

Dickeya

Situation in Canada & the US
Potato Day, February 15, 2017

- Dickeya identified as *E. chrysanthemi* has worldwide distribution
 - sporadically in NA for several years;
 - 15 US states
- Documented in potatoes from Florida and Ontario in 2014
- By 2015 widespread distribution in potato crops in eastern US causing substantial losses
 - One large chip grower lost U\$1.5 million due to stand losses caused by Dickeya
 - A small tablestock grower lost her crop two years in a row

Distribution of Dickeya in North America 2016



Diagnostic Research

- How accurate are the current conventional PCR ADE tests across sample types?
- How consistent are conventional PCR ADE results between diagnostic laboratories?

- Six labs involved in survey
 - Maine Seed Certification Lab
 - University of Maine
 - North Dakota State University
 - ACS Inc. (New Brunswick)
 - Wisconsin Plant Disease Diagnostic Clinic
 - Wisconsin Seed Certification Lab
- 10 unknown DNA samples examined.
- Testing accuracy varied based on sample type - Water samples were challenging to interpret.
- Testing across labs was consistent.

What we need to know

- is it spread during cutting, harvest and handling??
- Does *Dickeya* spread in the field?
- The source of *Dickeya*
 - Other hosts
 - *D. dianthicola* has a huge host range
 - Ornamentals and landscape plants
 - For instance in Scotland stinging nettles (*Urtica*) is a great host
- Water – need to document
 - Limited testing in US, but some positive samples from surface water
- Seed certification
 - another huge issue
 - Blackleg has not been a part of certification in the US
 - Just added to Maine's certification program

In Canada

- *Dickeya dianthicola* is not a quarantine pest and its symptoms (blackleg) are recorded in seed certification inspections with no differentiation or confirmation of whether blackleg symptoms are caused by *Pectobacterium spp.* or *Dickeya spp.*
- Blackleg is recorded in the Canadian Seed Potato Certification system with a tolerance for blackleg and wilts that varies with class – 0% at PE, .1% at E1, .2% at E2 etc.

In PEI

- We have checked with CFIA inspection staff and they have not seen any increase in blackleg symptoms during field inspection in recent years.
- A project was initiated in the fall of 2016 for growers to voluntarily submit samples to the PQI to be tested for *Dickeya* using the sample size and testing protocol used by ACS Lab in NB.

2017

- Under the project we can still accept samples for testing for local seed or samples growers wish to submit of seed lots that they will be importing.
- Good sanitation practices help control the spread of blackleg similar to other bacterial diseases (like BRR). This will be detailed in following presentation.



THANK YOU