



**FERTILIZER CANADA**  
**FERTILISANTS CANADA**

907 – 350 Sparks, Ottawa ON K1R 7S8  
T (613) 230-2600 | F (613) 230-5142

info@fertilizercanada.ca  
fertilizercanada.ca | fertilisantscanada.ca

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Department of Sustainable Development  
Government of Manitoba  
Box 11, 200 Saulteaux Crescent  
Winnipeg, MB R3J 3W3

**Re: Response to Consultations on Manitoba's Watershed Planning Initiatives: GRowing Outcomes in Watersheds (GROW); Watershed-Based Drainage and Water Resource Management; and Modernization of Manitoba's Conservation Districts Program.**

On behalf of Fertilizer Canada and our members, please accept our comments enclosed regarding the Government of Manitoba's three public consultations on Watershed Planning.

Representing fertilizer manufacturers, distributors and wholesalers, our members are working to advance the development and implementation of new technologies and scientifically-based management practices for agricultural cropping systems. These efforts align well with the sustainable, targeted and collaborative goals your initiatives aim to achieve.

Whether from organic or commercial sources, fertilizer nutrients are a key component of sustainable crop production systems. Half of all food production is attributed to the use of fertilizer. As demand continues to grow, farmers in Manitoba and around the world will continue to rely on fertilizer to increase production efficiency to produce more food while optimizing inputs. Fertilizers play an essential role in replenishing nutrients in the soil that are used by plants each growing season, raising soil productivity, and improving soil health; but incorrect nutrient use may lead to negative impacts on a grower's return on investment and risks increased impacts on the environment.

***4R Nutrient Stewardship provides a framework of sustainability that protects the environment and natural resources.***

The 4R Nutrient Stewardship Program (Right Source @ Right Rate, Right Time, Right Place ®) brings together universal principles of nutrient management with local evidence-based agronomy. The result is best management practices that make sustainable agriculture a reality on the farm. The 4R Nutrient Stewardship framework encompasses the four main principles of fertilizer application and is designed to link the practices used to manage nutrients in the cropping system to an integrated approach.

- The **Right Source** means ensuring a balanced supply of essential plant nutrients including granular or liquid fertilizers or manures.
- The **Right Rate** is applying just enough fertilizer to meet the needs of the plant while accounting for nutrients already in the soil.
- The **Right Time** means applying fertilizer when the plant will get the most benefit and avoiding times when fertilizer can be lost to the environment.
- The **Right Place** is applying fertilizer where the plants can easily access the fertilizer and where it is less likely to be lost to the water or air.

Voluntary adoption of 4R Nutrient Stewardship on Manitoba farms to address water quality has increased significantly in the last five years, and should be recognized for its contribution to addressing water quality in Manitoba. These voluntary efforts use the best available science, while recognizing the need to continually evolve based on new research and data. A two-pronged approach of encouraging voluntary adoption and funding supporting research allows for adaptive management and more direct stakeholder input into changes to program criteria.

The commitment to 4R Nutrient Stewardship in Manitoba is due to collaboration with our provincial partners through a Memorandum of Understanding (MOU). These partners include Keystone Agricultural Producers, the Government of Manitoba's Agriculture Department, and the Government's Sustainable Development Department with support from Lake Friendly and the Canadian Association of Agri-retailers. Fertilizer Canada has invested \$300,000 in this partnership to implement 4R Nutrient Stewardship in Manitoba.

***Shared value partnerships in Manitoba are growing and leading to successful implementation of 4R practices on the farm.***

Efforts by industry in partnership with crop and conservation organizations are growing and leading to successful implementation of practices on the farm (<http://fertilizercanada.ca/nutrient-stewardship/>). Specifically, these efforts include significant research, education, outreach and advocacy all geared towards increasing adoption of nutrient stewardship. And, they are yielding results.

