



CANADIAN FERTILIZER INSTITUTE
INSTITUT CANADIEN DES ENGRAIS

**THE CANADIAN
FERTILIZER INDUSTRY:**

**REFLECTING ON
THE PAST —
FOCUSED ON
THE FUTURE**

ANNUAL REPORT
2014

THE CANADIAN FERTILIZER INDUSTRY: REFLECTING ON THE PAST — FOCUSED ON THE FUTURE

1959

As the government began to see a promising new industry, it granted large subsidies to new projects — thus, the Saskatchewan potash industry began.



1959

1945

The end of WWII marked a return to widespread commercial agriculture, and postwar trends included a decrease in the number of farm units and an increase in the average size of farm holdings.



1945

1958



1913



1913

Ammonia was first manufactured using the Haber-Bosch process on an industrial scale.

1958

The Canadian Fertilizer Institute, then known as the Canadian Fertilizer Association, became the representative body of almost all fertilizer producers.



2011



► 2011

Canada exports about 95 per cent of its potash to over 50 countries, and is the largest producer and exporter of the mineral.

2013 ◀

The Canadian fertilizer industry is successful in launching industry leading Codes of Practice for agricultural ammonium nitrate and anhydrous ammonia.



2012



► 2012

Agricultural sustainability best practices, including 4R Nutrient Stewardship, are at the forefront of industry programming as CFI successfully signs several formal agreements with provincial governments across Canada.

2013

2014

2014 ◀

The industry contributes over \$12 billion annually to the Canadian economy, and is the largest crop input to farmers in Canada, compared to \$1.5 billion in 1979.



“THE CANADIAN FERTILIZER INSTITUTE IS COMMITTED TO CREATING A STRONGER MEMBERSHIP OFFERING AND CAREFULLY ENSURING OUR MEMBERS CONTINUE TO RECEIVE THE BENEFITS THAT THEY VALUE MOST.”

Roger Larson, CFI President



Our commitment as the unified voice of the Canadian fertilizer industry is to promote the **safe, responsible, sustainable** and **globally competitive fertilizer production, distribution and use** by:

- Maintaining industry competitiveness
- Ensuring the safety and security of our products
- Taking a lead on fertilizer application regulations
- Leveraging federal funding for programming
- Leveraging educational opportunities
- Setting new standards for our products
- Setting new performance standards for greenhouse gas and air quality
- Building a positive reputation of our industry

INSIDE

CHAIRMAN’S LETTER.....2–3

PRESIDENT’S REPORT.....4–5

ECONOMICS
& TRANSPORTATION.....6–9

SAFETY & SECURITY.....10–11

NUTRIENT
MANAGEMENT.....14–17

PRODUCTS.....18–19

ENVIRONMENT.....20–21

EVENTS.....22–27

BOARD OF
DIRECTORS.....28–29

CFI STAFF.....30–31

OUR ASSOCIATION

The Canadian Fertilizer Institute is an industry association that represents manufacturers, wholesale and retail distributors of nitrogen, phosphate and potash fertilizers. Canada's fertilizer industry plays an essential role in ensuring that world food needs can be met economically and sustainably. Canada supplies approximately 12 per cent of the world's fertilizer materials. We are the world's largest exporters of potash and elemental sulphur. As well, our industry contributes over \$12 billion annually to the Canadian economy.

OUR VISION

Our vision is to play a leadership role in the global fertilizer industry in meeting the challenge of feeding the world with safe and nutritious food.

OUR MISSION

As the unified voice of the Canadian fertilizer industry, promote safe, responsible, and sustainable, globally competitive fertilizer production, distribution and use. We strive to fulfill this mission by developing and implementing four key strategic initiatives:

- Issues and policy development
- Knowledge development and education
- Product stewardship
- Industry services

WE'RE GROWING SUSTAINABILITY®:

The fertilizer industry strives to be a leader in sustainability, recognized as an essential part of a profitable, environmentally and socially responsible, abundant and healthy food production system.

Throughout this report, sustainability objectives will be highlighted to provide an overview of CFI's economic, social and environmental performance over the past year.

THIS REPORT AIMS TO MEET CFI'S SUSTAINABILITY OBJECTIVES BY SHOWCASING THAT:

- We base our decisions and actions on sound science
- We promote best practice on-farm nutrient stewardship
- Our products are safe, environmentally responsible and effective
- Our production and distribution, handling and transportation, as well as use and application practices are safe, secure and environmentally responsive and responsible to community needs
- We communicate openly and work in partnership with our stakeholders
- We encourage transparency and performance reporting
- We act with integrity

CHAIRMAN'S LETTER



Greg Yont
CFI Chairman — Agrium Inc.

FELLOW MEMBERS,

It has been my pleasure to have served as Chairman of the CFI Board of Directors over the last year. I began 2014 by identifying key priorities to focus on over my two year term. These included:

- Increasing adoption of 4R Nutrient Stewardship on Canadian farms;
- Implementing an auditing program for the Agricultural Ammonium Nitrate Code of Practice;
- Establishing achievable industrial standards for environmental performance for reducing greenhouse gas emissions; and
- Working in partnership with governments, industry stakeholders and transportation companies to ensure the safety of our communities

I am pleased to report that we have made significant headway on all fronts over the last year.

Through a series of Memorandums of Understanding across Canada including Ontario, PEI, Manitoba, Alberta and most recently New Brunswick, CFI has established

partnerships with key leaders in the agriculture sector. This year, I was thrilled to be able to attend the signing of three MOUs in Alberta with Capital Power, Alberta Research and Extension Council of Alberta and Lakeland College. These agreements are bringing improved fertilizer practices into use on Alberta farms through collaboration and implementation of 4R Nutrient Stewardship and the Nitrous Oxide Emissions Reduction Protocol for associated greenhouse gas offsets.

In recognition of the pivotal role that agri-retailers and agronomists play in helping Canadian farmers lead the way in nutrient stewardship, CFI recently launched the 4R Designation pilot program in Manitoba.

This program provides a platform for counting acres under 4R management. By getting acres counted, we are able to provide hard data that represents the stewardship that is being done on farms across Canada.

In the next year, CFI and its partners will work to develop further science to support the value of 4R Nutrient Stewardship at the farm level through the North American 4R Nutrient Stewardship Research Fund.

While successful in many areas, our journey over the past year was not necessarily a smooth one. The devastating incident in West, Texas illustrated the necessity to continue to tell our story in a positive and reassuring manner to Canadians. Over the last year, CFI worked to strengthen the Agricultural Ammonium Nitrate Code of Practice through a formal audit and conducted a thorough review of the Code to increase clarity of safety requirements. Auditor training has been completed to prepare for the two-year implementation phase of the Code, in which all facilities will successfully complete an audit and the Code will come into force on December 31, 2015.

CFI has also developed a number of online courses that help to supplement the knowledge of first responders, agri-retailers and farmers who encounter our products on a regular basis.

