

01

Who We Are

02

Message From The Chair

04

Message From The President

06

Industry Reputation

TABLE OF CONTENTS

11

Business Environment

14

Safety And Security

16

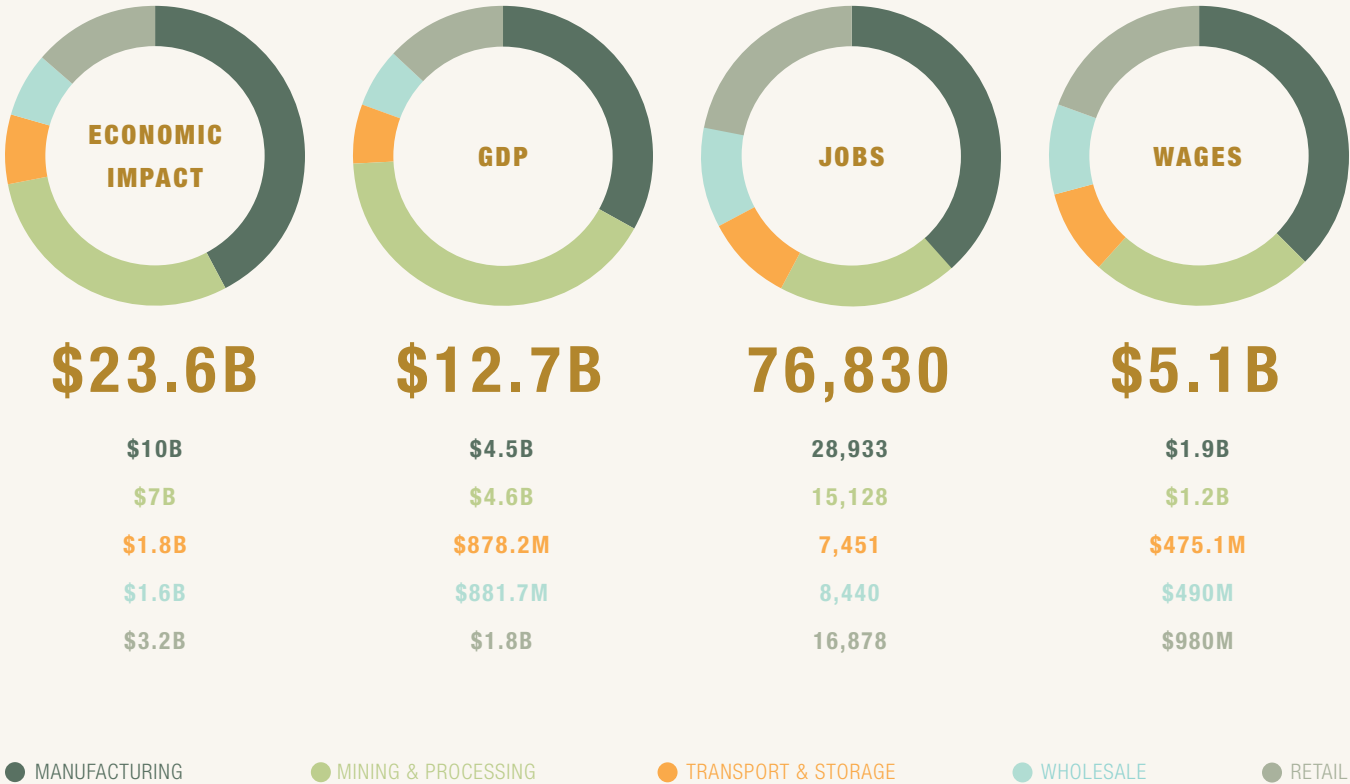
Nutrient Stewardship

24

Leadership And Staff

WHO WE ARE

Fertilizer Canada represents manufacturers, wholesale, and retail distributors of nitrogen, phosphate, potash, and sulphur fertilizers. The fertilizer industry plays an essential role in Canada's economy, contributing \$23 billion annually and over 76,000 jobs. The association is committed to supporting the fertilizer industry with innovative research and programming, while advocating sustainability, stewardship, safety, and security through standards and Codes of Practice. As the foundation of Canada's agri-food sector, Fertilizer Canada continues to make changes that positively impact the environment, the economy, and the social fabrics of Canadian life.



+

+

+

MESSAGE FROM THE CHAIR

MAKING PROGRESS TOWARD OUR VISION 2020 STRATEGIC GOALS

As the association committed to representing the needs of the Canadian fertilizer industry, Fertilizer Canada is continuously working to achieve objectives that represent significant progress for our sector as a whole.

To this end, Fertilizer Canada is currently guided by a Vision 2020 strategic plan – implemented in 2016 – that identifies key goals that would advance the interests of the industry under five organizational pillars: Stewardship, Safety and Security, Business Environment, Industry Reputation and Organizational Excellence. This year – 2018 – marks the halfway point in this plan, offering an opportunity to check in and reflect on the progress of these strategic goals to date.

During my two years as Chair of Fertilizer Canada's Board of Directors, our industry has gained significant recognition as one that is integral to supporting Canada's national and international priorities. Our programming has been recognized by the Food and Agriculture Organization of the United Nations, the Canadian Federation of Agriculture, the International Joint Commission and Canada's provincial and federal governments – among others.

Along with this increased recognition, our association has made substantial progress towards achieving our strategic goals.

Since 2016, 4R Nutrient Stewardship has seen major strides in adoption and endorsement both within Canada and internationally. This increased visibility and support has created acceleration in acceptance and adoption of the program as a solution for sustainable agriculture that limits impacts to the environment while securing grower profitability. This progress is helping to foster conversations that would gain 4R Nutrient Stewardship an official endorsement as the standard for sustainable agriculture in Canada.

Additionally, initiatives such as the Canadian 4R Research Network – which has developed 10 scientifically-proven best management practices (BMPs) – and 4R Designation and 4R Certification in Ontario – which are helping agri-retailers align their businesses with the sustainability principles of the 4Rs – are boosting our association ever closer to our goal of capturing 20 million acres under the framework by 2020.

Our association's proactive approach to safety and security continues to ensure the Canadian fertilizer industry is gold-standard in manufacturing, handling, storage, transportation

and application of commercial fertilizers. Fertilizer Canada's commitment to advancing the safety and security of fertilizer products fosters working relationships with key industry influencers and creates opportunities to contribute to collective agreements on regulations. Through this, Fertilizer Canada is on its way to reducing incidents of ammonia. This year, Fertilizer Canada worked with Transport Canada to obtain extension certificates that allowed members to align with new compliance measures under the B620-14/B622-14 regulations for nurse tanks, while ensuring growers had access to sufficient product for application during the spring seeding season.

Fertilizer Canada's ongoing work to enforce the Codes of Practice – including the new Calcium Ammonium Nitrate (CAN) Security Code of Practice that was created as a proactive approach to expected regulation changes – and to encourage safety and security training through our eLearning platform at all levels of the supply chain – from transportation to first response – is also propelling our industry towards becoming among the top 25 per cent in safety and security programs at an international level.

Both the Stewardship and Safety and Security pillars are supported by our advocacy and government relations work through the Business Environment pillar. Our association's ongoing commitment to ensuring our industry's voice is heard by decision makers on matters of trade, transportation, environmental stewardship and regulation is integral to ensuring our members maintain their freedom to operate without needless obstructions.

Since 2016, Fertilizer Canada has been actively engaged in promoting 4R Nutrient Stewardship and the 4R Climate-Smart Protocol, also known as the Nitrous Oxide Emission Reduction Protocol (NERP), as a complete solution to on-farm greenhouse gas reduction. Already adopted by Alberta, both Quebec and California have chosen to adapt the framework as a candidate protocol for their cap-and-trade system. The protocol is also under consideration in Saskatchewan and Manitoba, as part of their carbon pricing initiatives.

An efficient and consistent transportation system is crucial to ensuring the Canadian fertilizer industry remains globally competitive. As a key component to delivering product to our customers, Fertilizer Canada also worked on regulatory issues including Bill C49 to meet the needs of the fertilizer industry.

We continue to see examples of the improved reputation of our industry as a result of these initiatives, whether that is through endorsements of our stewardship programs, or recognition from decision makers in national or international reports. The challenges that we will face in the future will be critical to our industry and as proven with our past successes can be accomplished by the strength of our member companies working with Fertilizer Canada as a unified influencing position to recognize and confront these challenges.

Fertilizer Canada exists to act as a common voice for the industry, one that ensures our story is heard and that the industry is recognized for its significant contributions to achieving national and international goals.

Engaging members is a focused priority for Fertilizer Canada as we aim to complete our Vision 2020 action plan. Committees are a vital component of the success of Fertilizer Canada. They provide valuable insight, help achieve the goals and vision of the association, and connect Fertilizer Canada staff with the concerns of its members. In order to ensure the continued effectiveness of our committees, Fertilizer Canada has formalized a new committee structure that will create efficiencies making the experience more rewarding – in short, delivering exceptional member value.

