

Canadian Agri-Science Cluster for Horticulture 3



Update to Industry

2020-21 – Semi-Annual

Activity title: Activity 16 - End-use focused variety development - Alberta

Name of Lead Researcher: Chandra Singh (Lethbridge College)/ Michele Korschuh (University of Lethbridge)

Names of Collaborators and Institutions: Lethbridge College

Activity Objectives (as per approved workplan):

The purpose of the proposed research project is to pool resources from a range of sources and evaluate potential potato varieties for industry adoption, using a cooperative approach. Often, there are economies of scale realized when varieties are evaluated collectively rather than individually. Lethbridge College worked with Alberta Agriculture and Forestry to provide regional data in an impartial setting. This work builds on previous projects and provide continuity for the AB industry participants involved in variety development. We plan to evaluate 40 to 60 cultivars each year to ensure regional data is available for industry to use in the selection and marketing of new varieties.

- 1) To provide data to variety developers to assist in decision-making,
- 2) To provide preliminary agronomic data to assist producers with adoption of new cultivars,
- 3) To address the gap between identifying promising new varieties from breeding programs and the adoption of varieties for use in the industry.

Research Progress to Date:

Alberta

In 2020, 57 varieties were evaluated for agronomic and culinary purposes. Varieties were provided by private industry and the AAFC national breeding program. AAFC evaluated 16 French fry, 9 chipping and 6 fresh market clones. Industry evaluated, 7 chipping varieties, 7 French fry varieties, and 12 fresh market varieties. 20 entries were evaluated in alternate N plots to generate some agronomic information to support production of new varieties. Data collected included emergence data, stand count, total yield, yield by size category relevant to end-use, specific gravity, internal defects, and external deformities. Some samples were returned to stakeholders for bruise testing, storage assessments or post-harvest testing by the stakeholders. Local production data supports adoption of new potato varieties that will enhance the competitiveness of our potato industry.

Trial planted, grown and harvested following commercial production practices common in local area. All data collected on time and as required.

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

Virtual Field Day, August 21, 2019, Crop Diversification Centre South, 301 Horticultural Station Road East, Brooks, AB; potato were dug, photographs were taken and compiled to share with industry during the pandemic

COVID-19 Related Challenges:

There were challenges encountered as a result of Covid-19 such as delay in seed supply and other logistics and a transition of research from Government of Alberta to post-secondary institutions in the province and layoffs at the CDCS Brooks. This project got transferred from AB Agriculture and Forestry to Lethbridge College and new tri-party project agreement (between CHC, AB Agriculture and Forestry, and Lethbridge College) needed efforts and time.

Key Message(s):

These trials are important for industry stakeholders to collect regional data for promising new varieties. The value-chain nature of the trial and efforts to provide data as required for each stakeholder is likely to result in the uptake of new varieties for the Canadian potato industry.

The Alberta Govt's Irrigation Demo Farm near Lethbridge with 400 acres of irrigated land got transferred to the Lethbridge College and college is willing to participate in trials next year with increased resources.

This project is generously funded through the Canadian Agri-Science Cluster for Horticulture 3, in cooperation with Agriculture and Agri-Food Canada's AgriScience Program, a Canadian Agricultural Partnership initiative, the Canadian Horticultural Council, and industry contributors.



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