Canadian fertilizer producers are global leaders in energy efficiency, and while the sector has invested heavily, there are minor additional efficiencies that can be made to reduce greenhouse gas emissions even further.

Negotiations regarding Greenhouse Gas reduction regulations for Ammonia and Nitric Acid production progressed significantly this year. CFI will continue working with Environment Canada to ensure the proposed regulations provide both environmental benefits and economic certainty.

Additionally, a regulatory regime is currently in development to address greenhouse gases from potash dryer and boiler operations and is expected to be finalized by the end of the year.

The regulatory landscape for shipping hazardous goods by rail in Canada has permanently changed. The Canadian fertilizer industry uses rail as our primary means of transport as it has historically been one of the safest modes of delivery and is cost effective over other means of transport.

Provinces and municipalities have taken a keen interest in the regulations affecting the dangerous goods that travel through their jurisdictions. Over the upcoming year, we will continue to build strong relationships and ensure open dialogue with stakeholders beyond farmers and government. They

include first responders, mayors and community leaders, environmental groups, urban populations, and transportation companies.

CFI has been closely engaged in the government's consultation process as they consider changes to improve the safety of the rail transport system. CFI communications, government relations and external stakeholder programs will continue to tell the story of the industry's positive response to the challenges and opportunities that lay before us. However, our industry cannot address these issues alone. CFI staff are committed to delivering innovative initiatives and working in collaboration with industry associations, governments and other stakeholders, to educate Canadians about our product's life-cycle and the essential role they play in society. The opportunities that await our industry are abundant. I wish the staff at CFI, and my industry colleagues, all the best over the coming year.



PRESIDENT'S REPORT



Roger Larson
CFI President

DEAR CFI MEMBERS,

Over the last year, CFI has forged new partnerships and built on existing ones, providing the fertilizer industry with unlimited opportunities. Tapping into these opportunities is key and the only way to get there is through action.

- We need to take a harder look at the general public as a stakeholder in this industry and expand our communications with them. If we only talk to people who agree with us, we will never change anyone's mind;
- While we have done a good job of building partnerships within the agriculture industry and need to continue to do so, we need to begin forging partnerships with organizations that are not necessarily considered to be associated with the ag industry such as environmental groups and educational institutions;
- And finally, when communicating with these stakeholders we need to provide consistent messaging on how the fertilizer industry is addressing issues in agriculture today.

The industry is constantly evolving to manage and control the risks that come with the production, transportation and application of

fertilizer. We know that fertilizer is essential to feeding the world. That is why it is so important that we work to ensure that this vital industry continues to thrive.

This year, CFI conducted surveys with the Canadian public and opinion leaders to examine what, if any, impact there has been on the industry's reputation over the last five years. Conducting this type of polling with opinion leaders and the general public provides us with insights, which help to shape the industry's future messaging, and addresses any misperceptions and/or gaps in public understanding.

While safety is of paramount importance to the public, their views of the industry will also be influenced by factors other than how the sector reacts or responds to incidents, including their general attitudes toward the product and the value it provides to Canadian consumers; and their sense of the level of commitment of the sector to environmental stewardship and social responsibility within the communities in which it operates.

The fertilizer industry's stewardship, sustainability and education programming works to address these concerns and provides a positive outlook regarding the industry's support for the sustainable use of its products. Specifically, to mark 50 years of the Canadian

potash industry and its significant contributions to fueling the Canadian economy, a notable exhibit opened this year at the Canada Science and Technology Museum in Ottawa. 'Potash: Feeding the World' provides the opportunity to educate visitors about the extraction process, the construction of mine sites, and how potash is processed, in addition to examining actual samples of the mineral.

Continuing to build these external partnerships to relay the fertilizer industry's messaging will continue to be important. You don't have to look far to see examples of this. The relatively recent explosions in Lac Mégantic and West Texas were heavily covered by the media which focused not only on the tragedies themselves, but on safety issues pertaining to the transportation and storage of dangerous goods.

CFI and its members need to be involved in the discussions over the future of rail transport. These discussions will involve railways, like-minded industries, first responders and all levels of Government, including municipalities. Our goal is to work in partnership with these groups to establish a common approach and to work with other like-minded shippers to ensure a future of safe and cost effective rail transportation.

Industry Stewardship does not only pertain to the safety and security

of our products. CFI has been working with federal and provincial governments as well as farm groups and environmental groups to promote adoption of 4R Nutrient Stewardship. We always invite partnership with industry in order to help make our research relevant, and to create avenues for impact — societal, economic, environmental.

CFI works closely with well over 20 organizations on 4R Nutrient Stewardship across Canada including Keystone Ag Producers in Manitoba, the PEI Potato Board, Alberta Bio Innovates and the Nature Conservancy to name a few. We are enormously proud of the results that have come out of our research and extension work with many of these partners.

We also collaborate intensively with other research leaders in government and academia around the globe. Just last month, CFI hosted the 1st International Nutrient Stewardship Symposium in Saskatoon, Saskatchewan. The Symposium addressed many important questions including: How can we bring nutrients into a developing world given the challenges that exist? What are some of the barriers in applying 4R Nutrient Stewardship? And how we can address challenges facing smallholder farmers such as crumbling infrastructures, transportation and cultural challenges?

CFI is continuing to expand our sustainability program to growers in partnership with the Canada Grains Council, to engage global food giants such as Unilever, General Mills and Wal-Mart. These food companies are beginning to signal unified interest, support, and demand for programs, tools, and information that can help producers continuously improve and optimize their fertilizer use, yield, and profitability. CFI has been engaged on a sustainability roundtable to provide support and expertise based on a number of sustainability indicators for reducing the impacts of climate change.

I have worked together with you on all of these, and many other initiatives over the past 16 years as president of CFI. I have witnessed the association go through many changes over this period of time and I am extremely proud of what we have accomplished together. Today, the Canadian Fertilizer Institute is a nationally and globally recognized industry leader and as it comes time for new leadership in the association, I would like to urge you to continue to expand on the foundation that we have built — to seize and build new partnerships going forward.





ECONOMICS & TRANSPORTATION

CHAIR: BRIAN MARK, POTASH CORP

At a time when economies, businesses and governments alike are under tremendous pressure to perform, and given the rapid growth of global trade, the necessity of having an effective and efficient logistics and transportation supply chain is more critical now than ever before.



In response to the tragic events in Lac-Mégantic, Quebec, the Standing Committee on Transport, Infrastructure and Communities is conducting a study mandated by Transport Minister Lisa Raitt. CFI appeared before the Committee to inform Members of Parliament on measures taken by the fertilizer industry to safely transport dangerous goods and communicate the industry's position on the issue:

- The fertilizer industry exercises a high level of diligence to ensure the safe transport of our products
- The fertilizer industry is committed to safety and security through mandatory, industry-led programs
- Railways must be held fully accountable for the safety and operations over which they have control

Transport Minister Lisa Raitt announced her response to recommendations by the Transportation Safety Board in late April. The government will:

- Require DOT-111 tank cars that have no continuous reinforcement of their bottom shell to be removed within 30 days
- Require DOT-111 tank cars carrying crude oil and ethanol to be phased out or retrofitted within three years
- Improve Emergency Response Assistance Plans, and establish a task force involving municipalities, railways, first responders and shippers
- Require railways to reduce the speed of trains carrying dangerous goods

The Canadian Transportation Agency is conducting a review of railway insurance and is expected to take until later this year to issue its report. The Government has also accelerated its statutory review of the Canada Transportation Act, commencing this summer and completed within 18 months. This comprehensive review will address everything from safety to capacity.