As Fertilizer Canada's new Chair comes on board, we – as a collective and engaged industry – need to work together to remain focused on our Vision 2020 strategic goals to build upon our successes.

We need to continue to advocate for a national standard for agricultural sustainability that includes 4R Nutrient Stewardship as the best practice for reducing impacts while providing a return for growers, and also expand this on an international scale to create sustainability for all.

We need to remain a world leader in fertilizer safety and security by enforcing our Codes of Practice, continuing education and advocating for fair legislation that both protects and enables farmers to reach their full potential.

We need to advocate for our industry's continued uninhibited operation at the manufacturing, trade and transportation levels. Creating a stronger transportation network, without needless interruptions in service, will enable more of our product to get to growers and ports – increasing our competitiveness as fertilizer suppliers but also as agricultural exporters.



Finally, we need to ensure that we continue to tell our story and share our successes as an industry. Agriculture and fertilizer application have benefitted from decades of innovation and continue to become more efficient – let's share that with the world.

I have enjoyed my time as Fertilizer Canada's Chair, and look forward to witnessing our continued momentum in the years to come.

A handwritten signature in black ink, appearing to read 'Kathy Jordison', with a long, sweeping underline.

Kathy Jordison
Yara Canada Inc.
Chair, Fertilizer Canada Board of Directors
2017-2018

MESSAGE FROM THE PRESIDENT

ENHANCING COMPETITIVENESS TO MEET CANADA'S GOALS

Significant change in the United States tax, trade, regulation and environmental policy directions have heightened growing concern that federal and provincial policies must ensure the global competitiveness of Canadian industries. The tough-minded U.S. negotiating positions on trade agreements and tariffs, retreat from greenhouse gas reduction and reduced tax rates all pose challenges to the competitiveness of the Canadian fertilizer industry. Fertilizer Canada is ramping up its efforts to ensure a competitiveness lens is put on every government decision.

At the same time, Canada has set ambitious goals to be a world leader in environmental stewardship, safety and economic prosperity. These goals will not only benefit the residents of the nation, but will contribute to a healthier global landscape that is better equipped to fight climate change and food security. The fertilizer industry shares those same goals.

In order to create long-term success for the Canadian fertilizer industry and to ensure we remain leaders in supporting those national goals, Fertilizer Canada is committed to increasing the competitiveness of our members on a global scale. As our industry rises to meet Canada's dual challenge of reducing environmental impacts while increasing agricultural exports, we find that the Canadian fertilizer industry is well-positioned to support Canada's commitments to the United Nations' Sustainable Development Goals and the 2015 Paris Agreement through the Pan-Canadian Framework on Clean Growth and Climate Change, while also realizing our potential to move to the world's second largest agricultural exporter as outlined in a report from the federal Advisory Council on Economic Growth chaired by Dominic Barton, *Unleashing the Growth Potential of Key Sectors*. Our industry's goals to advance environmental sustainability, further the safety and security of our products and increase trade, mirror and support the federal government's continued mandate.

In order to create maximized competitiveness for Canada's fertilizer industry as a major global powerhouse, all facets of the supply chain must work together at maximum efficiency: from manufacturing and mining, to transportation and export, to storage, sales, trade and end-use by growers.

Fertilizer Canada, as a representative of the collective Canadian fertilizer industry, is working hard to ensure operations of our members in all capacities remain uninhibited, benefitting Canada as a whole through the value it provides directly and through support of our massive agriculture sector. The association has made significant strides in creating a strong network of opportunities to increase competitiveness for the industry.

After establishing a trade committee last year, Fertilizer Canada has been involved in trade discussions with the United States and other key trading partners to ensure the continued movement of our products to offshore markets to maintain our position as a competitive supplier of fertilizer products globally. Our association is committed to representing the interests of our members as discussions on the North American Free Trade Agreement (NAFTA) and other critical trading agreements evolve.

Domestically, Fertilizer Canada has been engaged with the Minister of Transport and the Minister of Natural Resources to ensure that Bill C-49, the *Transportation Modernization Act*, reflects the needs of our industry. In order to move fertilizer products to growers across Canada and to ports for trade, our industry relies on a timely, reliable and cost-effective rail system that operates efficiently and uninhibited. Disruptions in rail service affect our ability to compete as a leading supplier of fertilizer; our association continues to push for lasting and transparent solutions to this issue.

Additionally, our association is involved in a new task force called Competitiveness and Canada's Resource Sector – organized by the Business Council of Canada – to discuss and action joint engagement and advocacy efforts to bring the concerns of Canada's resource sector to the attention of decision makers across Canada. Representing the interests of the Canadian fertilizer industry as part of this task force will create opportunities for positive developments on key issues of competitiveness.

As we work to advance trade, transportation and advocacy efforts to support increased competitiveness for our industry, the other facets of our association – nutrient stewardship, product safety and security and industry reputation – are functioning to support our ability to operate uninhibited.

Work on advancing 4R Nutrient Stewardship (Right Source @ Right Rate, Right Time, Right Place®) across Canada

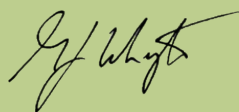
as a national and provincial standard has caught the attention of decision makers as a solution to emission reduction, nutrient loading in key water bodies including the Great Lakes and Lake Winnipeg, and crop production on less acreage. As consumer groups begin to increasingly seek sustainably-grown produce, 4R Nutrient Stewardship and our 4R Designation and 4R Certification programs are seeing rise as proof that Canadian growers are practicing the best in sustainable agriculture.

Ensuring that growers have safe and reliable access to the best fertilizer inputs for their farms is also a top priority for Fertilizer Canada. As proactive solutions to anticipated regulations surrounding the handling, storage, transportation and application of anhydrous ammonia and ammonium nitrate fertilizer products, Fertilizer Canada has created three world-class Codes of Practice as well as educational resources for all levels of the supply chain on safety and security practices. Through our eLearning platform, more than 3,500 Canadians (including 1,100 first responders) are educated on handling, storage, transportation, use and incident response for these two products.

Maintaining our industry's social license to operate involves educating the public and decision makers about the benefits of fertilizer use as a necessary support for feeding the growing population, while communicating our industry's efforts to make sure our products are used in the most sustainable and safe way. Telling our story to grower, industry, government and public audiences has helped shed light on farming as a modern innovation that is helping to make Canada, and the world, a better place through increased food security and environmental stewardship.

Moving forward, our association will continue to work toward achieving our goals as set out by our Vision 2020 strategic plan. In doing so, benefits will be felt in all sectors of the Canadian fertilizer industry: from manufacturing and processing to end-use by the grower, the fertilizer industry will maintain this momentum that is elevating us to a position of leadership on many fronts, including competitiveness.

I look forward to working closely with our members over the next year as Fertilizer Canada works strategically toward our association goals.



Garth Whyte
President & CEO



“

FERTILIZER CANADA, AS A REPRESENTATIVE OF THE COLLECTIVE CANADIAN FERTILIZER INDUSTRY, IS WORKING HARD TO ENSURE OPERATIONS OF OUR MEMBERS IN ALL CAPACITIES REMAIN UNINHIBITED, BENEFITTING CANADA AS A WHOLE THROUGH THE VALUE IT PROVIDES DIRECTLY AND THROUGH SUPPORT OF OUR MASSIVE AGRICULTURE SECTOR.

GARTH WHYTE
PRESIDENT & CEO

INDUSTRY REPUTATION

As Fertilizer Canada works to create continual progress in the areas of safety and security and nutrient stewardship for fertilizer products, it is important that our industry shares its successes with audiences in Canada and across the globe.

Through outreach to industry stakeholders, government representatives, growers and the Canadian public, Fertilizer Canada is able to tell the story of the Canadian fertilizer industry as one that is innovative, proactive and integral to Canada's economic, environmental and social goals.

GLOBAL FERTILIZER DAY

Global Fertilizer Day is an international awareness campaign initiated by Fertilizers Europe and supported by fertilizer associations and companies. The goal is to build awareness of fertilizer, from manufacturing to on-field application, how it contributes to the overall agricultural industry and the important role it plays in feeding the world.

October 13 was chosen as Global Fertilizer Day to pay tribute to the anniversary of Fritz Haber's discovery of ammonia synthesis (**Haber-Bosch process**) in 1908, which sowed the seeds for the Green Revolution of the early 20th century. During this time, widespread adoption of agricultural technologies lifted millions out of poverty and famine, allowing our world to grow and develop as we know it today.

In its second year, Fertilizer Canada encouraged the celebration of Global Fertilizer Day by creating a toolkit to assist with promotion in the lead up to the event. The toolkit included suggestions on community and employee engagement including a facility tour guide; social media guide; an order form for a Global Fertilizer Day promotional grocery bag; and ready-made digital marketing resources including posters, logos, invitations, and infographics.