As a result of the 4R MOU with our partners, multiple voluntary initiatives have been established focusing on increasing 4R Nutrient Stewardship adoption in Manitoba:

- ***4R Demonstration farms:*** Initiated in 2016, 4R demonstration farms in Manitoba focusing on BMPs for specialty nitrogen fertilizers (including rate, timing and placement of these fertilizers) as well as phosphorus, are being evaluated for corn, wheat and soybean production. The treatments are being compared by monitoring yield and crop quality results to determine the agronomic effects of 4R Nutrient Stewardship practices, and determine the capacity of the 4Rs to deliver economic return on investments of the crops. Preliminary results indicate that the 4R treated fields are producing promising yields and crop quality with no negative environmental impacts.

By showcasing both the economic and environmental potential of 4R BMPs, this will further encourage growers across Manitoba to voluntarily adopt 4R Nutrient Stewardship on their farms. Manitoba 4R Demonstration farm tours have so far brought together over 100 growers, certified crop advisors, agri-retail staff, and researchers to discuss implementing 4R Nutrient Stewardship on farming operations in Manitoba.

- ***4R Designation for Agri-Retailers:*** Agri-Retailers and their accredited professional staff play an integral role in supporting growers to achieve productivity goals for safe and nutritious food. Agri-Retailers provide crop inputs, and in the majority of companies, provide agronomic services to growers on the use, handling and storage of crop inputs.

The 4R Designation program demonstrates that growers with the support of their accredited agri-retailers are moving to the forefront of BMPs in commercial fertilizer and other nutrient use to support sustainability compliance. With this national voluntary program, industry stakeholders can assist growers to demonstrate the tangible commitment being made by the Canadian agricultural industry to the economy, environment and their communities, which can be measured by getting 4R Nutrient Stewardship crop acres counted. Last year, much of the 4R Designation training for agri-retailers was completed in Manitoba, reflecting great interest in 4R Nutrient Stewardship as the nutrient management strategy to address water quality.

- **Canadian 4R Research Network:** In 2013, fertilizer industry members in Canada initiated an effort committing funds to the North American 4R Research Fund in support of efforts to understand the impacts of fertilizer BMPs. Specifically, the funds are used to inform knowledge gaps related to quantifying the role fertilizer BMPs have on water and air quality, climate change, soil health, nutrient cycling and productivity.

These research efforts have been endorsed by the Government of Canada, who invested \$1.1-million matched by industry to further quantify the economic, social and environmental outcomes of 4R Nutrient Stewardship application. Nine leading Canadian researchers are conducting 10 projects to quantify these outcomes such as reductions in greenhouse gas emissions, reductions in nitrogen losses to the atmosphere and groundwater, reductions in phosphorus losses to surface waters and improved productivity, efficiency and profitability of production. Manitoba is home to one leading Canadian 4R Researcher, investigating optimal nutrient management of major Manitoba crops. Additionally, a potential new project will seek to close the gaps in benchmarked sustainable Phosphorus BMPs using field research on runoff mitigation in surface waterways.

- **Lake Friendly:** Fertilizer Canada is supportive of the Lake Friendly Initiative, sharing its view of the need to improve water quality in Manitoba and across the country. Fertilizer Canada envisions 4R Nutrient Stewardship as an aligning solution to Lake Friendly's objectives of reducing nutrient loading in Lake Winnipeg. To this end, Fertilizer Canada has been working closely with Lake Friendly through efforts including the [H2OIQ online resource](#), and Lake Friendly's participation on the 4R MOU Steering Committee.
- **4R Education Resources and Training:** Fertilizer Canada has developed training programs for growers and CCAs. An eLearning 4R Nutrient Stewardship Manitoba course is available and provides online training on how the 4R framework fits into Manitoba's geography, cropping systems, and regulatory environment.

