Canadian Horticultural Council | Conseil canadien de l'horticulture

The voice of **Canadian fruit and vegetable growers**

Risk-based sampling – a view from the Canadian horticulture sector

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Overview of CHC

Who we are

- National non-profit advocacy group
- Based in Ottawa
- Governed by a Board of Directors
- 10 staff
- We are the voice of Canadian fruit and vegetable growers

Who we represent

- Over 22,000 growers
- Over 130 member organizations
- Over 120 different commodities
- Members are in Canada and beyond

What we do

- Advocate for members on key issues
- Facilitate government consultations
- Coordinate research projects and funding

How we are organised…

Core areas

- Labour
- Trade and marketing
- Industry standards and food safety
- Finance and business management
- Crop, plant protection and the environment

Commodity groups

- Apple & tree fruit
- Potato
- Greenhouse vegetables
- Berries
- Field vegetables

Inspections in Canadian horticulture

Current inspections in horticulture - exports

- Minimal phytosanitary requirements for inspection for exports of fruit and vegetables (excluding potatoes) to the US
- Main exports are to the US (for which some inspections are required for potatoes and for plants for planting)
- Other considerations: international agreements and especially bilateral agreements where specific import requirements have been negotiated
  - often involving a systems approach and inspection
- Some plants for planting and fruit exports use a systems approach to meet export requirements (e.g. best management practices combined with inspection to meet export requirements)
- Plants for planting uses the systems approach, with inspections during the growing season to allow for movement of nursery stock during the winter
- Industry has been asking for lower levels of inspection when there is reduced risk

Current inspections in horticulture - imports

- Targeted : new commodity/origin combination has 100 % inspection during a trial period to ensure that agreed to requirements mitigate the phytosanitary risk. Inspection rates return to normal at the end of the trial period.
- Different rates of inspection for different types of imports: High=100%; medium=15-20%; low=5-10%
- CFIA has begun to use establishment based risk assessment in specific food sectors.

Bacterial Ring Rot
(*Clavibacter michiganensis* subsp. *sepedonicus*)
Testing Program for Potatoes

Canadian Seed Potato Certification Program

- BRR is present in many countries around the world
- Testing required for the BRR causal agent under the federal legislation *Seeds Regulations* Part II(2)
- Moving towards functional eradication from Canadian seed certification system (and the Canadian potato system in general)

Bacterial Ring Rot (*Clavibacter michiganensis* subsp. *sepedonicus*) Testing Program for Potatoes

Testing is required on:

- All seed lots shipped as Elite II, Elite III, Elite IV and Foundation classes
- A grower may be allowed to ship seed potatoes of Pre-Elite, Elite I and Certified classes without any further testing if the minimum two seed lots* has been completed and they were found negative for BRR

*selected based on priority if intended for planting on seed growers' farm next season and lots with highest number of generations

Bacterial Ring Rot (*Clavibacter michiganensis* subsp. *sepedonicus*) Testing Program for Potatoes

When Canada had a more widespread problem in the 1960s, sampling was very intensive. Once the incidence of BRR was substantially decreased to very few cases annually, we moved to a "maintenance" level of testing based on the seed lot size.

For example:

4.000 to less than 40.00 ha	400 stems or tubers
>40.00 ha	800 stems or tubers

If BRR is detected, an Intensified Testing Regime is used:

Minimum 1000 tubers or stems for fields of 1 ha or greater

Bacterial Ring Rot (*Clavibacter michiganensis* subsp. *sepedonicus*) Testing Program for Potatoes

Mandatory laboratory testing is accompanied by strict measures if BRR is detected, including:

- Sampling of all other seed lots on the farm;
- Loss of seed status for all seed potatoes produced on the farm;
- Trace-back and trace-forward investigations;
- Further CFIA restrictions and close monitoring of the farm for years afterwards.

The Canadian approach has resulted in a highly effective system for detecting and managing BRR, with only one seed farm in Canada being positive for BRR in the past 5+ years.

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Success of the Seed Potato Certification Program

- Flush through system for seed certification
- Post entry quarantine system for new material entering the system from outside Canada and the U.S.

Multi-point testing through seed certification increase

- All seed producing farms require testing of at least 2 seed lots per year
- Mandatory testing of every seed lot of Elite II, Elite III, Elite IV and Foundation Classes tested
- Inspection of seed fields
- Tuber inspection

Bacterial Ring Rot (*Clavibacter michiganensis* subsp. *sepedonicus*) Testing Program for Potatoes

Summary

- BRR is successfully managed and is approaching functional eradication in Canada
- Seed Potato Certification Program with multi-point surveillance is demonstrated to be successful

Perspectives from partner organizations– ornamentals

When an inspection is to be undertaken, for example, in bulbs…

- The importer is notified
- A system of random numbers in a table is used for determining which boxes of bulbs to inspect
- The number of bulbs to inspect is based on the lot size and compliance history of the exporter

Perspectives from partner organizations– Canadian seeds (excluding seed potatoes)

Current requirements:

- Sampling of small seed lots, which has become a problem associated with export certification and movement of seed for research and breeding programs, primarily where there is a requirement for a molecular seed testing method.
- Sampling based on hypergeometric approaches calls for sample sizes that are often as large or larger than the entire seed lot (ISPM 31).

CSTA supports:

- Sample sizes based on the epidemiology of the pathogen (infection unit concept), which could result in much smaller sample sizes – protocol in preparation by ASTA and the International Seed Federation (ISF) (ISHI-Veg)
- Use of systems approaches to mitigate phytosanitary risk
  - sample sizes could be adjusted to detect pests at a lesser level of detection than a zero level (probit 9)

Contribution from Dave Carey, CSTA

Opportunities for RBS

Opportunities for RBS

- As part of inspection process when required in new export markets
  - where it is the most challenging to implement because it would need to be negotiated with the other country and most likely on a country by country basis
- Other…

CHC collaboration in national initiatives = other opportunities

- National Plant Health Network
  - Network of laboratories to work on clean plants
  - Initial commodities: Strawberries, grapes
- Plant and Animal Health Strategy
  - Broad consultations nationwide 2016-17
  - Final proposal for July 2017
  - Four broad areas
    - A system founded on prevention
    - Collection and sharing of information
    - Coordination through partnerships
    - Influencing behaviour

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