39,539
TOTAL SOCIAL MEDIA
IMPRESSIONS #FERTILIZERDAY

491
TOTAL SOCIAL MEDIA
ENGAGEMENTS #FERTILIZERDAY

750
GLOBAL FERTILIZER DAY
TOTE BAGS ORDERED

INTERNATIONAL WOMEN'S DAY

In celebration of International Women's Day, Fertilizer Canada ran a campaign that focused on highlighting the rise of women in the agri-food industry both in Canada and in developing countries across the globe. Highlights from the campaign include:

- An interview with **Ingrid Fischer, Director of Business Development at CDF Canada** to offer her insight into the efforts being undertaken to support female smallholder farmers today. Fertilizer Canada and the Co-operative Development Foundation of Canada (CDF Canada) have partnered to increase food security using climate smart methods for smallholder farmers in developing countries, with a focus on reducing barriers for women.
- The number of women participating in agri-food is rising; capturing their experiences through a social media campaign using the hashtag #womeninagrifood provided a snapshot of the opportunities that exist currently and a glimpse into what the future of agriculture could hold. Women involved in agri-food, from growers to executives, provided their input on what it meant to be a female in the industry today and shared insights on the path toward gender equality in the agriculture space.



“ TO ME, BEING INVOLVED IN AGRI-FOOD MEANS THAT I'M PART OF A VERY PRACTICAL SOLUTION, NOT THE WHOLE SOLUTION, BUT ONE SOLUTION TO MITIGATE THE SOCIAL INSTABILITY AROUND THE WORLD. I THINK IT IS IMPORTANT THAT WE CONTINUE ON THIS VEIN OF ENSURING THAT WOMEN HAVE ACCESS TO BE ABLE TO FARM AND BE INVOLVED IN AGRI-FOOD, BECAUSE IT IS IMPORTANT TO NOT ONLY THE WOMEN DIRECTLY INVOLVED – IT'S IMPORTANT TO THE WORLD. ”

INGRID FISCHER
DIRECTOR, BUSINESS DEVELOPMENT, CDF CANADA

49,153

**SOCIAL MEDIA IMPRESSIONS
PER MINUTE #IWD2018**

330,863

**SOCIAL MEDIA IMPRESSIONS
PER DAY #WOMENINAGRIFOOD**



Eighty per cent of Fertilizer Canada's staff is female. Top row, from left: Giulia Brutesco, Kim Devison, Cassandra Cotton, Catherine King, Kelly McCarthy, Brittany Thibaudeau, Nadine Frost. Bottom row, from left: Amanda Giamberardino, Kalyn Harris, McKenzie Smith. Not pictured: Emily Pearce Rayner, Claudia Navarro, Amanda Pach, Allison Watcher.



The Honourable Lawrence MacAulay, Minister of Agriculture and Agri-Food, stops by Fertilizer's Canada's chip truck to sample sustainable French fries made with PEI potatoes and cooked in Saskatchewan canola oil. From left: Garth Whyte, President & CEO, Fertilizer Canada; Hon. Lawrence MacAulay; Kathy Jordison, Fertilizer Canada Chair (Yara); Brian Mark, Fertilizer Canada Vice-Chair (Nutrien).

CELEBRATING SUSTAINABILITY

During our annual Parliamentary Forum, Fertilizer Canada partnered with Lou's Fast Food Truck to hand out French fries, made with PEI potatoes and cooked in Saskatchewan canola oil, to promote climate smart agricultural practices on Canadian farms.

The event drew significant crowds, who had the opportunity to learn about how 4R Nutrient Stewardship helps Canadian farmers reduce environmental impacts while providing a return on fertilizer dollars spent.

PARTNERSHIPS

Last year, Fertilizer Canada created a new Partnership Program that allows collaboration with stakeholders who are not directly involved in the fertilizer industry but have an interest in interacting with our supply chain. This creates an opportunity for our association to work closely with a wider variety of stakeholders who have a vested interest in the success of our industry.

In 2018, Fertilizer Canada acquired two new Partnerships:

- Scakett-Waconia
- Port of Vancouver

IMPACTS ACROSS CANADA AND THE WORLD

This year, Fertilizer Canada published an economic report that includes updated numbers demonstrating how our industry contributes to the national economy through the GDP, number of jobs held and more.

These numbers prove how much the Canadian fertilizer industry supports Canada's powerhouse agriculture sector and farmers both here and around the world. Having updated figures for these data points and more is critical to shaping our advocacy efforts on several fronts, and in building our industry's reputation among decision makers.

Knowing our industry's place in the national economy and demonstrating it to decision makers and other stakeholders is an important tool to advance the interests of the sector. Fertilizer Canada is committed to performing a regular review of these figures as our industry continues to grow.



Bretton Plots

In 1929, the Bretton Soil Fertility Plots were some of the first sites where intensive fertilizer comparative research was conducted.

Founded by two researchers – Dr. Frank A. Wyatt and Dr. John D. Newton – from the Soils Department at the University of Alberta, the plots are located in an area made up of Grey Luvisolic soils, more commonly known as Grey Wooded soils. These soils, found in forested areas around Canada, were largely unprofitable to farmers until research at the Bretton plots on cultivation methods, crop varieties, rotation and fertilizer use changed the way they were used.

This preliminary research on otherwise unusable soil has led the way for modern agriculture and fertilizer use.



“ I’m the world’s biggest fan of fertilizer. I’m endlessly fascinated by the stuff. It’s a magical material that can transform the lives of the poor by helping them grow bigger harvests and adapt to the impacts of climate change.”

Bill Gates | December 2015

This modernization overcame the biggest challenge facing the potash industry: located between 400 and 600 metres below the surface, just above the reserves, is a section of wet, sandy earth called the Blairmore Formation.

This wet earth would inevitably fall into and block potash mine shafts from being excavated further. The solution, crafted by potash engineers, was to freeze the Blairmore Formation, wrap the interior of the mine shaft in concrete, and reinforce the concrete with a series of iron rings known as Blairmore rings.

This innovation has contributed to the growth of the fertilizer and agriculture industries within Canada and throughout the world, as Saskatchewan provides 45 per cent of global potash supply.

HIGHLIGHTING 15 CANADIAN FERTILIZER INNOVATIONS

Beginning long before the Green Revolution, the Canadian fertilizer industry has been working to shape agricultural advancement by improving the way growers deliver essential nutrients to their crops. As the backbone of agriculture, the innovations of the Canadian fertilizer industry continue to support this global development led by farming and agri-food.

Fertilizer Canada’s 15 Canadian Fertilizer Innovations booklet highlights and celebrates the advancements that have helped to revolutionize agriculture and shape the world of today. Demonstrating our industry’s history and continued commitment to innovation is an integral part of telling our success story.

PUBLIC EDUCATION PARTNERSHIPS

Fertilizer Canada is committed to educating the public on the importance of fertilizer as food for the plants that we eat. Providing accessible information to the public about fertilizer, what it is, how it’s made and how it’s used is key to increasing awareness of the necessity of the product to support the growing population.

As part of this commitment, Fertilizer Canada has partnered with two of Canada’s national museums to display exhibits highlighting the importance of fertilizer.

The fertilizer industry is one of the largest stakeholders in the Canadian mining sector, with \$4.7 billion in potash exports in 2016. The Canada Science and Technology Museum – which reopened after a full renovation in November of 2017 – has demonstrated the important ranking of the fertilizer industry in the Canadian mining landscape at the new From Earth to Us exhibit.

Indicating to the public that “if it’s not grown, it’s mined”, the new From Earth to Us exhibit at the Canada Science and Technology Museum has reconfigured the previous fertilizer exhibit as part of a larger attraction telling the story of the Canadian mining sector as a whole.

Similarly, Fertilizer Canada is proud to have partnered with the Canada Agriculture and Food Museum to create a new Soil Lab Discovery Zone. Launched on Earth Day in 2017, the Soil Lab aims to educate Ottawa’s youth about the overlooked foundation of agriculture: soil.

The Canada Agriculture and Food Museum receives over 170,000 visitors annually – teaching them, with real soil science instruments, about the 13 essential nutrients found in soil, including the three most important to soil health and food production: nitrogen, phosphorus and potassium. The Soil Lab also highlights the chemical, physical and biological properties of soil and explains how farmers manage their cropland through sustainable fertilizer use.

170,000
VISITORS TO THE CANADA FOOD & AGRICULTURE MUSEUM ANNUALLY

ANNUAL CONFERENCE

Fertilizer Canada's 72nd Annual Conference – held in conjunction with the North American Fertilizer Transportation Forum – was hosted in Banff, Alberta in August of 2017. There, members had the opportunity to review the successes of the industry over the previous year and discuss the future as our sector continues to gain momentum.