Additionally, in September 2014, the North American Certified Crop Adviser board unanimously approved a plan to develop a specialty certification for Certified Crop Advisers (CCAs) who wanted and needed to demonstrate a higher level of expertise in the area of nutrient management. This specialty certification utilizes the 4Rs as the foundation for nutrient management and protecting soil and water. Individuals who have attained certification as a CCA 4R Nutrient Management Specialist have taken special training and passed an additional exam to ensure they are promoting practices that optimize nutrient use by the plant and minimize loss to the environment. Currently the specialty certification is offered in multiple states and provinces including Indiana, Michigan, Ohio and Ontario. There are now over 200 CCAs certified in North America on 4R Nutrient Management, 89 in Ontario. Collaboration has begun with the Prairie CCA Board on development of a 4R Nutrient Management Specialty Certification Exam and Resource Study Guide.

- **Provincial Recognition of 4R Nutrient Stewardship:** 4R Nutrient Stewardship was cited as a success story in Manitoba's Climate Change and Green Economy Action Plan, demonstrating the successful partnership and commitment to sustainable agriculture delivered through the Manitoba 4R MOU:

*"The Manitoba government, Fertilizer Canada and Keystone Agricultural Producers recently signed their second 4R Nutrient Stewardship agreement that formalizes a joint commitment to support agriculture production and environmental protection by promoting sound fertilizer use... The 4R Nutrient Stewardship agreement recognizes that*

*practices must be customized to fit each farm's unique climate, soils, crops and operations. The agreement provides information to producers, agronomists and others who influence fertilizer management decisions in Manitoba."*

Also of note, 4R Nutrient Stewardship was previously cited in a surface water management strategy as a top recommended action for reducing nutrient losses to improve and protect water quality:

*"Responsibly apply nutrients from all sources (including municipal biosolids, inorganic fertilizer and manure) through strengthening of existing regulatory, incentive and educational programs, notably the 4R Nutrient Stewardship system. Implementing the 4R principles of nutrient source, rate, timing and placement reduces the amount of nutrients that may be lost in runoff to rivers, lakes and streams."*

**Recommendations:**

***G*rowing Outcomes In Watersheds (*GROW*):**

1. The GROW initiative identifies improved on-farm management of nutrients as an expected outcome. Given the extensive voluntary efforts of the 4R MOU to date in the province, adoption of 4R Nutrient Stewardship on-farm should be recognized in this initiative as a recommended sustainable nutrient management approach for addressing water quality in Manitoba;
2. Ensure recognition is given to producers who are early adopters of sustainable nutrient management to preserve watersheds; and
3. Continue collaboration with industry to advance knowledge for the GROW program, while demonstrating the economic, social and environmental benefits to on-farm implementation of 4R Nutrient Stewardship.

***Watershed-Based Drainage and Water Resource Management:***

1. Adopt and support science-based decision making, evidenced by efforts like our Canadian 4R Research Network to better understand the impact of nutrients in water;
2. Continue to recognize and promote 4R Nutrient Stewardship in the province as a recommended best management practice system to mitigate agricultural runoff from highly productive land into waterways. Implementation of 4R Nutrient Stewardship, through efforts such as 4R Designation, can serve as a means to measure improved on-farm management of nutrients; and
3. Take advantage of Fertilizer Canada's free online resources and tools to educate and enable participating producers and their advisors to adopt site-specific 4R Nutrient Stewardship practices in their watersheds.

***Modernization of Manitoba's Conservation Districts Program:***

We support a multi-stakeholder approach to governing and more coordinated watershed planning. Leverage existing opportunities by endorsing voluntary measures taken, collaborating with industry stakeholders and consider the regulatory authority already in place to achieve the objectives of protecting Manitoba's water resources.

Thank you for the opportunity to comment on these watershed planning initiatives. We are committed to continuing to work with the Manitoba government to promote nutrient management and agricultural sustainability.

Sincerely,

A handwritten signature in black ink, appearing to read 'Cotton', written in a cursive style.

Cassandra Cotton  
Director, Sustainability  
Fertilizer Canada