

## Canadian Agri-Science Cluster for Horticulture 3



### Update to Industry

**2019-2020**

<p><b>Activity title:</b> Potato Variety Evaluation</p>
<p><b>Name of Lead Researcher:</b> Virginia Dickison, Agriculture and Agri-Food Canada</p>
<p><b>Names of Collaborators and Institutions:</b>                  Michele Konschuh/Darcy Driedger/Tina Lewis, Government of Alberta; Heather Meberg, ES Crops Inc.; Mary Kay Sonier, PEI Potato Board; David Main, AAFC Charlottetown; Dr. J. A. Sullivan and Dr. K. S. Jordan, University of Guelph, Ontario Potato Board, Stuart Cairns Potato Research Committee; Dr. Tracy Shinnars-Carnelley, Peak of the Market; Darin Gibson, Gaia Consulting; André Gagnon and Sophie Massie – Progest 2001 inc.; Dr. Jazeem Wahab, AAFC Outlook.</p>
<p><b>Activity Objectives (as per approved workplan):</b>                  To evaluate new potato selections from AAFC’s National Potato Breeding Program across the country to determine the adaptability of the lines to different climatic regions. Evaluations included: adaptation, yield performance (total and marketable), external and internal quality, cook quality and visual reaction to pests and disease as compared to industry standards when grown under regional conditions at 8 trial sites across Canada. Evaluations were performed on three market types including; French Fry, Fresh Market and Chip types.</p>
<p><b>Research Progress to Date (use plain language):</b>                  In 2019, 30 selections were grown at 13 sites across Canada the locations included; Prince Edward Island, New Brunswick, Quebec, Ontario, Manitoba, Saskatchewan and Alberta with additional demonstration sites in New Brunswick, Alberta and British Columbia.</p> <p>The AAFC Potato Breeding Program initiated a two tiered trialing system this season at all National Trial locations. Selection in Tier 1 were in their first year of the National trialing system at 7 full sites in duplicate replication. The Tier 2 selections were in all 7 locations with four replicates. Each location had 15 Tier 1 selections with 8 check varieties and 15 Tier 2 selections with 8 check varieties. This included French Fry, Chipping and Fresh Market types. Trials were planted, grown and harvested following commercial production practices common in the local area.</p> <p>All data were collected on time and as required. The trials showed variable growing conditions at each location allowing for evaluation of varieties under a wide range of environments.</p>
<p><b>Extension Activities (presentations to growers, articles, poster presentations, etc.):</b>                  An emphasis was placed on extension activities this year. Field days were held at each trial location to allow an opportunity for stake holders to assess the varieties in the field. In total, over 400 stakeholders were in attendance at 10 field days across the country. Handouts were provided with data on each variety to increase</p>

the ability for stakeholders to evaluate each variety. All collaborators are working together to increase engagement in the National Potato Industry.

**Early Outcomes (if any) or Challenges:**

This is the final year of AAFC's Accelerated Release Program and a new commercialization mechanism is under review. In 2019, the program's major focus was to build relationships and gain the trust of stakeholders by emphasizing presence at the trials field days and increasing the statistical rigor of data sets by increasing the replication and standardization of data collection. The program introduced modern techniques for collecting data within the program to enable collaborators a seamless transition to gathering data in a standardized method.

**Key Message(s):**

These trials are important for industry stakeholders to observe selections and review regional data for promising new varieties. The value-chain nature of the trial and efforts to provide data as required for each stakeholder will result in greater uptake of new varieties for the Canadian potato industry. Specifically, three Processing selections F14021, F15019 and VF14016 we requested by an industry partner based on their success over multiple locations and their potential in the processing market. The Tier 2 fresh market selection, F14119, was liked at the British Columbia site and a request has been made to trial it further.

The AAFC National Potato Breeding Program is focusing its efforts to work in unison with all stakeholders to increase the value of the program to the Canadian Potato Industry and Canada.

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