464,000+
ENGAGEMENTS ON SOCIAL MEDIA
(TWITTER, FACEBOOK, LINKEDIN)



Dave Thompson was recognized with Fertilizer Canada's Award of Merit for four decades of unwavering enthusiasm and commitment to the agriculture and fertilizer industries. Dave was instrumental in negotiating Fertilizer Canada's first Memorandum of Understanding in PEI in 2012, paving the way for the advancement of sustainable agriculture across Canada in subsequent years.



Fertilizer Canada President & CEO Garth Whyte and Executive Assistant Kim Devison at the 72nd Annual Conference in Banff, AB.



Reception at Fertilizer Canada's 72nd Annual Conference in Banff, AB.

BUSINESS ENVIRONMENT

Fertilizer Canada is the voice of Canada's fertilizer manufacturers, wholesale and retail distributors, advocating for government measures that strengthen the industry's ability to operate. A productive fertilizer industry supports the competitiveness of Canada's farmers as our nation strives to increase agri-food exports to \$75 billion by 2025, as set by the federal government's *Advisory Council on Economic Growth*.

Fertilizer Canada's Vision 2020 strategic plan identifies the need to: communicate the industry's initiatives related to its potential in reducing greenhouse gas emissions; maintain the industry's freedom to operate without needless regulations; and focus on safe and efficient transportation services with all levels of government.

OFFERING SOLUTIONS ON EMISSION REDUCTION

Canada has the opportunity to become a world leader in reducing greenhouse gas emissions on-farm by helping growers become climate-smart. As Canada strives to reach its environmental sustainability commitments identified in the Pan-Canadian Framework on Clean Growth and Climate Change and in the 2015 Paris Agreement, Fertilizer Canada is offering solutions to reduce greenhouse gas emissions with the national 4R Climate-Smart Protocol, also known as the Nitrous Oxide Emission Reduction Protocol (NERP).

Using the science-based principles of 4R Nutrient Stewardship, the 4R Climate-Smart Protocol can help growers better manage crop nutrition, maximize yields and minimize losses of nitrogen fertilizer by up to 30 per cent. If applied across Western Canada, the protocol would offset the emissions produced by nitrogen fertilizer manufacturing

“

THERE IS NO QUESTION THAT AGRICULTURE HAS A VITAL ROLE TO PLAY IN ADDRESSING CLIMATE CHANGE AND THE FERTILIZER INDUSTRY IS AT THE FOREFRONT OF THAT EFFORT.

HONOURABLE LYLE STEWART
SASKATCHEWAN MINISTER OF AGRICULTURE

by one to two megatonnes annually and produce carbon credits to be issued to farmers as a reward for their proactive approach to environmental stewardship.

In 2018, Fertilizer Canada commissioned and published a report by Viresco Solutions to lay out a strategy for national implementation of the 4R Climate-Smart Protocol. The report indicates that the institutional platform necessary for a roll-out of this scale is in place, but now a coordinated effort must begin to capture its potential.

With over one million acres already operating under the protocol in Alberta, where it was developed, leaders across Canada are recognizing the protocol as a ready-made solution to reducing on-farm greenhouse gas emissions. Quebec and California have chosen to adapt the NERP framework as a candidate protocol for their cap-and-trade system. The protocol is also under consideration in Saskatchewan and Manitoba, as part of their carbon pricing initiatives.

As a universal practice, the 4R Climate-Smart Protocol is also gaining recognition on an international scale: the framework was highlighted at the COP23 conference as an innovation in sustainable farming that is having a positive impact in Canada and that offers potential globally.

Researchers, experts, practitioners and stakeholders are now being mobilized across the country to implement a Pan-Canadian 4R Climate-Smart Protocol and continue to make available to growers the latest in nitrous oxide emission reduction science through the 4Rs. In addition to meeting international standards, this protocol has the potential to reduce greenhouse gas emissions on millions of acres.

51

MEETINGS WITH DECISION MAKERS ACROSS OUR ANNUAL PARLIAMENTARY AND LEGISLATIVE FORUMS IN 2017/2018 SUPPORTING HUNDREDS OF INTERACTIONS THROUGHOUT THE YEAR.

PROTECTING THE ENVIRONMENT AND THE INDUSTRY'S COMPETITIVENESS

The federal government will implement a national, minimum price on carbon beginning on Jan. 1, 2019. The price will apply in jurisdictions that do not have an equivalent or exceeding price through a cap-and-trade or carbon tax model. Provinces and territories which do not adopt one of the two systems will have one provided and managed by the Government of Canada.

Fertilizer Canada has engaged extensively with federal and provincial governments to ensure that if a carbon price is imposed, it recognizes:

- That potash and nitrogen manufacturing are heavily energy-intensive and trade-exposed, and that any additional costs borne by manufacturers will result in market displacement to jurisdictions without a carbon price.
- Early actions by the industry to reduce greenhouse gas emissions at manufacturing, and the limited ability of the industry to further reduce emissions.
- Work by the fertilizer industry to reduce emissions on farm through 4R Nutrient Stewardship and the 4R Climate Smart Protocol, also known as the Nitrous Oxide Emission Reduction Protocol.

In 2017, Fertilizer Canada and Alberta's fertilizer manufacturers worked to have these principles recognized under the province's *Carbon Competitiveness Incentives Regulation*. Building on this success, work is currently underway with the federal government and governments of Saskatchewan and Manitoba.

COLLABORATING ON AIR QUALITY

The result of five years of industry collaboration with Environment and Climate Change Canada and the governments of Saskatchewan and New Brunswick, a Code of Practice for the Management of PM_{2.5} Emissions in the Potash Sector in Canada has been published.

The creation of this voluntary code – which includes best practices to control and minimize the emissions of PM_{2.5}, a fine salt particulate – is the conclusion of a successful, collaborative process with all involved parties, including Fertilizer Canada and the Canadian potash industry.

The code is designed to be used by the potash industry as a course of technical and policy guidance, and endorses the new Air Quality Management System (AQMS), which includes Canadian Ambient Air Quality Standards for fine particulate matter such as PM_{2.5} and other substances.

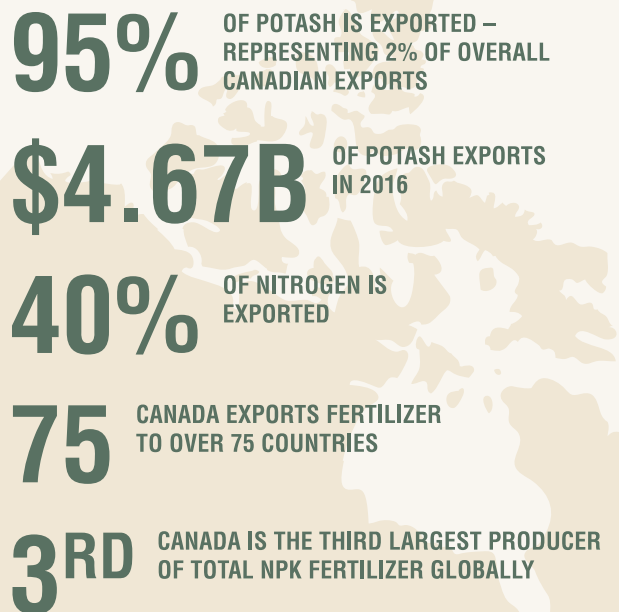
This new code represents the Canadian fertilizer industry's commitment to environmental stewardship.

STRENGTHENING CANADA'S TRANSPORTATION NETWORK

Promoting competitive access to Canada's transportation corridors is critical to the economic prosperity of our industry. A fair and efficient freight rail system is necessary to help Fertilizer Canada's members get goods to market in Canada and abroad.

Fertilizer Canada is a proud partner of Canada's freight rail system and supports the government's efforts to improve competition, most recently through Bill C-49, the *Transportation Modernization Act*. Fertilizer Canada worked with other shipper associations to advocate for the strengthening of remedies for shippers.

As the Canadian fertilizer industry works to meet demands to deliver fertilizer products in domestic and offshore markets, the sector is reliant on consistent rail service to remain globally competitive. Fertilizer Canada will continue to advocate for the government to take action to create an efficient rail system that allows for strong trade and economic growth.



ENSURING EFFICIENT PRODUCT REGULATION

Fertilizers and supplements are critical inputs that growers rely on to replenish soil and improve crop yields; growers depend on these products and require timely and safe access. Fertilizer Canada plays an active role in addressing regulatory measures that impact fertilizer product use. To ensure Canadian growers have consistent access to the fertilizer products they require, Fertilizer Canada works in joint partnership with the Canadian Food Inspection Agency (CFIA) to host an annual Canadian Fertilizer Products Forum (CFPF).

Since its creation in 2006, CFPF has played an integral role in strengthening coordination among federal departments and agencies, increasing transparency and improving stakeholder engagements in the regulatory process. Recognized by the federal government and other decision makers for innovating the regulatory process, CFPF provides value for fertilizer industry members throughout the supply chain as it simplifies and creates efficiencies in getting new and improved products to market.