The Canadian Transportation Agency (CTA) has issued a ruling on Canadian Pacific Railway's Tariff 8, Item 54 which shifts third party liability to the shipper and indemnifies the railway. The CTA determined it did not have authority to rule on the Tariff. This decision is being challenged at the Federal Court of Appeal, at which CFI has been accepted as an intervener.

On May 27, 2014 Parliament passed Bill C-30, the Fair Rail for Grain Farmers Act. The emergency legislation was intended to increase the amount of grain shipped by rail, after a bumper crop and cold winter created a significant backlog. Roger Larson appeared before the Standing Committee on Agriculture and Agri-Food, asking Parliamentarians to ensure that an increase in grain shipments would not impact the transportation of fertilizer to farmers.

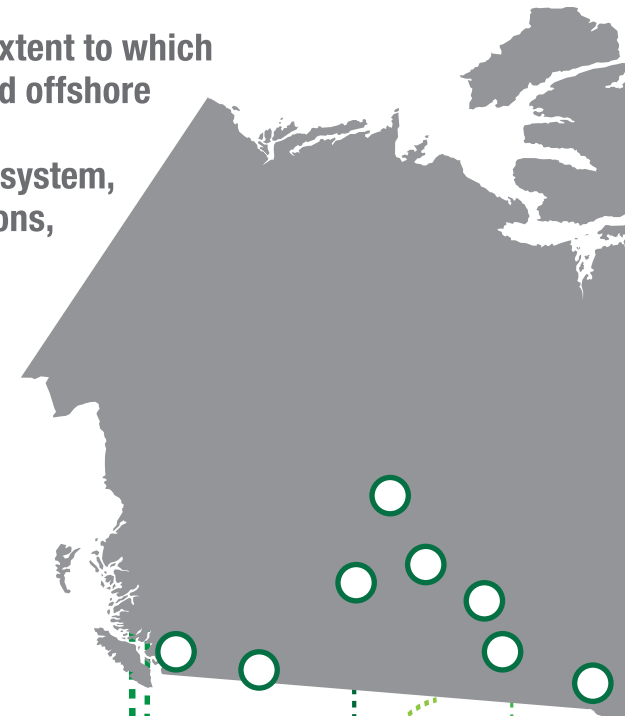
The Chartered Institute of Logistics and Transport in North America (CILTNA) is an important organization which fosters key discussions and dialogue around the world. At a time when economies, businesses and governments alike are under tremendous pressure to perform, and given the rapid growth of global trade, the necessity of having an effective and efficient logistics and transportation supply chain is more critical now than ever before. On March 27, 2014, Roger Larson provided the fertilizer industry's viewpoint on the topic of railway and port capacity to over 100 guests at the

CILTNA in Vancouver, BC. Roger was the first speaker to represent major shippers of commodities to the CILTNA — Pacific Chapter.

There were three critical points that were made:

- This winter's backlog of grain and other rail shipments does not represent a blip. Canada's commodity export pipeline is hitting the limits of capacity.
- Canada stands ready to reap economic benefits from massive investments in key commodity industries and from the new wave of free trade agreements being signed by the federal government, but only if our commodity export pipeline is up to the task.
- Only a strategic partnership of governments, ports, railways, labour and shippers can ensure that Canada's place as an export powerhouse will be realized.

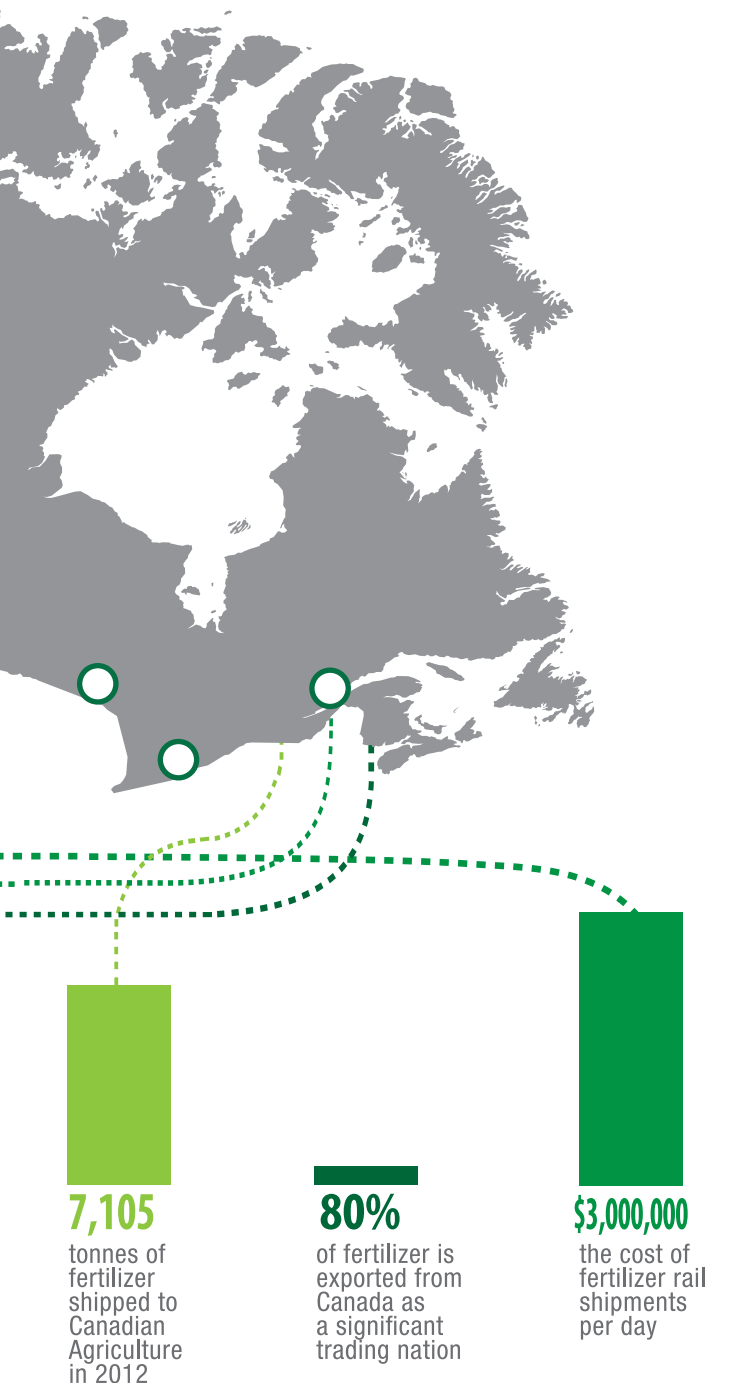
Canada is a trading nation. The extent to which Canada competes in both U.S. and offshore markets cannot be understated. A well functioning transportation system, including its commercial operations, infrastructure and regulations, are critically important to our national competitiveness. The fertilizer sector is characterized by its dependance on rail to get to port and the challenges of Canada's geography and weather.



