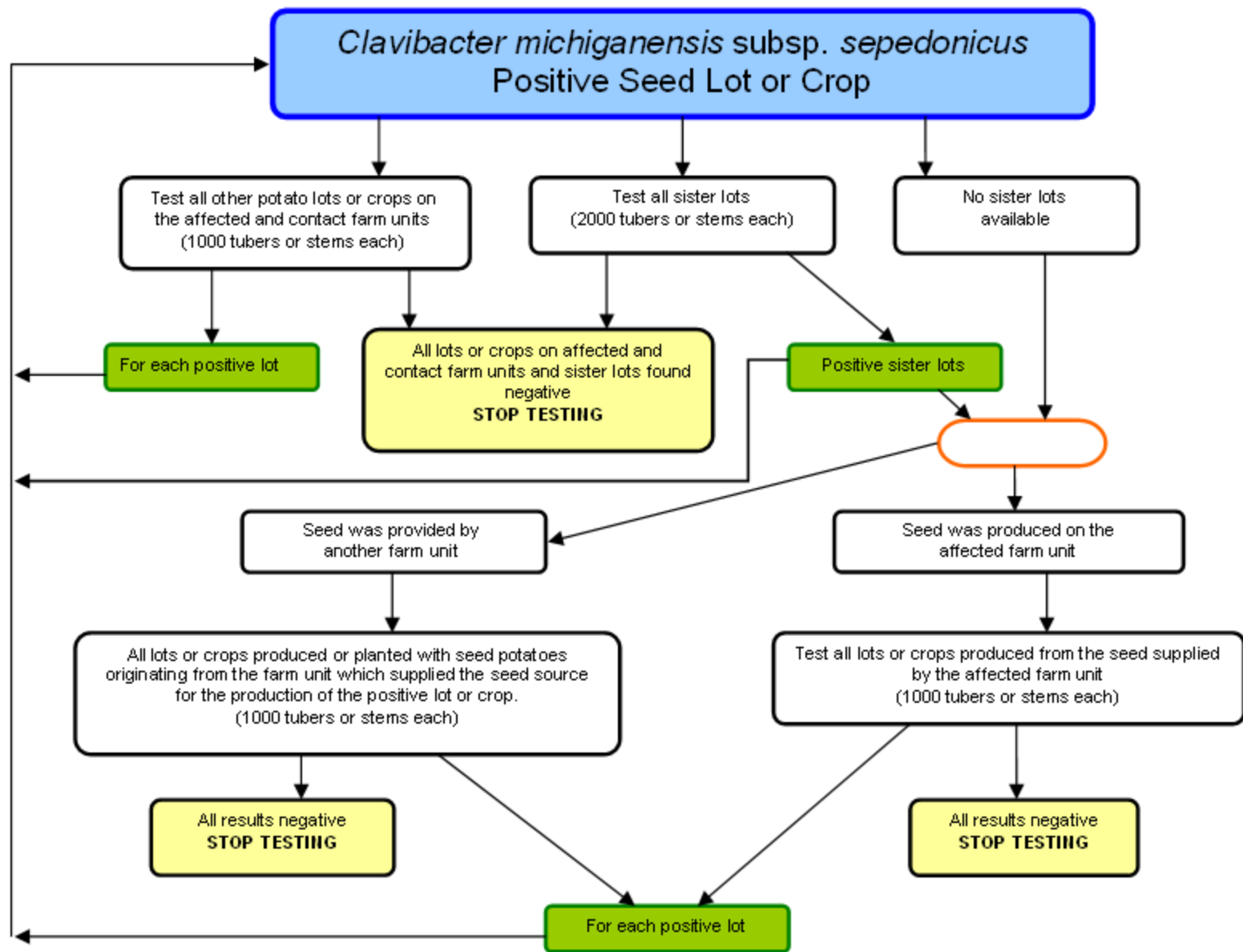
- Infected farm unit means the seed potato farm unit where BRR has been detected.
- Seed source means the lot of seed potatoes produced in the previous crop year that were planted to produce the crop of potatoes in the current year.
- Sister lots are lots of potatoes grown in the same crop year and originate from a common seed source. Seed sources are produced in the previous crop year, with the potential exception of nuclear stock production.
- Volunteer potatoes refers to the smaller sized potatoes that are not collected in the field during harvest. These potatoes often overwinter and can grow in the following year.

This is a tuber
that was found
while sampling
this fall.



What happens when BRR is detected on a seed potato farm

- Growing Crop Certificate will be revoked
- CFIA policy document D-95-18 will be followed.
<https://inspection.canada.ca/en/node/2267>
- CFIA will try to find the origin of the infection through sampling and interviewing the grower
- All lots(seed and tablestock) on detected seed farm will be sampled at 1000 tubers/sample



Sampling for BRR

- All sister lots planted grown by seed potato farm units must be sampled at 2000 tubers per lot
- All other seed and non-seed lots grown on the infected farm unit must be sampled at 1000 tubers per lot
- If BRR is not detected in any sister lots, the seed source would not be considered the source of the infection. The investigation will focus on the infected farm unit.
- If BRR is detected in at least one sister lot, grown by another seed potato farm unit, the investigation will focus on the farm unit where the seed source was produced
- If BRR is detected in at least one sister lot, on the infected farm unit, the source could be related to cross-contamination on the farm unit or the seed source.