ADDRESSING REGULATORY CONCERNS ON CANNABIS

As Fertilizer Canada continues the mandate of the CFPF to consolidate consensus-based advice to government to encourage positive regulatory change that promotes innovation, sustainability and international leadership for Canada in the field of fertilizers and supplements, our association formed the Cannabis Working Group to review the implications of the *Cannabis Act* for the fertilizer industry.

The working group – including representation from the CFIA and Health Canada – discussed and developed industry recommendations for the changing regulations around cannabis production and crop inputs to address projected industry impacts.

Additionally, as a result of advocacy by the Canadian fertilizer industry, the *Cannabis Act* was amended to clarify the definition of “cannabis accessory”, allowing products used in the production of cannabis – including fertilizers – to be sold in home and garden stores. This will improve access to cannabis production inputs for the Canadian public once the *Cannabis Act* comes in to effect.



Fertilizer Canada meets with MP Karen McCrimmon during our annual Parliamentary Forum. From left: Brian Gilbertson, MP Karen McCrimmon, Emily Pearce-Rayner.



Fertilizer Canada representatives meet with MP Shannon Stubbs, Vice-Chair of the Standing Committee on Natural Resources during the annual Parliamentary Forum. From left: Dave Thompson, MP Shannon Stubbs, Sarah Fedorchuk, Steve Biggar.

SAFETY AND SECURITY

Safety and security in the manufacturing, handling, storage, transportation and application of fertilizer products is central to the operations of the industry. Guided by the Vision 2020 action plan, Fertilizer Canada is invested in constantly working to ensure standards are developed, met and updated on an ongoing basis to certify the Canadian fertilizer industry maintains its position as a world leader in safety.

ADVANCING SAFETY AND SECURITY THROUGH CODES OF PRACTICE

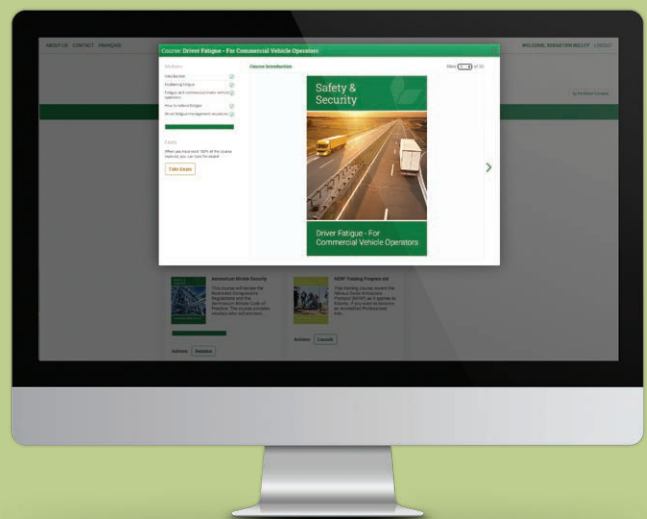
As part of our commitment to the advancement of safety and security in the agri-food industry, Fertilizer Canada has created the new Calcium Ammonium Nitrate (CAN) Security Code of Practice to create uniform security practices for the handling, transportation, storage and sale of CAN in Canada.

This Code was created as a proactive approach to the review of the *Explosives Regulations* (formerly the *Restricted Components Regulations*) by the federal government and provides direction to Fertilizer Canada members to implement best practices for CAN security.

Through the implementation of this new Code – in addition to Fertilizer Canada’s two existing Codes of Practice covering ammonium nitrate and anhydrous ammonia – the Canadian fertilizer industry is demonstrating the industry’s stringent commitment to remaining a world leader in the safety and security of fertilizer products.

Verified by third-party audits, compliance with Fertilizer Canada’s Codes of Practice is mandatory for the association’s members. These high levels of compliance are achieved through the development and communication of educational resources – including online eLearning courses, webinars and downloadable materials – for individuals at all levels of the fertilizer supply chain, from manufacturing to end-use.

Fertilizer Canada’s newly-developed CAN eLearning course focuses on educating users and sellers of CAN on the security practices outlined in the Code.



3660+
TRAINED IN FERTILIZER SAFETY AND SECURITY THROUGH ELEARNING

ENSURING GROWER ACCESS TO AMMONIA

Growers across Canada rely on anhydrous ammonia fertilizer as a key nitrogen input for their fields. Fertilizer Canada is committed to ensuring all growers continue to have reasonable and timely access to this product.

Fertilizer Canada has made it a top priority to help its members ensure compliance with the new Canadian Standards Association (CSA) B620/B622 Standards for the testing of anhydrous ammonia nurse tanks, which contain pressurized ammonia for field application. Working closely with Transport Canada and the Canadian Association of Agri-Retailers (CAAR), Fertilizer Canada was able to ensure all growers had access to anhydrous ammonia ahead of the 2018 spring planting season by obtaining equivalency

certificates from Transport Canada that granted additional time to complete the required testing.

Fertilizer Canada was also able to secure standardized nurse tanks designs, ensuring that the unique use of nurse tanks for the application of ammonia fertilizer on the farm field is a recognized standard. This further enhances the industry's safety and security programming offering standardization to meet the needs of Canadian growers.

Our association will continue to work with regulatory bodies to ensure access to fertilizer products remains sufficient for productive and profitable growing conditions.

EDUCATING THE SUPPLY CHAIN AND FIRST RESPONDERS

Fertilizer Canada is committed to supporting the education of the fertilizer supply chain, from manufacturer to grower, on the safe handling, transportation, storage and use of products. Our online eLearning platform offers several courses on anhydrous ammonia and ammonium nitrate safety and security, which are available to members and the wider public.

Part of ensuring Canada remains among world leaders in fertilizer safety and security is the development of new and updated educational content. In 2018, Fertilizer Canada focused on updates of both our Anhydrous Ammonia Safety and the Farmer course, to equip farmers with the latest in handling and transportation information, and our Anhydrous Ammonia Awareness for First Responders course.

Providing training for first responders in the unlikely event of an anhydrous ammonia incident is a top priority for Fertilizer Canada. Our eLearning course continues to supply information on containing an agricultural anhydrous ammonia leak safely and efficiently when responding to an incident.

Fertilizer Canada is a proud and long-standing supporter of the Canadian Association of Fire Chiefs, providing our educational resources for first responders annually at their Fire Rescue Canada conference. Through this communication outreach, more than 1,100 Canadian first responders are already trained in anhydrous ammonia incident response.

1110+

FIRST RESPONDERS TRAINED ON ANHYDROUS AMMONIA INCIDENT RESPONSE THROUGH ELEARNING

“

FERTILIZER CANADA'S SUPPORT DEMONSTRATES THEIR HOLISTIC APPROACH TO THE ENTIRE AGRICULTURAL INDUSTRY. FERTILIZER CANADA'S SUPPORT OF CANADIAN AGRICULTURAL SAFETY WEEK AND OUTREACH EVENTS SUCH AS CASA'S CONFERENCE DEMONSTRATES THEIR COMMITMENT TO THE SAFETY AND WELL-BEING OF THOSE WHO PRODUCE OUR FOOD – FARMERS, FARM FAMILIES, AND FARM WORKERS.

MARCEL HACAULT
EXECUTIVE DIRECTOR, CANADA AGRICULTURE SAFETY ASSOCIATION (CASA)

NUTRIENT STEWARDSHIP

We live in an important juncture in world history. At the same time as we face the challenge of climate change, we also face the challenge of global food security and feeding the world's growing population.

Whether it is meeting Canada's commitment to the 2015 Paris Agreement through the Pan-Canadian Framework on Clean Growth and Climate Change, or moving Canada from the world's fifth to its second largest agriculture exporter as outlined in the Barton report, *Unleashing the Growth Potential of Key Sectors*, the Canadian fertilizer industry is well positioned to meet these challenges as an innovative global leader under 4R Nutrient Stewardship.

Fertilizer Canada has worked with its partners in the federal government, provincial governments, industry, and academia to establish a set of sustainable best management practices (BMPs) for fertilizer application—known as 4R Nutrient Stewardship (Right Source @ Right Rate, Right Time, Right Place®). From Prince Edward Island potatoes to Prairie wheat, these practices relate to the production of major crops in regions across Canada. This Canadian-made innovation has also become recognized internationally, including the United Nations' Food and Agricultural Organization, for its potential in meeting the dual challenge of reducing the environmental footprint of farms everywhere while also increasing productivity.

As a universally adaptable, yet locally focused framework of BMPs, 4R Nutrient Stewardship has the potential to create true agricultural sustainability across the globe. Fertilizer Canada aims to quantify the spread of sustainable agriculture in Canada by capturing 20 million 4R acres by 2020 – representing one quarter of Canadian farmland.



RIGHT SOURCE

The **Right Source** means ensuring a balanced supply of essential plant nutrients including granular fertilizers, liquid fertilizers and/or manures.

RIGHT RATE

The **Right Rate** is applying just enough fertilizer to meet the needs of the plant while accounting for the nutrients already in the soil.