Statistics based on 2012 findings

“Committed to Safe, Affordable Movement of Fertilizer Products across Canada.”

- The Canadian fertilizer industry is committed to safe transport and to continuously reviewing safety and security procedures/practices to ensure measurable, responsible and safe handling and movement of our products through the entire delivery chain - plant, distribution and end-user.
- Rail shipment of fertilizer products is the safest and most economical mode of moving these essential products to our farming customers, who use it to grow nutritious food for Canadians and people around the world.
- The federal government, led by Transport Canada, has the required legislative and regulatory framework, technical expertise and resources to assess and implement any changes required to ensure a consistent national rail safety protocol to protect all Canadians.
- Rail transportation of fertilizer products in Canada drives investment, job creation and helps to realize economic potential, which benefits all Canadians.



○ = Major Fertilizer Facilities and Ports In Canada



SAFETY & SECURITY

CO-CHAIRS: BILL MCEWEN, AGRUM
BOB MCNAUGHTON, SYLVITE AGRI-SERVICES

The Fertilizer Safety and Security Council is committed to supporting programming which will further ensure the safe and secure manufacturing, handling, storage, transportation and application of fertilizer products and providing outreach to first responders to ensure their safety when responding to an incident.

The Canadian fertilizer industry takes a leadership role in the stewardship of fertilizer products. In light of the events in West, Texas it is more important now, than ever before that we demonstrate unity in safety and security practices across Canada. This year, the fertilizer industry has extended stewardship programs and practices that effect the life cycle of fertilizer products.

- **Ammonium Nitrate is valuable to the production of healthy food in Canada, but it must be handled with care.**

A priority over the last year has been to implement the Ammonium Nitrate Code of Practice as a tool for operators of ammonium nitrate storing and handling facilities to assess and manage their security risks. The implementation of the Code started on January 1, 2014, and will come into full force on December 31, 2015. As a condition of membership, CFI members must be in compliance with the Code.

To help fully understand all regulatory requirements and their applicability to all aspects of handling, transportation, storage and use, an Ammonium Nitrate Code Auditor Training session took auditors through the Code in detail. A visit to a nearby retail facility provided additional practical experience to help solidify the Code requirements.

Auditors completed the training with a 100 per cent success rate. In addition, workshops have been established to help members fully understand the Code requirements. The final Code was released in March 2014 in both official languages.

A priority for the upcoming year will be continued efforts to communicate the benefits and objectives of the Ammonium Nitrate Code of Practice. The Fertilizer Safety and Security Council will seek to strengthen partnerships with first responders, governments, agri-retailers, farmers and industry stakeholders and solidify the communications of the Ammonium Nitrate Code of Practice to enhance product security measures.

- **As a part of the Canadian Ag Safety Week, the fertilizer industry reminds Canadians to practice safe agriculture year-round.**

The awareness campaign offered the opportunity to remind employees, transportation workers, first responders, farmers and the general public that there are many valuable resources available on Growzone, an online eLearning platform, which aims to enrich knowledge and enhance safety practices to minimize the risk of fertilizer products.

354 have completed Anhydrous Ammonia Training for First Responders on GrowZone

The Anhydrous Ammonia Training for First Responders was presented to over 200 first responders who attended the Fire Rescue Canada conference

Auditors for the AN Code of Practice completed the training with a 100 per cent success rate

72 Canadians have completed Ammonium Nitrate Safety & Security on GrowZone





NUTRIENT MANAGEMENT

“Sustainability is a complex challenge built upon the simple idea of an increasing human population relying on the world’s finite set of resources. By the mid 21st century, we will reach 9 billion people on Earth. With this enormous increase in global population and more specifically a dramatic increase in the middle class, there is going to be demand not only for more calories but also for better quality food as economic conditions improve in much of the developing world. The question is, how do we sustainably feed 9 billion people? 4R Nutrient Stewardship will play a key role in meeting this sustainability challenge”

Clyde Graham —
Senior Vice-President,
Strategy and Alliances



4R NUTRIENT STEWARDSHIP

Co-chairs: Doug Beever, Agrium;
Brian Kenyon, Yara

**Activities and Programming supported
by the Nutrients Committee**

Stewardship Today, to Feed Tomorrow

- **Canadian Agri-retailers play an important role in helping Canadian farmers lead the way in nutrient stewardship.** This year, the Canadian Fertilizer Institute launched the Agri-Retailer 4R Designation pilot program in Manitoba in partnership with Keystone Agricultural Producers. The program provides easy to use retailer support tools to help agri-retailers talk to customers about the 4R program and help growers take the first steps in becoming 4R designated. Once a grower has completed a plan with their agri-retailer, the 4R Designation program counts those acres and demonstrates the tangible commitment being made by the Canadian agricultural industry to the environment.
- **Getting into the Field: Prince Edward Island promotes environmental action and agricultural sustainability.** The 4R Nutrient Stewardship Farm Tour offered a first-hand look at what Island farmers and the fertilizer industry are doing to link environmental action and agricultural sustainability with improved fertilizer use. The Tour allowed over 50 farmers, government officials and stakeholders the opportunity to see what the 4R program is achieving through potato demonstrations, a watershed nitrate management initiative, a phosphorus saturation study and a panel discussion on sustainable land management.
- **The Soil Conservation Council of Canada's 'Taking Charge Teams' provide in-person extension across**

the country on using 4R Nutrient Stewardship to reduce GHG emissions.

Thirteen agronomists completed the full 4R Nutrient Stewardship Training course and received webinar training by CFI's 4R Instructor and Agronomist, Dr. Dan Heaney. These teams travel to various producer meetings and events to present on 4R Nutrient Stewardship as a solution to mitigate GHGs.

- **Lakeland College now includes the development of a detailed 4R Nutrient Stewardship plan and testing of the requirements for implementation of the NERP in Alberta as a part of its curriculum.** Crop technology students work in teams to manage 1,000 acres of crop land near Lakeland's Vermilion campus. The team makes decisions about what to grow and where, fertilizer and herbicide applications, as well as when to sell their crop.
- **The North American fertilizer industry is being challenged to address the use of fertilizer on the environment.** CFI established the North American 4R Nutrient Stewardship Research Fund in 2013, in partnership with The Fertilizer Institute and the Foundation for Agronomic Research. The project funds the establishment of sustainability indicators and environmental impact data, with a focus on measuring and documenting the economic, social and environmental impacts, for implementation of 4R Nutrient Stewardship across North America.

