

4R nutrient stewardship

For farmers



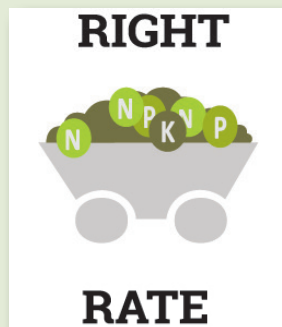
WHAT ARE THE 4RS?

The 4Rs of nutrient stewardship refer to:

Applying nutrients at the Right source, Right rate, Right time, and in the Right place.



RIGHT SOURCE
Select the proper source to supply essential plant nutrients, including granular fertilizers, liquid fertilizers, and/or manures.



RIGHT RATE
Apply fertilizer to meet the plant's needs while accounting for the nutrients already in the soil.



RIGHT TIME
Apply fertilizer when the plant will benefit most and avoid times when fertilizer can be lost to the environment.



RIGHT PLACE
Apply nutrients where the plants can easily use fertilizer and where it is less likely to be lost to the environment.

These don't encompass all 4R practices. You can find more at www.gfo.ca/agronomy.

WHY?

4R Nutrient Stewardship was introduced in Ontario as part of a voluntary initiative to improve the watershed conditions of the Western Lake Erie Basin. The Ontario agricultural industry has now adopted 4R Nutrient Stewardship as a leading framework for best management practice that continuously improve nutrient use.

GOALS OF 4R NUTRIENT STEWARDSHIP IN ONTARIO

- Optimize crop uptake of nutrients and minimize nutrient losses.
- Create long-term positive impacts on water bodies associated with agricultural production areas, including reducing eutrophication and incidence of harmful algal blooms and helping to meet water quality standards.
- Encourage sharing the most up-to-date information about responsible nutrient stewardship with nutrient service providers (e.g., agri-retailers), farmers, and other groups.
- Help the agricultural sector adopt new research and technology in nutrient stewardship.

BEST MANAGEMENT PRACTICES (BMPS)

- Soil tests are conducted at least once every four years in areas no larger than 25 acres.
- Nutrient applications are not to be made on frozen or snow-covered ground.
- For all nutrient recommendations and/or applications, include a minimum setback distance near known sensitive areas, such as tile inlets, wellheads, gullies, and water bodies. Document and discuss the setbacks with the fertilizer applicator.
- If urea or UAN is broadcast on bare ground or is not applied to a growing crop, it must be incorporated within 24 hours. It is recommended to be applied with enhanced efficiency nitrogen sources.
- Phosphorus injection, subsurface banding, or broadcasting with immediate incorporation are the recommended placement methods unless the risk of phosphorus loss to surface water has been demonstrated to be low.
- No broadcast applications of crop nutrients should occur if the weather forecast indicates more than a 50 per cent chance of rain over 1 inch in the next 12-hour period.
- Record all nutrient management planning recommendations and applications.

WHAT TO DO TODAY

1. Review the best management practices listed above to determine which practices have or could be integrated into your operation to advance 4R nutrient stewardship. In particular, soil testing is a best management practice that can contribute to optimizing fertilizer application and inform the adoption of other best management practices.
2. For farmers that want to have their crop acres formally enrolled in the 4R Nutrient Stewardship Certification Program their acres need to be verified by a 4R certified agri-retailer.
3. To review additional 4R practices for your farm, go to Fertilizer Canada's website.
<https://fertilizercanada.ca/our-focus/stewardship/4rs-across-canada/ontario/>

BENEFITS

The benefits of having crop acres 4R certified include:

- Access to expert advice from 4R trained Certified Crop Advisors, on 4R practices that help improve nutrient use efficiency and optimize productivity.
- Increasing the number of acres that are 4R certified can communicate to regulators, grain buyers, and other stakeholders that Ontario farmers are taking initiative and leading on environmental stewardship.

Contact a 4R certified retailer in Ontario for more information on 4R nutrient stewardship.



Information sources:
Fertilizer Canada: <https://fertilizercanada.ca/our-focus/stewardship/4rs-across-canada/ontario/>

Visit www.gfo.ca/agronomy to download.
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