RIGHT TIME

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.

RIGHT PLACE

The **Right Place** is where the plants can easily use fertilizer and where it is less likely to be lost to the water or air.



4R Nutrient Stewardship has been added to the Innovation150 database created by the Canada Foundation for Innovation to celebrate Canadian breakthroughs.

BECOMING A NATIONAL STANDARD

Sustainable agriculture is at the forefront of political conversation today. This year alone, Fertilizer Canada has participated in 12 consultations with federal and provincial governments as well as international bodies on 4R Nutrient Stewardship. As a result of this engagement, 4R Nutrient Stewardship is on its way to being recognized as a national standard for sustainable agriculture:

- **Canada's Implementation of the 2030 Agenda for Sustainable Development Voluntary National Review:** Global Affairs Canada included 4R Nutrient Stewardship as a positive industry example and presented at the United Nations' High-Level Political Forum.
- 4R Nutrient Stewardship has been supported as an indicator of clean water in the Lake Erie basin by **Ontario's Lake Erie Action Plan** and in the **International Joint Commission's binational report** on fertilizer and manure application in the Western Lake Erie basin.
- **Prairie Resilience: A Made-in-Saskatchewan Climate Change Strategy** supports producers implementing 4R Nutrient Stewardship to enhance fertilizer efficiency and has cited "area managed using a 4R plan" as a proposed measure of success.
- The Government of Manitoba has included 4R Nutrient Stewardship in its **Manitoba Climate and Green Plan** as the province seeks to respond to growing climate change concerns. The report integrates the principles of 4R Nutrient Stewardship in two ways: as a method for reducing nutrient loading and also as supporting a clean water indicator.



\$5.1B

In 2018, Fertilizer Canada published the *Value of 4R Nutrient Stewardship on Canadian Forages* report assessing the **\$5.1 billion** in direct economic impact the framework could provide to Canada's 70 million forage acres through increased yields and sustainability.

“

WHILE ONTARIO SOILS CAN SUPPLY MANY OF THE NUTRIENTS NEEDED BY CROPS, TO HELP OPTIMIZE PRODUCTIVITY, ADDITIONAL NUTRIENTS FROM SOURCES SUCH AS COMMERCIAL FERTILIZER, BIOSOLIDS AND MANURE MAY BE REQUIRED. ADVANCEMENTS IN NUTRIENT MANAGEMENT PLANNING, MANURE STORAGE, PRECISION APPLICATION AND, MORE RECENTLY, THE 4R NUTRIENT STEWARDSHIP APPROACH (APPLYING THE RIGHT SOURCE OF NUTRIENTS AT THE RIGHT RATE, RIGHT TIME AND RIGHT PLACE), HAVE ALL IMPROVED THE JUDICIOUS APPLICATION AND USE OF NUTRIENTS AND REDUCED THE RISK OF NUTRIENT RUNOFF INTO WATERWAYS.

LAKE ERIE ACTION PLAN, FEB. 22, 2018

“

ADOPTION OF APPROPRIATE MANAGEMENT PRACTICES (E.G. THE 4R NUTRIENT MANAGEMENT PROGRAM) MAY HAVE A BIGGER INFLUENCE ON P [PHOSPHORUS] EXPORT FROM AGRICULTURAL LANDS THAN THE TYPE OF FERTILIZER (I.E. COMMERCIAL VERSUS MANURE). ADOPTION OF 4R PRACTICES CAN REDUCE AVAILABLE P, AND EDGE-OF-FIELD STUDIES ALSO HAVE FOUND POSITIVE OUTCOMES FROM IMPLEMENTATION OF 4R PRACTICES, ALTHOUGH MORE RESEARCH ON THE EFFICACY OF MANAGEMENT PRACTICES IS NEEDED.

INTERNATIONAL JOINT COMMISSION, FEB. 13, 2018

CAPTURING 20 MILLION ACRES THROUGH 4R DESIGNATION

Canadian agri-retailers and their accredited professional staff play an integral role in supporting growers to achieve productivity goals for safe and nutritious food. With sustainability and environmental stewardship a top focus in Canada, growers are turning to their agri-retailers for ways to reduce impacts while maintaining yields and profitability.

As a solution to helping growers meet consumers' sustainability demands, Fertilizer Canada offers two ways for agri-retailers to align their business practices with the principles of 4R Nutrient Stewardship: 4R Designation nationally and 4R Certification in Ontario.

4R Designation is a voluntary program facilitated by Fertilizer Canada that allows agri-retailers and their grower customers to solidify their commitment to sustainable agriculture through the 4Rs.

This program is offered as a measure of performance to address economic, environmental and social considerations. Further, food companies and sustainable supply chain initiatives recognize the value of the 4R Nutrient Stewardship framework to assist growers in accessing new markets for their products and realize the vision of moving from the world's fifth to its second largest agriculture exporter.

Agri-retailers who become 4R Designated are also helping to quantify the spread of sustainable agriculture in Canada, as the acres they manage are counted under Fertilizer Canada's goal of capturing 20 million acres under 4R Nutrient Stewardship by 2020. This goal represents one-quarter of Canadian farmland being managed sustainably – securing Canada's position as a leader in on-farm environmental stewardship.

In 2018, Fertilizer Canada updated the 4R Designation toolkit to streamline the process for agri-retailers into four steps. The toolkit includes all required resources and information for becoming a 4R Designated agri-retailer.



56%
**OF FARMERS RELY ON
AGRI-RETAILERS FOR ADVICE
ON 4R NUTRIENT STEWARDSHIP**



Trish Meyers, Federated Co-operatives Limited, accepts the 4R Agri-Retailer of the Year Award on behalf of the Co-operative Retailing System for their commitment to 4R Nutrient Stewardship from Cassandra Cotton.



4R CERTIFICATION IN ONTARIO

Launched in Ontario in the spring of 2018, 4R Certification complements an existing program of the same name in Ohio. Together, the program offers a way for agri-retailers and farmers from both sides of the border to mitigate agricultural impacts to the environment – especially in the Lake Erie basin – while increasing their crop productivity.

4R Certification is a voluntary program designed to allow agri-retailers in Ontario to demonstrate their commitment to sustainable agriculture practices through 4R Nutrient Stewardship as verified by a third-party audit of 37 standards. 4R Certified agri-retailers offer their grower customers the best in sustainable nutrient management advice to address social, environmental and economic challenges.

As part of the launch, Fertilizer Canada created a 4R Certification toolkit to assist Ontario agri-retailers in the process of becoming 4R Certified. The toolkit includes the four necessary steps and all required resources for becoming a 4R Certified agri-retailer.

SUPPORTING SUSTAINABILITY WITH SCIENCE

The North American fertilizer industry is committed to advancing sustainable agriculture by providing agri-retailers and growers with the best in nutrient management practices. To do so, industry partners from across the border have joined forces to create the Canadian 4R Research Network to research best management practices (BMPs), determining the right source, rate, time and place of fertilizer application for various growing conditions and cropping systems.

Over the past three years, the industry – along with Agriculture and Agri-Food Canada – has contributed \$5.8 million to supporting 4R research projects in Canada and the United States. Established by Fertilizer Canada, The Fertilizer Institute (TFI), and the International Plant Nutrition Institute (IPNI), the 4R Research Network promotes research of BMPs that encourage using the right fertilizer source, at the right rate, at the right time, and in the right place.

Fertilizer Canada's new *Key Findings of the Canadian 4R Research Network* report consolidates the work of nine leading Canadian researchers over these three years into 10 innovative, scientifically backed BMPs. These 10 BMPs are proven to enable Canadian growers to increase the profitability of their farms through higher crop yields or enhanced economic efficiencies while also improving their environmental sustainability by reducing greenhouse gas emissions, leaching of nutrients through the soil or unwanted impacts on surrounding water sources.

The success of the 4R Research Network in North America has earned it a renewal for \$6 million to fund further research on 4R BMPs. Fertilizer Canada looks forward to supporting this new research project in the coming years.



THE PUBLIC IS VERY KEEN ON CONSUMING PRODUCTS THAT ARE GROWN IN AN ENVIRONMENTALLY FRIENDLY WAY. WE THINK THIS TYPE OF RESEARCH ADDRESSES THESE CONCERNS. IN THE END, NOT ONLY WILL WE HAVE NUMBERS QUANTIFYING THE IMPACT OF NITROGEN LOSS, BUT WE CAN THEN LOOK AT WHAT FARMERS CAN DO TO MINIMIZE THAT IMPACT. THIS INCREASES THE CONFIDENCE OF CONSUMERS.

