



Positioning Canada's Potato Industry for Improved Sustainable Production

LEAD RESEARCHER

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This research activity is studying ways to improve nitrogen use efficiency in Canadian processing and table potato production. The research team is working to determine the environmental and agronomic performance indicators for fresh and processing potatoes in Canada. Emissions efficiency and nitrogen management practices on potato farms across the country are being tested.

The research activity is in its second of three years of field trials. Trials are taking place in Alberta, Manitoba, New Brunswick and Prince Edward Island. Researchers added different rates of nitrogen fertilizer to standard varieties of table and processing potatoes and newer suspected higher nitrogen use efficient varieties. Researchers found the newer higher nitrogen efficient varieties are generally out yielding standard varieties. More yield is obtained with less of an increase in nitrogen additions than with the standard varieties.

The nitrification inhibitor, eNtrench, has been found to generally reduce N_2O emissions. The exception was the 2024 trial in Alberta where the field had a lot of residual nitrogen from previous legume forage production. With table potatoes, the newer high nitrogen efficient variety, Musica, is drastically out yielding checks. However, it does this with more nitrogen added. Researchers are working to confirm this year if it is actually more nitrogen efficient.



Chris Hoffman at his potato processing trial near Portage la Prairie, M.B. Photo: Mario Tenuta

KEY TAKEAWAYS:

- Newer higher nitrogen efficient potato varieties are out yielding standard varieties. More yield is obtained with less of an increase in nitrogen additions than with the standard varieties.
- The nitrification inhibitor, eNtrench, has been found to reduce N_2O emissions.
- The newer high nitrogen efficient variety, Musica, is drastically out yielding checks, but it does this with more nitrogen added. Researchers are working to confirm this year if it is actually more nitrogen efficient.