As a subset of this agronomic research, CFI initiated a Canadian 4R Research Network, consisting of ten scientific researchers across the country who provide scientific and technical support to improve environmental health and crop production profitability in Canada.

NITROUS OXIDE EMISSIONS REDUCTION PROTOCOL (NERP)

Turning Soil Science into Economic Opportunity

The Nitrous Oxide Emissions Reduction Protocol (NERP) is another example of the fertilizer industry working toward a sustainable future. NERP sets out the rules that will allow farmers to sell carbon offsets for reducing on-farm emissions of nitrous oxide in a quantifiable, credible and verifiable way.

- **A study supported by Climate Change and Emissions Management Corporation indicated Alberta grain farmers can see increased revenues with best fertilizer practices.** The study, produced by the George Morris Centre, is part of the Canadian Fertilizer Institute's Farming 4R Land program. The study found that by following best practices in fertilizer use under NERP, Alberta grain farmers can increase yields and increase returns by as much as \$87 per acre.
- **Research collaboration provides opportunity for promoting greenhouse gas reduction in Alberta.** This agreement with the Alberta Research and Extension Council of Alberta (ARECA) links the objectives for economic and environmental performance through research, knowledge and capacity building and extension activities with the 4R Nutrient Stewardship programming developed by Canada's fertilizer industry. To assist in achieving the goals of the MOU, ARECA is providing support and access to applied research plots to pilot innovative nutrient stewardship practices, including the development of detailed 4R Nutrient Stewardship plans and testing of the requirements for implementation of NERP in Alberta.

“We are excited by the possibilities this agreement brings. ARECA’s work towards improving agricultural practices for long-term economic and environmental sustainability goals aligns perfectly with the 4R Nutrient Stewardship framework.”

Jim Ludwig,
Manager Rep for Mackenzie Applied Research
Association, member organization of ARECA.

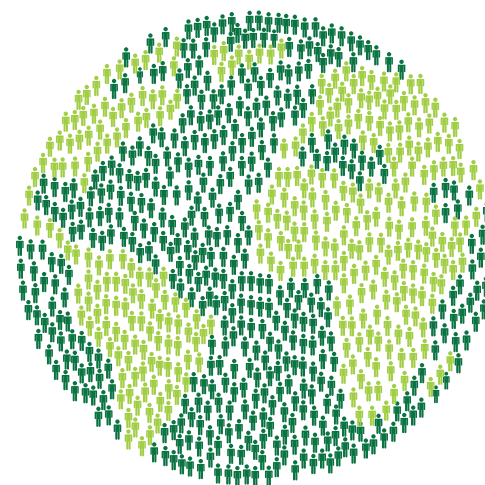
- **The fertilizer industry, Capital Power Corporation and Farmers Edge promote greenhouse gas emissions reduction and agricultural sustainability in Alberta.** This agreement sets out objectives with Alberta's agricultural producers to generate offsets utilizing NERP, approved for use in the Alberta Offset System, so that Alberta farmers can benefit from increased adoption and expansion of 4R Nutrient Stewardship and NERP.

“CFT’s commitment to working with Alberta’s producers to improve economic and environmental performance through the use of the 4R and NERP protocol has enabled Capital Power to continue our participation in agricultural based offset projects,”

Chelsea Erhardt,
Environmental Markets specialist
for Capital Power.

- **NERP Lite launched on GrowZone, the eLearning platform, as an introduction for farmers, agronomists, students and others interested in reducing nitrous oxide emissions from cropping systems.** The course provides a background on greenhouse gas emissions in Canadian agriculture and reviews the basic principles of greenhouse gas effects on climate, discusses the 4R Nutrient Stewardship system and its central role in NERP.

*The question is, how
do we sustainably feed
9 billion people?
4R Nutrient Stewardship
will play a key role
in meeting this
sustainability challenge*



The implied net benefit of adoption of NERP practices was material, and ranged from \$9/acre to about \$87/acre



Implementation of 4R Nutrient Stewardship can result in a 15–25 per cent decrease in N_2O Emissions



248 agricultural professionals are either training or trained in 4R Nutrient Stewardship and NERP



100 Canadians are trained using NERP & NERP Lite



Under the Capital Power MOU, this year 15–25 Alberta farmers representing up to 50,000 acres in aggregate have produced 25,000–50,000 tonnes CO₂e or more of Specified Gas Emitters Regulation (SGER) compliant offset credits in 2014 by applying NERP.



This year, over 150 Alberta producers representing 500,000+ acres participated in the program that provided training farmers need to implement 4R Nutrient Stewardship



183 participants in a survey at Farm Tech 2014 projected

- a reduction in GHGs by 15% and a potential savings of up to \$65/acre, compared to business as usual practices
- 91% prefer to band rather than broadcast



URBAN NUTRIENT USE

Activities and Programming supported by the Urban Fertilizer Council

Chair: Karen Stephenson, Scotts

Did you know that just one acre of turf will absorb hundreds of kilograms of sulfur dioxide every year? Grass that is lacking nutrients provides measurably less of these environmental benefits. As lawns and gardens grow, nutrients are naturally depleted from the soil. The role of fertilizer or plant food is to replenish these nutrients so that grass, trees, and garden plants can flourish.

Nutrients for a Greener World is a place for home gardeners to learn how best to fertilize their lawns and gardens following the 4Rs of fertilizer use: the Right Source of fertilizer at the Right Rate, the Right Time and the Right Place.

This year, the Canadian Fertilizer Institute reached out to municipalities, homeowners, garden enthusiasts, and the media to share the facts about fertilizers through the Greenerworld Campaign.