DR. CLAUDIA WAGNER-RIDDLE
UNIVERSITY OF GUELPH

\$11.8M
INVESTMENT IN
NORTH AMERICAN 4R RESEARCH

1 BAND NITROGEN



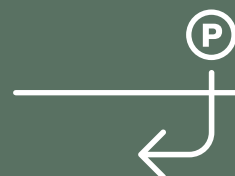
2 OPTIMIZE NITROGEN AT SEEDING



3 SPLIT APPLY SULPHUR



4 APPLY PHOSPHORUS IN SOIL



5 APPLY NITRIFICATION INHIBITORS



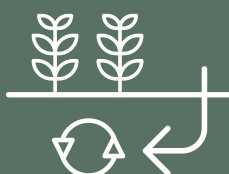
6 APPLY UREA AT PLANTING



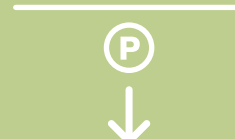
7 USE INHIBITORS AT 8TH LEAF STAGE



8 APPLY INHIBITORS IN SOIL



9 SUB-SURFACE BAND PHOSPHORUS



10 OPTIMIZE SPLIT APPLICATION OF NITROGEN



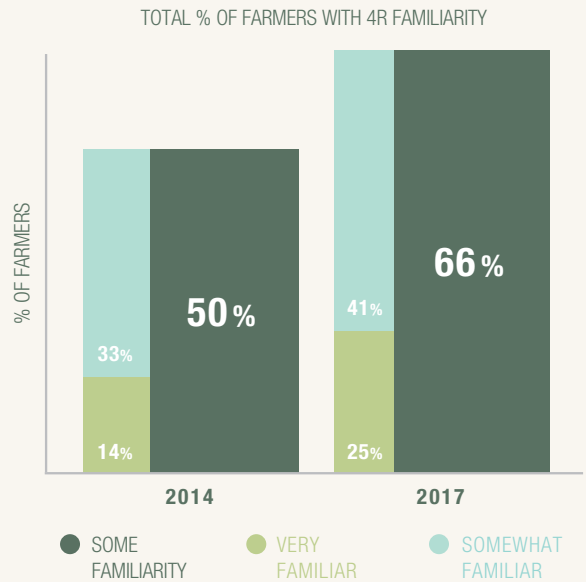
DIGGING DEEPER ON FERTILIZER MANAGEMENT

In order to fill a current information gap in public data regarding commercial fertilizer management, Fertilizer Canada is working with the Canadian Field Print Initiative, Pulse Canada and other industry partners to execute the Fertilizer Use Survey.

Conducted between 2014 and 2018, the survey gathers data on fertilizer management practices and current knowledge of 4R Nutrient Stewardship from growers across the country. The survey also captures baseline data about major grain, oilseed and pulse crops in Canada. This information is essential for developing sustainability metrics and sound 4R Nutrient Stewardship strategies.

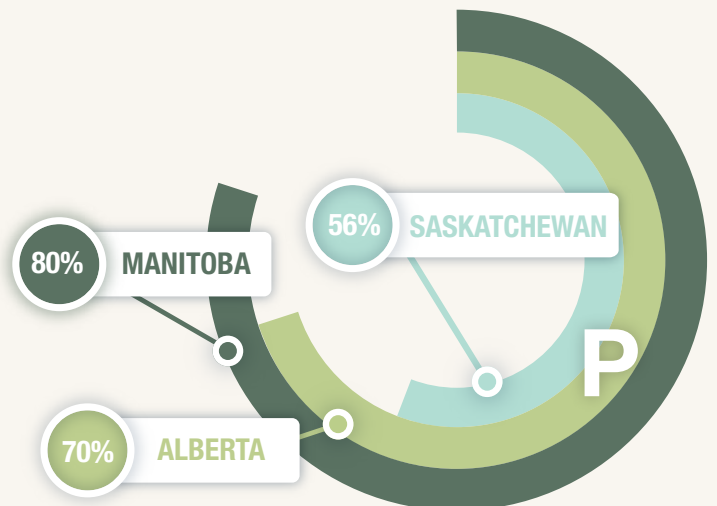
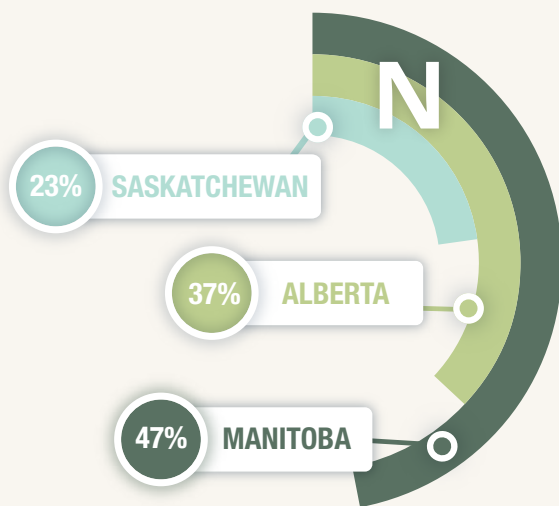
The Fertilizer Use Survey assists in understanding the current state of fertilizer management in Canadian crop production. With a better understanding of how growers use and make decisions about fertilizer applications, a clearer picture is developed of the economic and environmental impacts of sustainable agricultural practices, leading to better-informed strategic and policy decisions in the future.

GROWER FAMILIARITY WITH THE 4RS INCREASED OVER 30% FROM 2014 TO 2017



Survey results indicate that 66 per cent of Canadian farmers are familiar with 4R Nutrient Stewardship, representing 45 million acres of cropland.

SOIL TESTING FREQUENCY BY PROVINCE



Western Canadian farmers manage their soil health by testing frequently. These graphics represent the percentage of farmers who test nitrogen at least every year and phosphorus at least every three years.

GLOBAL SOLUTIONS AND INTERNATIONAL DEVELOPMENT

The fertilizer industry is well positioned to face the sustainability challenges of today and tomorrow. Our sustainability principles are strongly aligned with the Government of Canada's Federal Sustainable Development Strategy and the United Nation's Sustainable Development Goals.

Fertilizer Canada and the Co-operative Development Foundation of Canada (CDF Canada) have jointly committed to increasing food security using climate-smart methods for smallholder farmers in developing countries, with a focus on reducing barriers for women.

4R Nutrient Stewardship, with its universally applicable yet locally focused principles, is well suited to supporting smallholder farmers in developing countries as they increase crop yields to support food security and profitability while remaining environmentally conscious.



GROWING A GREENER WORLD

The benefits of fertilizer aren't limited to commercial or large scale agriculture, but can be enjoyed by property owners across Canada.

Fertilizer Canada's Greener World program promotes the principles of 4R Nutrient Stewardship (Right Source @ Right Rate, Right Time, Right Place®) in urban fertilizer application, such as on lawns or greenspaces, to encourage lush grass and environmental stewardship.

Through direct outreach to property owners in key areas – such as in the Great Lakes basin – and working with municipalities to distribute Greener World resources to residents, Fertilizer Canada is helping to educate urban Canadians about the benefits of proper fertilizer use and the principles of nutrient stewardship to protect air, water and soil resources.

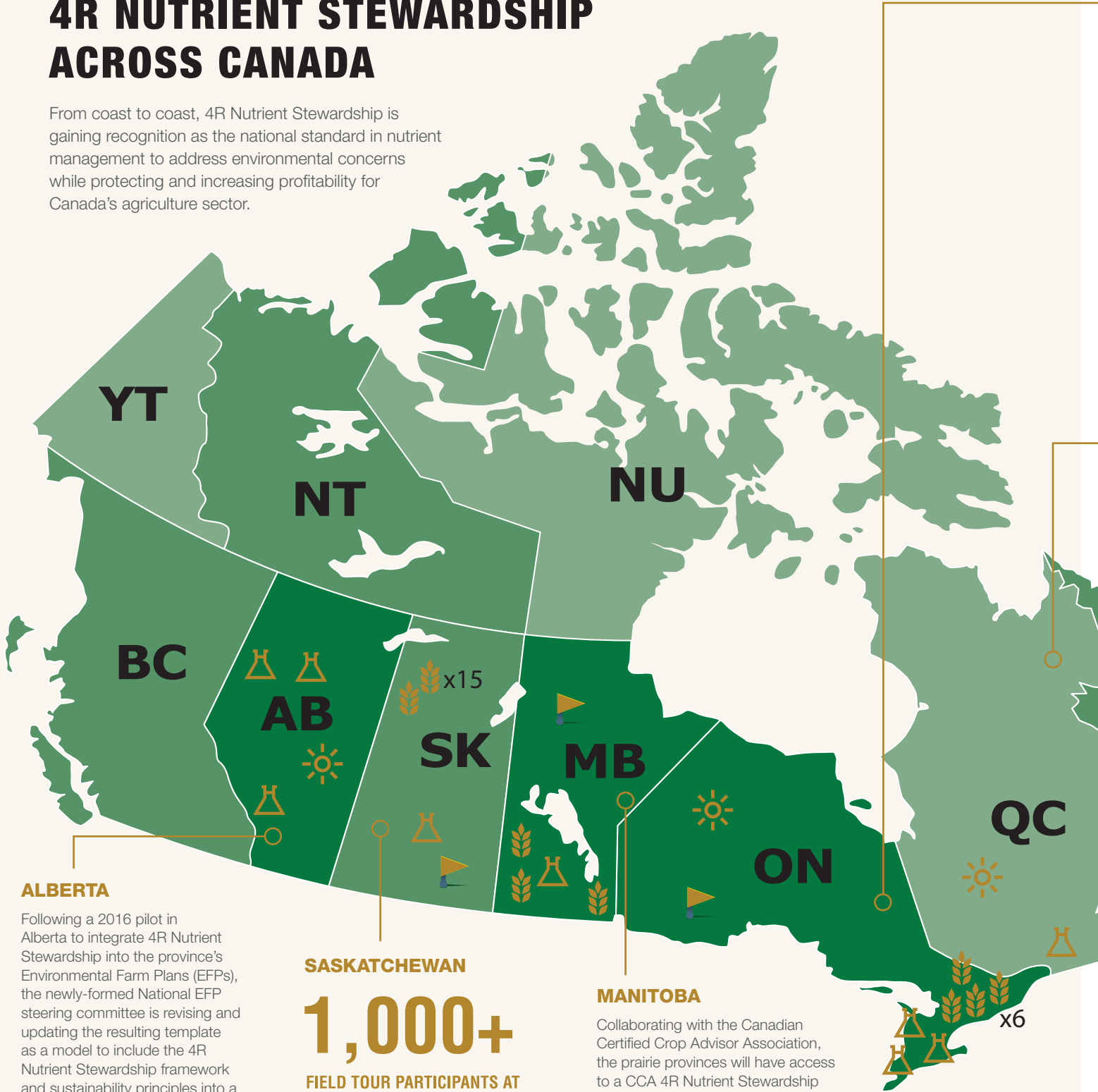
A focused municipal campaign in 2018 encouraged municipalities to adopt the Greener World toolkit and host resources on their individual websites to encourage residents to be stewards of fertilizer use and to Use It, Share It or Store It to reduce unwanted negative impacts to the environment.

