

Canadian Agri-Science Cluster for Horticulture 3



Update to Industry

2018-2019

Activity title: Potato Variety Evaluation
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Activity Objectives (as per approved workplan): To evaluate new potato selections from breeding programs around the world and our own AAFC National Potato Breeding Program to assist in the decision making of variety developers. 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.
Research Progress to Date (use plain language): In 2018, many new varieties were evaluated at trial sites across Canada at 6 different sites. In PEI 63 varieties were trialed as well as a common scab trial, Quebec had 48 varieties, Ontario had 50 variety trials but also had trials on early chip material, common chip material, early generation selection trials of AAFC Potato Breeding Program, on-farm trials and a common scab disease evaluation trial. Manitoba trialed 60 varieties, Alberta trialed 94 varieties and British Columbia trialed 86 varieties. The trials showed variable growing conditions at each location allowing for evaluation of varieties under various environmental extremes.

The transition to a collaborative framework for potato variety trials across Canada had a good initial year. We look forward to a progressive increases in standardization of evaluations and communication of trial data to allow for more knowledge transfer and better decision making capacity for the advancement of new varieties into the market by industry.

Extension Activities (presentations to growers, articles, poster presentations, etc.):

Field days were held at each trial location to allow an opportunity for stake holders to evaluate the varieties in the field. In total, over 300 stakeholders were in attendance at field days across the country. Handouts were provided with data on each variety to increase the ability for stakeholders to evaluate each variety. Presentations were made at 14 grower meetings and conferences in each region of Canada to inform stakeholders of the results of the trials. Highlights of varieties were given in presentations as well as presentations were shared through virtual means and mainstream media outlets to increase knowledge transfer. In total, over 500 stakeholders were involved in various outreach activities. This is a large focus of the project and collaborators are working together to increase engagement in the National Potato Industry.

Early Outcomes (if any) or Challenges:

The project funding was not finalized until late in the year therefore, issues surrounding hiring and project details were difficult and rushed.

2018, was a hot and dry growing season and a cool and moist harvest season for most regions. The varieties were, therefore, evaluated under harsh conditions enabling observations of varieties exposed to extreme conditions.

11 out 15 2017 Accelerated Release varieties from the National Potato Breeding Program at Agriculture and Agri-Food Canada were bid upon. Two successful AR 2018 were bid upon early in the program because of the potential they have shown in early trials. F13026 (AR2018-06) is a highly promising new chip line which produced excellent yields in the early maturing chip trial in Ontario.

Key Message(s):

The collaborative framework model of the CHC Cluster Project will allow for increased standardization to evaluate potato varieties across Canada. It will also assists in the communication and knowledge transfer between the processing industry, variety developers, private breeders, agronomy contractors and public breeders.

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