



Positioning Canada's Potato Industry for Improved Sustainable Production



LEAD RESEARCHER

Mario Tenuta

Senior industrial research chair in 4R nutrient management and professor of soil ecology at the University of Manitoba

The sustainability of potato production in the future will depend on growers using nitrogen more efficiently and reducing losses to the environment. This research activity evaluates the use of nitrogen in the production of both fresh and processed potatoes, aiming to maintain standards and improve efficiency.

The research team will work 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 studied. This research will find ways to ensure growers aren't regulated in nitrogen use, which would result in production decreases.

This research activity will begin in 2024–25, with more information to come in the next report.

KEY TAKEAWAYS:

- Developing environmental and agronomic performance indicators for improved nitrogen practices and management for fresh and processing potato production.
- Discovering how high-nitrogen use works on efficient potato varieties, which can reduce nitrous oxide emissions and improve agronomic performance.
- Determining the degree to which combined 4R nitrogen management practices can reduce nitrous oxide emissions and related environmental indicator performance.
- Determining what the potato crop needs when including nitrogen mineralization of soil to improve matching fertilizer nitrogen additions.
- Determining how further reductions in nitrous oxide emissions can combine or stack with potato genetics and 4R nitrogen management practices.
- Discovering if genetics and 4R nitrogen management practices can provide a greater return on investment for fertilizer nitrogen alone or in combination.