753,600 PEOPLE REACHED THROUGH A GREENER WORLD RADIO+ CAMPAIGN



4R NUTRIENT STEWARDSHIP ACROSS CANADA

From coast to coast, 4R Nutrient Stewardship is gaining recognition as the national standard in nutrient management to address environmental concerns while protecting and increasing profitability for Canada's agriculture sector.



ALBERTA

Following a 2016 pilot in Alberta to integrate 4R Nutrient Stewardship into the province's Environmental Farm Plans (EFPs), the newly-formed National EFP steering committee is revising and updating the resulting template as a model to include the 4R Nutrient Stewardship framework and sustainability principles into a new NEFP standard. Delivered at the provincial and territorial level, EFPs are voluntary, whole-farm environmental assessment tools that help farmers identify and build on strengths, as well as mitigate risks on their operations.

SASKATCHEWAN

1,000+

FIELD TOUR PARTICIPANTS AT EIGHT AGRI-ARM FIELD TOURS

MANITOBA

Collaborating with the Canadian Certified Crop Advisor Association, the prairie provinces will have access to a CCA 4R Nutrient Stewardship Specialty Certification in order to meet the growing demand for qualified advisers with focused knowledge and skills in 4R nutrient management.

43 FIELD TOUR PARTICIPANTS

ONTARIO

4R Certification launched in 2018 as a program to encourage the voluntary certification of Ontario's agri-retailers and CCAs based on third-party auditable criteria.

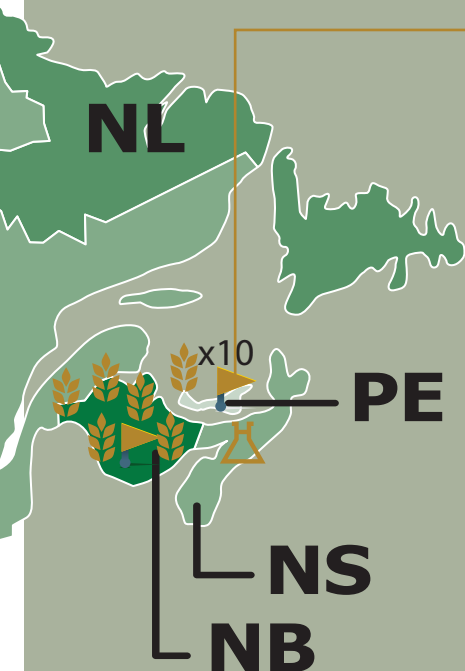
This program allows the industry to document crop acres managed under 4R Nutrient Stewardship as an indicator of the agriculture community's commitment to reducing unwanted environmental impacts and to enhancing and protecting water quality in the Great Lakes – especially in the Lake Erie basin.

108 CCAS WITH 4R NUTRIENT MANAGEMENT SPECIALITY IN ONTARIO

50 FIELD TOUR PARTICIPANTS

QUEBEC

Fertilizer Canada is collaborating with the Professional Association in Crop Nutrition (PACN) towards the signing of a Memorandum of Cooperation to implement 4R Nutrient Stewardship within the province. This new agreement represents a significant opportunity to advance sustainable agriculture from coast to coast.



PRINCE EDWARD ISLAND

Since 2013, 4R practices have been demonstrated at 64 trials across the province to highlight both the environmental and economic value of 4R Nutrient Stewardship on potato production. A survey of 30 Island growers has indicated that almost 13,000 acres in PEI were meeting the basic 4R criteria.

70 FIELD TOUR PARTICIPANTS

1,800+ TRAINED IN 4R NUTRIENT STEWARDSHIP THROUGH ELEARNING



Federal Agriculture Minister Lawrence MacAulay participates in a 4R Nutrient Stewardship demonstration field tour with his provincial colleagues in Prince Edward Island. From left: Clyde Graham, Executive Vice-President, Fertilizer Canada; Hon. Robert Mitchell, former provincial Minister of Communities, Land and Environment; Hon. Lawrence MacAulay, Federal Minister of Agriculture and Agri-Food; Hon. Alan McIsaac, former provincial Minister of Agriculture and Fisheries; Dr. David Burton, Dalhousie University.



Fertilizer Canada Chair, Kathy Jordison (Yara); Garth Whyte, President & CEO, Fertilizer Canada; and Lyle Stewart, Saskatchewan Minister of Agriculture sign to renew a three-year 4R Memorandum of Cooperation.



MOUs/MOCs

Fertilizer Canada is pleased to be collaborating on the implementation and renewal of Memorandum of Understanding (MOU) and Memorandum of Cooperation (MOC) agreements with these provinces in 2018.



4R Demo Farms

Over 25 4R demonstration farm sites across Canada are helping to demonstrate the effectiveness of 4R Nutrient Stewardship best management practices by putting them to the test in fields.



Canadian 4R Research Network

Nine leading researchers in Canada are working to scientifically prove the efficacy of 4R Nutrient Stewardship best management practices at these sites.



4R Climate-Smart Protocol

Over one million Canadian acres in these provinces are already operating under the 4R Climate-Smart Protocol, also known as the Nitrous Oxide Emission Reduction Protocol (NERP), to reduce greenhouse gas emissions.

LEADERSHIP AND STAFF

2017/2018 BOARD OF DIRECTORS

Executives

Kathy Jordison

Chair
Yara Canada LP

Brian Mark

Vice-Chair
PotashCorp/Nutrien

Garth Whyte

President & CEO
Fertilizer Canada

Directors

Steve Biggar, Richardson International Limited

Colin Braithwaite, K+S Potash Canada GP

Sarah Fedorchuk, The Mosaic Company

Brian Gilbertson, Agrium Inc./Nutrien

Casper Kaastra, La Coop Fédérée

Lindsay Kaspick, Koch Fertilizer Canada, ULC

Don Kitson, International Raw Materials Ltd.

Hugh Loomans, Sylvite Group of Companies

Jim MacEwen, MacEwen Agricentre Inc.

Dale Moverley, CF Industries Holdings, Inc.

Douglas Stone, J.R. Simplot Company

STAFF

Garth Whyte

President & CEO

Clyde Graham

Executive Vice-President

Dan Doyle

Managing Director, Corporate Services

Giulia Brutesco

Vice President, Safety & Security

Cassandra Cotton

Vice President, Sustainability

Catherine King

Vice President, Industry Reputation

Emily Pearce Rayner

Vice President, Industry Competitiveness

Kim Devison

Executive Assistant & Events

Claudia Navarro

Controller

Amanda Pach

Manager, Environment and Safety

Amanda Giamberardino

Manager, 4R Nutrient Stewardship

Nadine Frost

Manager, Regulatory Affairs

Kelly McCarthy

Communications Coordinator

McKenzie Smith

Audit Coordinator

Kalyn Harris

Membership & Events Coordinator (to June 2018)

Allison Watcher

Membership & Events Coordinator (from June 2018)