- **Waste Diversion Act 2013 — Bill 91**

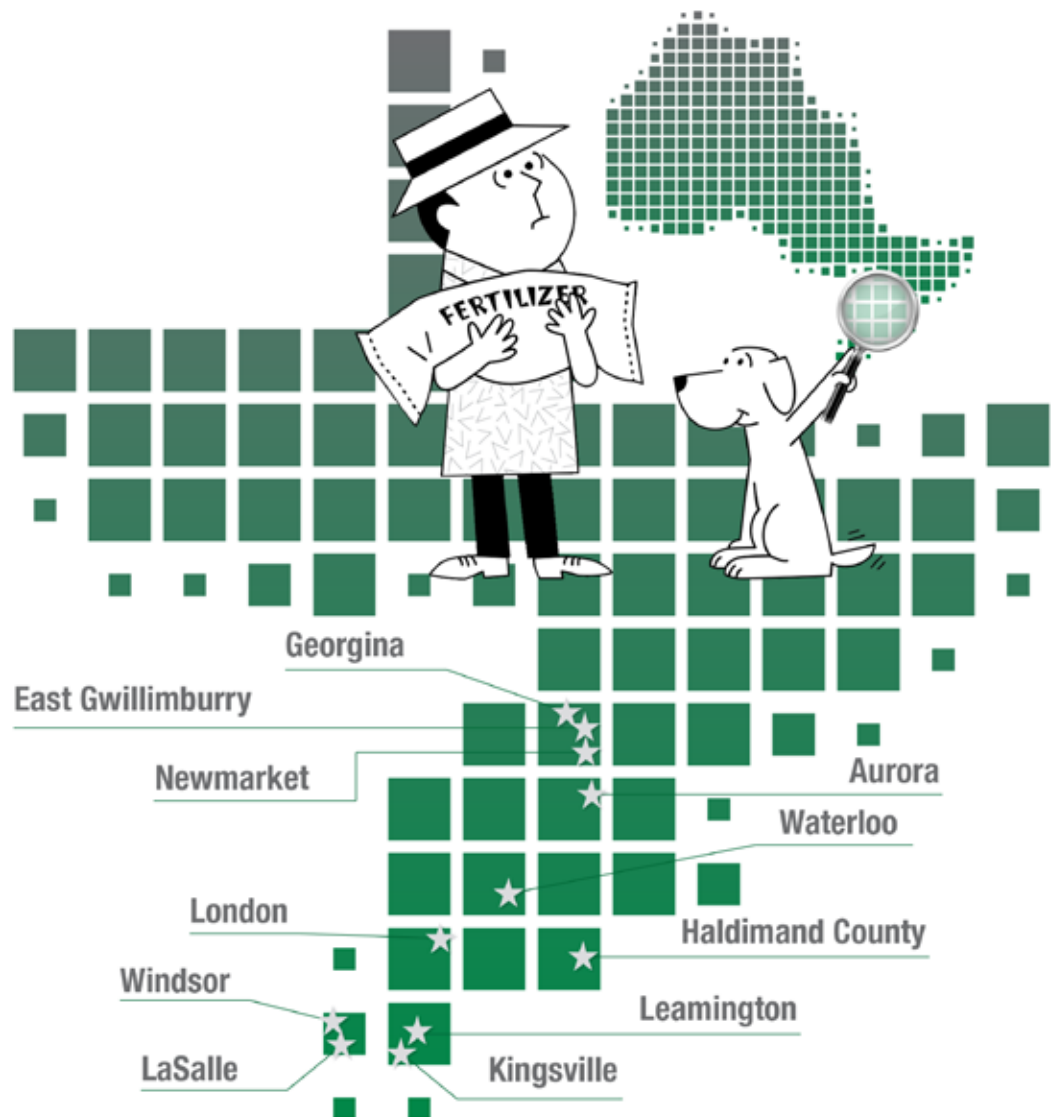
The Government of Ontario introduced the Waste Diversion Act 2013 on June 6, 2013. CFI is supportive of the aims of Bill 91 which focuses on product stewardship and the need to divert waste away from landfills in the Province of Ontario. The Urban Fertilizer Council continues with advocacy work regarding significant to the bill in order to effectively and equitably accomplish worthwhile goals.

- **A Balanced Diet for Lake Erie — A Report of the Lake Erie Ecosystem Priority**

In February 2014, The International Joint Commission (IJC) released its final analysis and recommendations addressing challenges to Lake Erie's health.

CFI was encouraged that the final report references 4R Nutrient Stewardship as an important opportunity to improve fertilizer use in the watershed and increase water quality in Lake Erie. The report also recommends accelerated extension programs and certification standards for fertilizer application.

Outreach to Ontario municipalities in an effort to extend awareness of urban fertilizer best practices for lawn and garden.



SUSTAINABILITY GOALS

Sustainability can only be achieved by balancing the economic, social and environmental goals of our stakeholders, including turf professionals, researchers, conservationists, government officials, industry members and communities across the country.

To qualify as a “best” management practice (BMP), our science-based BMPs must be economically sustainable for turf professionals while contributing to healthy lawns and protecting the environment. A tall order, but essential for the effectiveness of our BMPs and for the success of our sustainability efforts.

By engaging stakeholders in the process and continuing our research efforts, we will keep adding new BMPs to improve nutrient management.

Each new BMP is an important step forward on the path to sustainability.

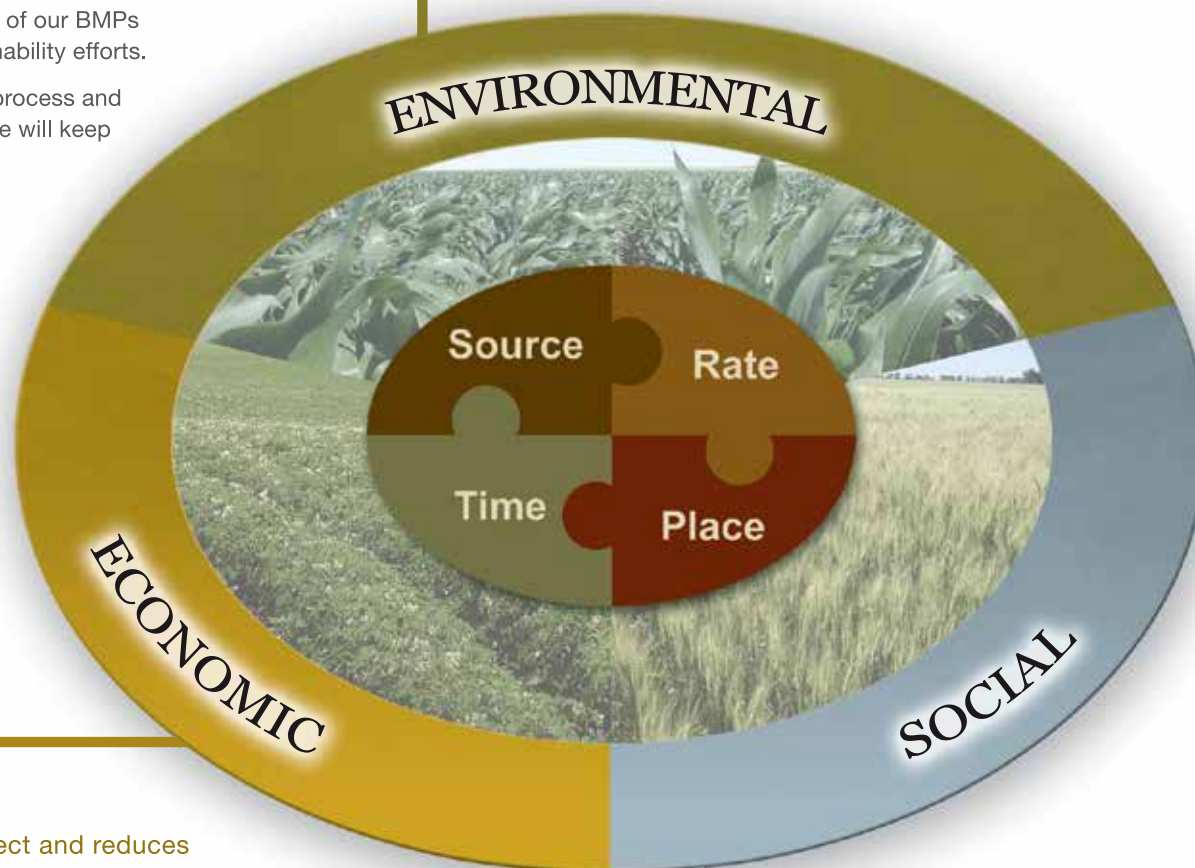
Environmental

Generates oxygen. One acre of grass produces more oxygen per year than one acre of rainforest.

