

Choosing 4R to Meet the National Emissions Reduction Target for Fertilizer

In December 2020, the Government of Canada released A Healthy Environment and a Healthy Economy – a plan which pledges to reduce emissions from fertilizer by 30% below 2020 levels by 2030. Agriculture and Agri-Food Canada and Environment and Climate Change Canada (ECCC) must work closely with Canadian farmers to meet this target in a way that supports increased food output, higher farm incomes and continued job growth.

Canada is growing more to increase food security at home and help feed the world

Canadian farmers rely on fertilizer to increase yields.

Agricultural productivity of major field crops in Canada has increased by about 34% since 2005 through agricultural intensification and adoption of new, innovative technologies. Despite using less fertilizer per crop, overall fertilizer consumption in Canada has increased over the past two decades to reach these higher yields. Higher yields are necessary to meet the growing global demand for Canadian crops, which has been endorsed by the federal government's target of \$75 billion in agri-food exports by 2025.

By choosing 4R Nutrient Stewardship Canadian farmers have become some of the most sustainable food producers in the world

Canadian farmers and the fertilizer industry are ahead of the federal government on reducing emissions.

Canadian farmers have used 4R Nutrient Stewardship to reduce fertilizer emissions for the last decade and a half. 4R is a science-based approach to nutrient management that involves applying the Right Source (of fertilizer) at the Right Rate, Right Time and Right Place. 4R optimizes plant nutrient uptake, increases yield, and maximizes farmer profitability, while achieving verifiable reductions in emissions.



However, barriers remain to increased 4R adoption. The National Inventory Report does not accurately estimate Canada's fertilizer emissions because it does not account for emission reductions that happen because of 4R. Top scientists, and leading government and industry agronomists have helped develop a 4R Climate-Smart Protocol that allows for farm specific measuring and reporting of emission reductions. If ECCC fixes the National Inventory Report and implements the Climate-Smart Protocol it will ensure farmers are recognized for their on-farm reductions in a quantifiable, verifiable way and allow them to produce saleable carbon credits.

4R has been formally recognized by the provinces of Saskatchewan, Manitoba, Ontario, and Prince Edward Island, and by national farm groups such as the Canola Council of Canada, the Canadian Federation of Agriculture and Grain Growers of Canada. The proactive efforts of farmers have made Canada one of the most efficient fertilizer users in the world. This is good for the environment, but as a result, Canadian farmers have less ability to lower fertilizer emissions than farmers in other countries without compromising food production.



There are already 4 million acres in Canada certified under a 4R designation program with millions of more acres that are following 4R best-practices.

The government must go all-in on 4R to meet Canada's emission reduction targets

There are only nine growing seasons until 2030.

Recognizing this urgency, Budget 2021 allocated \$200 million over two years to launch immediate, on-farm climate action under the Agriculture Climate Solutions Program. This funding should be used to increase the adoption of 4R by Canadian farmers.

There is a consensus in Canada's agriculture community that 4R Nutrient Stewardship must be the primary method of reducing Canada's fertilizer emissions. Reaching the 30% target requires the government to work closely and urgently with the agriculture community to increase the use of the 4Rs. With 4R Nutrient Stewardship at the centre of the federal fertilizer emissions reduction strategy farmers can continued to grow more food, increase exports, raise farm incomes, and improve food security at home and abroad.

How to meet Canada's fertilizer emissions reduction target of 30% by 2030:

1

Agriculture and Agri-Food Canada and Environment and Climate Change Canada should formally recognize 4R Nutrient Stewardship. Canada must build on a proven approach to lowering agricultural emissions that is already used by Canadian farmers and recognized by four provinces.

2

Agriculture and Agri-Food Canada should invest in 4R Nutrient Stewardship research, measurement, and farmer adoption with the \$200 million for immediate on-farm climate action announced in Budget 2021. With nine growing seasons until 2030 the government must work with farmers to quickly scale up 4R adoption to meet Canada's ambitious climate goals.

3

Environment and Climate Change Canada should implement the 4R Climate-Smart Protocol. Integrating on-farm measuring and reporting of emission reductions into its offset program will help Canada reach its targets and incentivize farmers with saleable carbon credits.

4

Environment and Climate Change Canada should fix the National Inventory Report. To meet its targets Canada must accurately capture emissions and reductions due to 4R Nutrient Stewardship.