Next steps to return as a seed grower

- An email to your local CFIA office indicating your intent to return as a seed grower. Included must be an inventory of everything that will need to be cleaned
 - This should be sent well before the spring
- A full clean-up and disinfection must take place on the farm unit and verified by a CFIA inspector or other regulating body(provincial inspector)
- 6 year intensified testing
 - First 3 years all seed lots will be sampled at 1000 tubers under CFIA supervision
 - Subsequent 3 years back to normal testing rate and only the required minimum of 2 lots and any other lots to be sold will be tested

Clean-up after a BRR detection

- Use hot water and a detergent to clean all equipment, storages, etc
- You must scrub with the hot water and detergent to remove bio-films.
- Use the top-bottom method of cleaning
- Remove all belts from equipment and clean separately
- Use approved disinfectant, rinse prior to applying disinfectant
- Ensure the area disinfectant is applied to stays wet for at least 10 minutes before rinsing
- Clean and disinfect in different areas to prevent cross-contamination

Clean-up after BRR

- Every effort should be made to ensure all current crop potatoes are removed from the farm prior to clean-up
- A full-clean-up should be completed before seed is brought onto the farm
- If this is not possible, the grower must have written procedures on how segregation between the seed and rest of the farm unit is going to be maintained
 - This would also include a plan for cleaning everything prior to planting
- All equipment and storage must be cleaned before any seed is planted

How to minimize risk of BRR on seed potato farm

- Operate a closed farm as much as possible
 - Do not share equipment, do not store potatoes for others
 - Do cut your own seed
- Ensure that seed you purchase has been tested and handled appropriately prior to receiving it on your farm.
 - It should be delivered directly from the farm you purchased from
- Proper disposal of tubers from an infected lot
 - Feeding as culls to cattle may not be in the farms best interest due to bulk piling manure and spreading in fields.

Regulations

Seeds Regulations Part II

- **52(6)** An inspector shall revoke all crop certificates issued pursuant to subsection (1) in respect of the crops of a farm unit where
 - **(a)** the inspector determines that any one of the lots is infected with *Clavibacter michiganensis* subsp. *sepedonicus*; or
 - **(b)** any one of the lots came in contact with any common or custom equipment used on a potato operation that was infected with *Clavibacter michiganensis* subsp. *sepedonicus* unless the inspector has verified that a clean-up and disinfection of the equipment had been completed before the use of the equipment on the crops.

Regulations

- It is a regulatory requirement to clean and disinfect all equipment, lines after handling any tablestock(grown by the seed farm or from another farm) before grading any seed.
 - **52(5)** An inspector shall revoke a crop certificate issued pursuant to subsection (1) in respect of a particular crop at any time if the inspector determines that the corresponding lot
 - (a) has been exposed to sprout inhibitors or other harmful chemicals;
 - (b) has lost its identity;
 - **52(7)** An inspector shall revoke a crop certificate issued pursuant to subsection (1) where the inspector determines that non-certified potatoes from another farm unit are stored with the certified seed potatoes or that the certified seed potatoes were stored, graded or handled with common equipment.

Regulations

- Cut seed is required to move with a permit from CFIA, the grower doing the cutting must meet the conditions under section 58 of the regs and apply to their local office for a permit.
 - **58 (1)** Potato eyes and cut-seed pieces may be certified as seed potatoes where
 - (c)** the person who performed the cutting is authorized to do so by a permit issued annually by the President; and
 - (3)** The President shall issue a permit referred to in paragraph (1)(c) where the person referred to in that paragraph submits a declaration stating that the person will maintain
 - (a)** the lot identity; and
 - (b)** sanitary conditions at the cutting facility.


Export and BRR

- Most non-seed lots affected by BRR can be exported with a few known exceptions.
 - Jamaica and Barbados are countries that PEI actively exports to that have specific BRR requirements.
 - Jamaica requires each lot being shipped to be tested
 - Barbados has different levels of requirements. If a farm that grew the lot being shipped has a BRR detection, it is required that each lot is then sampled prior to export.
- If the country requires a grade(US), but doesn't have specific BRR requirements, the inspector will inspect to lot and score any decay they see(regardless if BRR) as decay.

What to Consider

- Biosecurity is very important!
 - Vehicles and equipment moving within a farm pose a serious risk
 - This risk is increased with “third party” vehicles due to their exposure at other farms
 - Trucks that haul seed, they are also required to be cleaned and disinfected using the same method as described earlier.
 - Don't be afraid to ask questions to your seed supplier regarding their biosecurity.
- Proper cleaning is also very important!!
 - Tear down all pieces of equipment, use hot water/steam/detergent/elbow grease to do initial cleaning
 - Ensure the application time for the disinfectant is met

What to consider

- Always clean and disinfect equipment between seed lots to help prevent on farm cross-contamination
 - Boot dips – keep them operational at all times
 - Training of employees on best practices
 - It is recommended not to move or receive seed during an active investigation.
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Questions?