Reduces soil erosion and runoff.

Increased run-off can lead to an increase in the amount of sediment and naturally occurring soil phosphorus making its way to waterways.

Helps improve water quality and quantity. A healthy lawn is a significant and important filtration system. It helps recharge groundwater supplies and reduces the strain on municipal water treatment systems.

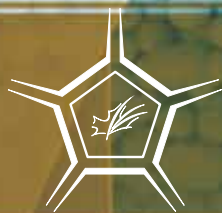


Economic

Provides a cooling effect and reduces the strain on energy needed by air conditioners. Healthy lawns, trees and shrubs can reduce air temperature by 4°C–8°C.

Social

Creates a safe and stable surface for playgrounds, parks and sports fields.



PRODUCTS

CHAIR: JIM JENKINS, AGRIUM

Product quality is a direct reflection of business integrity, and even of the Canadian fertilizer industry as a whole. The prosperity of the agriculture and agri-food industry depends on a modern regulatory system that ensures timely access to high-quality, safe and effective fertilizer products.

CAN(SCC)

USA(ANSI)

COL(CONTEC)

BRA(ABNT)

GBR(BSI)

NLD(NEN)

ESP(AENOR)

PRT(IPQ)

NGA(SON)

DEU(DIN)

CHE(SNV)

ITA(UNI)

ISR(SII)

EGY(EOS)

CZE(UNMZ)

AUT(SARM)

JOR(JSMO)

KEN(KEBS)

ARM(SARM)

IRN(ISIRI)

IND(BIS)

RUS(GOST)

CHN(GB)

ISO-TC 134

Upon the recommendation of the Canadian Fertilizer Products Forum (CFPF), CFI pursued Canadian participation on the International Standards Organization (ISO) 'Technical Committee (TC) 134 for Fertilizers and Soil Conditioners. ISO/TC 134 is the international body that reviews and approves terminology and methods around testing fertilizer quality. Canadian participation was identified to strengthen international acceptance of scientifically robust methods, which will have positive downstream impacts for technical and international trade issues related to fertilizer.

In late 2013, CFI assembled a Canadian technical expert committee

of 12 members, chaired by Jim Jenkins (Agrium), which was approved by Standards Council of Canada (SCC). This group is now active on ISO/TC 134, with facilitation provided by SCC.

Canadian Fertilizer Products Forum

The Canadian Fertilizer Products Forum (CFPF) annual conference continues to play a critical role in maintaining positive collaboration with the Canadian Food Inspection Agency (CFIA). During the 2013 CFPF conference, participants discussed Canadian involvement in ISO TC-134, the removal of efficacy quality requirements for fertilizer products from CFIA's mandate and the modernization of the Fertilizers Regulations.

Number
of published
ISO standards
related to the Technical
Committee:

30

Number
of published
ISO standards under
the direct responsibility
of ISO/TC 134:

30

Participating
countries:

24

Observing
countries:

33



ENVIRONMENT

CHAIR: RUSS A. HOLOWACHUCK, CF INDUSTRIES

“Negotiations with the federal government will establish achievable and cost-effective regulatory standards for the reduction of greenhouse gas and air pollutant emission from the manufacture of potash and nitrogen fertilizer.”

GHG EMISSION NEGOTIATIONS

In January 2010, the federal government committed to reduce Canadian greenhouse gas (GHG) emissions by 17% of the 2005 emission profile by 2020 under the Copenhagen Accord. The transportation sector was one of the first sectors to be regulated with requirements of renewable fuel content in gasoline and reductions of emissions from passenger cars and light trucks. The federal government then focused on the coal-fired electricity generators to reduce their GHG emission profile which was finalized in September 2012. All industrial sectors are being regulated in order to help meet Canada's reduction commitment.

The Nitrogen working group has been working with Environment Canada for over two years to develop performance standards for new and existing ammonia production as well as performance standards for new and existing nitric acid production. The proposed regulation, including both ammonia and nitric acid production, is expected to be finalized in the second half of 2014.

The Potash working group met with Environment Canada in November 2013 to begin negotiations on GHG emissions

from the potash sector. The focus of the regulation is on boiler and dryer equipment with the intent of setting standards for reasonable performance. Next steps include determining and assessing metrics that can be used to demonstrate performance.

AIR POLLUTANT

As part of its Air Quality Management System (AQMS) initiative, the federal government initiated a federal, provincial and territorial consensus process, with stakeholder involvement to complete development of Base Level Industrial Emission Requirements (BLIER). The Minister of the Environment announced and released proposed regulations for NOx emissions from Non-Utility Boilers and Heaters in June 2014 as a result of the BLIER process. The regulation is cross-cutting and will apply to boilers in potash and nitrogen fertilizer production.

The Code of Practice addressing PM 2.5 Emission from Potash was developed as part of the BLIERs process. The final document is expected to be published by the end of 2014.



Canada's fertilizer manufacturing sector is among the most efficient in the world.



MAJOR EVENTS





**Joint CFI 68th Annual Conference
& North American Fertilizer
Transportation Forum**
August 18 — August 23, 2013

**2013 Croplife AC and the Atlantic
Fertilizer Council's Annual General
Meetings**
September 18-19, 2013

Canadian Fertilizer Products Forum
October 16 — October 17, 2013

GrowCanada 2013

Parliamentary Forum
October 28 — October 30, 2013

Canada's Farm Progress Show
June 18-20, 2014

**World Congress on
Conservation Agriculture**
June 22-25, 2014

Kelburn Farm 4R Field Day
July 3, 2014

FarmTech — Edmonton, AB
January 28-30, 2014

CFI returned to FarmTech this year in Edmonton, AB from January 28-30 to showcase Phase II of 'Farming 4R Land', the Alberta-specific 4R Nutrient Stewardship project. John Heard, 4R partner from the MB Ministry of Agriculture and Rural Affairs, as well as 4R researcher Cindy Grant presented to a group of over 300 farmers on the importance of 4R Nutrient Stewardship for economic, social and environmental impact on the farm. The 1800 delegates also visited CFI's booth and almost 200 participants completed a survey that took them through a NERP adoption scenario generating an estimated net (\$) benefit.

