National Potato Variety Evaluation for Sustainability, Resilience and Climate Change

LEAD RESEARCHERS

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The national potato variety evaluation is an ongoing research activity that is working to find new potato varieties for growers across the country. The current phase of the research activity is evaluating yield, consistency across differing environments, food quality and economic viability of new potato varieties against consumer preferences and environmental sustainability.

Previous research in Cluster 3 evaluating potato lines for Canadian production was focused on how to ensure marketability and competitiveness of new varieties compared to existing varieties. The new focus in this phase includes evaluating potato variety lines for resilience to extreme climate conditions, better nitrogen use efficiency, resistance to common diseases and expanding the marketable window for sales.

TOP: A potato variety trial at Elora, Ont.
ABOVE: An early chipping potato variety trial in Leamington, Ont.
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KEY TAKEAWAYS:

- The focus of the first phase of the variety trial is assessing the performance of Agriculture and Agri-Food Canada breeding lines.
- The second phase of the variety trial is evaluating the most promising lines from the first phase, along with varieties from other breeding programs, in regional field trials conducted by industry members.
- In the 2023–24 growing season, variety trials took place at eight sites across Canada.
- 160036-02 is a french-fry line five companies took for further evaluation in 2024. It yields and stores similar to the current standards, has good fry colour in storage, is resistant to common scab and is moderately resistant to Fusarium dry rot.
- CV15129-1 is a fresh-market line four companies took for further evaluation in 2024. It is a red creamer variety with moderate common scab resistance.
- F160025-03 is a fresh-market line two companies took for further evaluation in 2024. It has red skin and similar yields to standard varieties. It is resistant to PVX, golden nematode and Fusarium dry rot and has moderate common scab resistance.
- F160032-06 is a chip line five companies took for further evaluation in 2024; one company also decided to evaluate its potential in the United States. This selection has earlier maturity than standard varieties with similar yields and is resistant to PVX, with moderate common scab resistance.