



Manitoba Association of
Watersheds

Nitrogen Management

Prairie Watersheds Climate Program (PWCP)

Nitrogen Management

What is it? What options do I have through the PWCP?

The Nitrogen Management as a Beneficial Management Practice (BMP) is designed to reduce nitrogen emissions, improve soil health, enhance crop yield, and reduce water pollution. With funding support from Agriculture and Agri-Food Canada (AAFC), the PWCP may provide funding to farmers and ranchers for the adoption and on-farm implementation of nitrogen management BMPs that are recommended by a professional agronomist, agrologists or certified crop advisor. Eligible activities include:

- Use of nitrification and urease inhibitors and slow-release fertilizers. These products reduce nitrogen volatilization and help fertilizers to be gradually incorporated into the crops. Nitrogen losses through leaching and surface runoff are also reduced.
- Split fertilizer application with a reduced rate in each application to improve the crop use efficiency and reduce nitrogen losses from a single application of fertilizer.
- Planning, technical assessments or engineered designs.
- Soil testing and soil mapping to determine specific nitrogen requirements in the soil according to crop types and needs.
- Use of soil organic amendments and synthetic fertilizer substitutes (manure, compost, digestates) to improve nitrogen balance in the soil and crop nitrogen intake.
- Increasing legumes in rotation to fix nitrogen and reduce fertilizer use in the subsequent crops. Legumes also improve soil composition with their extensive root systems.
- Application of nitrogen in spring instead of fall to avoid nitrogen's leaching, volatilization and/or runoff.



Why should I implement nitrogen management in my crops?

It has been proved that nitrogen management as a BMP is one of the best solutions farmers and ranchers can use to reduce nitrogen emissions to the atmosphere. Nitrogen emissions, like many other greenhouse gases have caused multiple changes in our climate. On the Canadian prairies, we have been experiencing unstable multiannual climate conditions with outstanding consequences. In the agricultural sector, farmers struggle year to year with droughts and floods, that may cause a significant economic impact. Just in 2021, a drought caused multimillion-dollar losses in agricultural production in the prairies.

However, climate change does not stop and took everything upside-down in 2022, bringing intensive precipitation events in Spring, causing delays in land preparation, fertilization, seeding, and many other practices.

But we are on time to step in and adopt better agricultural sustainable practices to reverse this trend. Effective nitrogen management can reduce the adverse effects of climate change, while also improving soil organic matter, soil composition and structure, water infiltration, and crop yield.

How Can I apply to PWCP?

PWCP is managed by the Manitoba Association of Watersheds (MAW). Delivery agents in Manitoba and Saskatchewan are available to assist farmers in the region with PWCP applications and documentation required for this program. In Manitoba, contact your local watershed district; in Saskatchewan, contact Saskatchewan Association of Watersheds for further information about BMPs, funds, eligibility, and conditions. Full details are available at

www.manitobawatersheds.org/prairie-watershed-climate-program.



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