**Congratulations to the 2013
recipient of the 4R Agri-Retailer
Award — Rack Petroleum Ltd.**

Dennis Bulani, CEO and Owner of the farm input and agronomic services company, accepted the award on Rack Petroleum's behalf during CAAR's Choice Awards Banquet February 13, 2014 in Montreal. Sponsored by CFI, the 4R Agri-Retailer Award recognizes one CAAR Member that has shown leadership in the adoption of 4R Nutrient Stewardship into their business practices.

2013 Honouring Industry Service

Each year, CFI recognizes individuals who have rendered exceptional service to the industry. In 2013, CFI honoured Bud Kushnir of International Raw Materials with the Honourary Membership and Ford West of The Fertilizer Institute with the Presidents Award, each for their outstanding contributions, dedication and service to the fertilizer industry.

**The Federation of Canadian
Municipalities Annual Conference**
May 30-June 2, 2014

The Federation of Canadian Municipalities annual conference held in Niagara Falls, Ontario from May 30 to June 2, 2014 was an opportunity to raise awareness of CFI's advocacy for the safe and efficient transportation of fertilizer products, and of the proper urban use and application of fertilizers among nearly 2,000 mayors, municipal and regional councillors and administrators.

Baskets with Panache
June 18, 2014

Since 2007, the annual Baskets with Panache! fundraiser has raised \$255,000, enough to bring over 17,500 children to participate in exciting educational experiences. The Canadian Fertilizer Institute has been a proud gold sponsor of this initiative for three years.

PHOTOS OF EVENTS



Mascots of the Greener World campaign, Buddy and Turf, educate municipal staff on best management practices for urban fertilizer use at the Federation of Canadian Municipalities Annual Conference



Greg Yont, CFI Chair, signs a series of formal Memorandums of Understanding to promote 4R Nutrient Stewardship adoption



CFI staff visit MacEwen Agricentre to see the industry in action



CFI hosts The Fertilizer Institute and the International Fertilizer Industry Association in Ottawa



Promotion of the Anhydrous Ammonia Information and Training Course at the Fire Rescue Canada Conference



PEI Farmers demonstrate the results of 4R Nutrient Stewardship test plots



Discussing 4R Nutrient Stewardship with delegates of FarmTech 2014



CFI hosts Municipal members at a Hospitality Reception at the Federation of Canadian Municipalities Annual Conference

“POTASH: FEEDING THE WORLD” EXHIBIT OPENS

*Potash Producers Educate Public on Global Food Security,
Local Career Opportunities*

To mark 50 years of the Canadian potash industry and its significant contributions to fueling the Canadian economy, a notable exhibit opened this year at the Canada Science and Technology Museum in Ottawa.

“Potash is one of the most important minerals in fertilizer,” said Bill Doyle, President and CEO of Saskatchewan-based PotashCorp, “Canada’s rich potash deposits are essential to the production of food around the world.” Canada has 46 per cent of global potash reserves and a significant portion of these reserves are found in the Prairie Evaporite Deposit in Saskatchewan.

“This interactive exhibit provides the opportunity for people to learn about the extraction process, the construction of mine sites, and how potash is processed, in addition to examining actual samples of the mineral,” said Mike Wilson, President and CEO of Agrium. “In 2011, Canada exported \$6.7 billion worth of potash to countries such as the United States, China, Brazil and India,” said Wilson.

The exhibit invites visitors to take a journey from below the earth’s surface to halfway around the world. Visitors assume various roles, such as a prospector searching for deposits, a scientist examining potash samples, a miner extracting the mineral, and a farmer fertilizing crops.

“Canada produces 32 per cent of all potash production globally, making us the world’s largest potash producer and exporter,” said Rick McLellan, Senior Vice President, The Mosaic Company. “Our industry employs more than 5,000 Canadians, all of whom will benefit from the growing global demand for potash. The work we do is essential to helping farmers grow more food—and help achieve global food security.”



Feeding Crops to Feed the World: The International Stewardship Symposium

This year, the inaugural International Stewardship Symposium gathered over one hundred leading stakeholders from agriculture, research, and farming sectors to discuss solutions to the increasing food demands of our world's growing population with specific focus on various aspects of 4R Nutrient Stewardship. The conference Feeding Crops to Feed the World was held July 15–16, 2014 in Saskatoon, SK.

Delegates heard from international speakers on the sustainable aspects of the 4R Nutrient Stewardship Best Management Practices. The goal of the Symposium was to form and align an international, multi-stakeholder network to implement 4R Nutrient Stewardship on a global level, and to foster systems-based research to increase agricultural productivity while stewarding land and natural resources in the best way possible. The Symposium also featured a plot-tour of the University of Saskatchewan research fields for delegates to see nutrient stewardship in action.

The International Stewardship Symposium was held in partnership with the University of Saskatchewan — through the Global Institute for Food Security, and many other industry partners including, The Fertilizer Institute (TFI), the International Plant Nutrition Institute (IPNI) and the International Fertilizer Industry Association (IFA). These partners, as well as funding from Agriculture and Agri-food Canada under the Farming 4R Climate project, provided the opportunity and framework to highlight important global initiatives with respect to nutrient stewardship and best management practices.





BOARD MEMBERS

Executives



Greg Yont

*Chairman
Agrium Inc.*



Steve Biggar

*Vice-Chair
Richardson International*



Roger Larson

*President
Canadian Fertilizer Institute*

Directors



Mark Auchampach

J.R. Simplot Inc.



Kathy Jordison
Yara Canada Inc.



Russ Holowachuk
Canadian Fertilizers Ltd.



Lindsay Kaspick
*Koch Fertilizer Canada
ULC*



Noel Hsu
Orica Mining Services



Don Kitson
International Raw Materials



Hugh Loomans
*Sylvite Group
of Companies*



Jim MacEwen
MacEwen Agri-Centre



Brian Mark
PotashCorp



André Mercure
La Coop Fédérée



Walter Precourt
The Mosaic Company



CFI STAFF





Roger Larson

President

Clyde Graham

*Senior Vice-President,
Strategy and Alliances*

Daniel Rogers

*Vice-President,
Economic Policy and Public Affairs*

Dan Doyle

*Managing Director,
CFI Corporate Services*

Giulia Brutesco

*Senior Director,
Scientific and Regulatory Affairs*

Cassandra Cotton

*Director,
Communications
and Nutrient Stewardship*

Catherine King

*Director,
Issues Management and Education*

Emily Pearce Rayner

*Director,
Government Relations*

Amanda Giamberardino

*Manager,
4R Nutrient Stewardship*

Elizabeth Smith

Communications Specialist

Sydney Horton

Program and Events Coordinator

Amanda Foster

4R Program Coordinator

Monique MacDonald

*Senior Manager,
Administration*

Kim Devison

Office Manager

Claudia Navarro

Accounting Officer



CANADIAN FERTILIZER INSTITUTE
INSTITUT CANADIEN DES ENGRAIS

2014 ANNUAL REPORT

Canadian Fertilizer Institute
350 Sparks Street, Suite 907
Ottawa, ON — K1R 7S8
cfi.ca — info@cfi.ca