



Canadian Agri-Science Cluster for Horticulture 2

Canadian Potato Variety Evaluation Program

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This activity includes 7 areas of sub-activity:

Prince Edward Island - Variety Evaluation: Adaptation and Yield Trials and Development of Management Profile of Selected Promising Varieties

- Conduct yield and adaptation trials of promising clones and new varieties under PEI conditions and select promising entries
- Develop management profile (best management practices) of selecting promising clones and varieties for recommendations to the growers

Quebec – Potato Varieties and Line Evaluation

- Evaluate agronomic performance of varieties and advanced lines under QC conditions;
- Determine susceptibility to common scab of varieties and advanced lines under evaluation;
- Determine tolerance to low fertilization of varieties and advanced lines under evaluation;
- Determine tolerance to main potato diseases of varieties and advanced lines under evaluation;
- Evaluate quality and culinary skills for fresh market of varieties and advanced lines under evaluation;
- Evaluate cooking quality for process market of varieties and advanced lines under evaluation;
- Bring diversity in the gene pool under evaluation;
- Transfer valuable information to growers, crop consultant and extension personnel.

Ontario – Variety Development

- Identify and evaluate potato very early maturing selections for use by processing industry;
- Identify and evaluate processing potato selections with long term storage potential;
- Identify and evaluate table stock lines for value added traits such as early maturity, coloured skin and flesh, and specialty market potential;
- Determine the health benefits of potatoes by measuring antioxidant potential and starch quality in elite lines.

Ontario - Nutrient Quality Evaluation of Processing and Table Stock Potatoes

- Screening processing and table stock varieties for nutritional qualities – assessment of protein, bioactives, antioxidant potential, and resistant starch content to meet consumer needs/preferences
- Identify promising processing and table stock varieties with high protein content
- Identify promising processing and table stock varieties with high polyphenol and anthocyanin contents
- Determine the antioxidant potential of promising varieties
- Identify promising processing and table stock varieties high in resistant starch(fiber content)
- Screening processing and table stock varieties for canning, soups and stews
- Identify promising processing and table stock varieties by screening for specific gravity with low sloughing and higher nutritional content
- Characterize the starch composition and structure of identified varieties
- Screening the chip processing varieties for quality parameters for low temperature storage;
- Identify promising varieties suitable for Ontario conditions for low temperature by assessing the chip quality, color and reducing sugar content as a function of storage (time and temperature).

Manitoba - Evaluation and Adaptation of French Fry Potato Varieties

- Test processing potato varieties for their potential as replacement varieties for those presently grown in Manitoba
- Determine yield, grade and quality of three potato varieties to three N levels and three seed spacing.
- Evaluate interaction between variety, seed piece spacing and N fertility.
- Develop management strategies for each variety under Manitoba conditions.

Alberta - Variety Evaluation

- Pool resources and evaluate potential potato varieties for industry adoption, from a range of sources, using a cooperative approach

British Columbia – Variety Evaluation

- Evaluate the agronomic and culinary qualities of new varieties under BC growing conditions