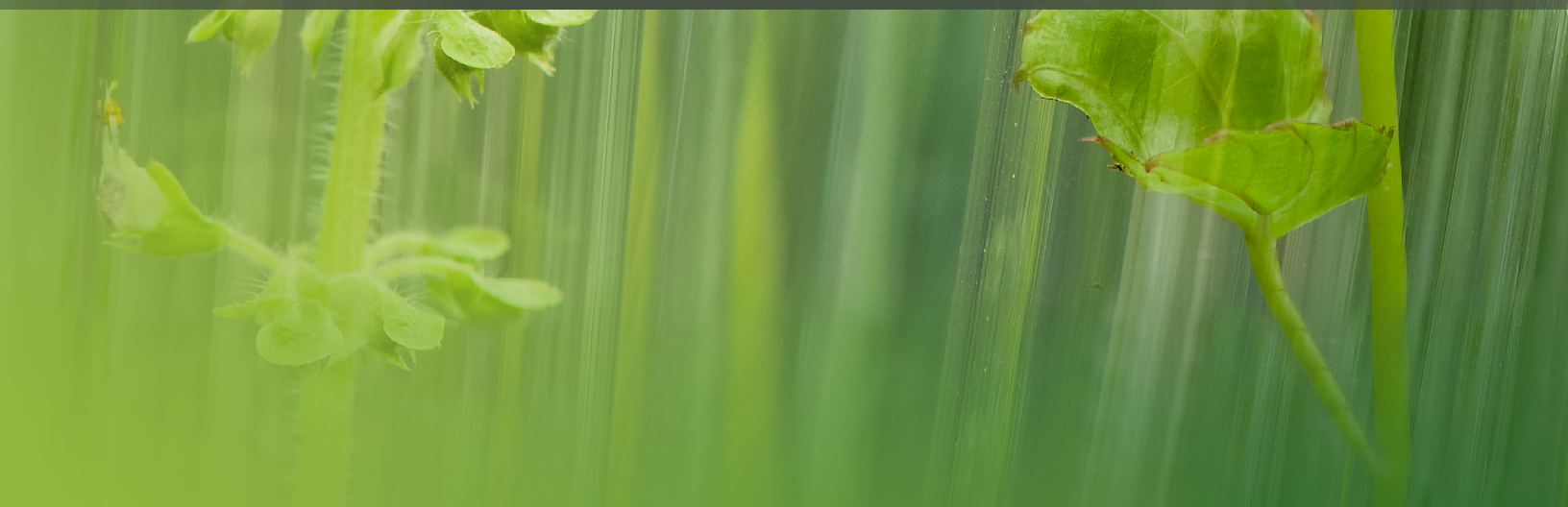




Shaping Saskatchewan's agri-food ecosystem
2021-22 Annual Report





Throughout the pandemic, food security has had a direct impact on consumers. Then came drought on the prairies, adverse weather globally, and the war in Ukraine. Factor in inflation, supply chain disruptions, labour shortages and sky rocketing input costs, set against a backdrop of the Canadian government's commitment to reducing greenhouse gas emissions, and the future feels quite uncertain. There is no shortage of challenges.

President's message

Challenge and adversity brings opportunity and growth



Benjamin Franklin said, "Out of adversity comes opportunity." Saskatchewan has a long history of proving this adage true.

The work continues in Saskatchewan to build a comprehensive agri-food ecosystem, with investments in education, value-added processing plants, and an expansion at the Saskatoon Food Industry Development Centre.

The Canadian agriculture sector stepped forward to tell a positive story and work toward the long-term goal as a sustainable supplier of food, investing in initiatives like the Canadian Agri-Food Automation and Intelligence Network, Canadian Food Innovation Network, Natural Products Canada, Protein Industries Canada and Agriculture and Agri-Food Canada's research clusters.

At Ag-West Bio, a review and refresh of our strategic plan confirmed that our core activities should continue to include creating connections, promoting science and innovation, and growing the commercialization and investment pipeline.

Partnerships remain key to our success. In December we launched a new incubator/accelerator – the Global Agri-Food Advancement Partnership (GAAP). A collaboration with the Saskatoon Regional Economic Development Authority on the VOYAGE program helped attract two agri-food start-ups from Australia to GAAP. As well, GAAP entered an alliance with Ag Capital Canada to bolster its venture funding model and provide even more value to agtech start-ups looking to establish in Canada.

We are pleased to be a founding member of the Saskatoon Food and Ingredient Processing Cluster (SFIPC). An industry-led organization with a vision for Saskatchewan to be a global leader in food, beverage and ingredient innovation, SFIPC's values closely align with our own.

Ag-West Bio continues to manage the Diverse Field Crops Cluster (DFCC). Following another successful year for DFCC, we are preparing for renewed funding for another five-year cycle.

We have a fantastic team to execute our strategic plan. The creation of The Knowledge Farm and SFIPC meant the development of new positions. Welcome to Kent, Joanne, Kyle, Virgie, Amy, and Savanna.

Thank you to our members for expressing your pain points and solutions, and for participating to help us fulfill our mandate. Also, a sincere thanks to our Board of Directors for their continued guidance, and commitment of time and energy to ensure Ag-West Bio remains a successful organization that meets the needs of Saskatchewan's agri-food community.

And, as always, we are extremely grateful to the Saskatchewan Ministry of Agriculture for its ongoing support through the Canadian Agriculture Partnership (CAP) program. ■

Dr. Karen Churchill

The past year was one of growth and breaking new ground for Ag-West Bio. Together with several partners, Ag-West Bio made progress towards moving research to market, helping grow Saskatchewan's bioscience industry, attracting investments to the province and supporting agri-food start-ups. All these efforts were highlighted with the launch of our joint initiative – the Global Agri-Food Advancement Partnership (GAAP).

Letter from the Chair

Catalyst, connector, community builder



GAAP is a new venture capital and incubator hybrid founded by Ag-West Bio, the Global Institute for Food Security, the Saskatchewan Food Industry Development Centre and Innovation Place. It was created to foster and drive innovation and growth

in Canada's agriculture and food sectors, by investing in and supporting new companies, providing a soft landing for existing companies looking to gain access to the North American market—and to permanently position Canada as a world leader in these areas.

Ag-West Bio also joined several other organizations from across Saskatchewan at the World Agri-Tech Innovation summit to promote the advantages of coming to, and investing in, the province's agriculture and food sectors. The company also provided event support for local industry partners.

All this could not have been possible without the commitment of Karen Churchill and her team to Ag-West Bio's role as a catalyst, connector and community builder, and to growing the bioscience industry. Thank you all for your dedication.

As the Association prepares for its next phase of growth, I deeply appreciate the Saskatchewan Ministry of Agriculture for its ongoing support and its renewed commitment and funding received this past year. Thank you also to all our funders and partners who believed in the mandate and provided support to see it fulfilled.

My gratitude goes to outgoing Board members, Leah Olson and Kate Sanford Mitchell, for their time and commitment to our sector. Ag-West Bio has benefited from your rich insight and contributions.

As well, I offer my sincere appreciation to the entire Board, for your vital role in helping shape the Association and in driving change for the industry.

This is my last year on the Board of Ag-West Bio. I am humbled to have worked alongside such steadfast champions of the industry, including all staff, the Board of Directors and all supporters. Thank you for the opportunity. I know that great things are in store for Ag-West Bio and I am confident that with your commitment, Saskatchewan's bioeconomy will continue to grow. ■

Dr. Steven Webb

Vision: Saskatchewan is a world leader in bringing agricultural bioscience innovation to commercialization.

Mission: Accelerating innovation and enabling companies to commercialize research in agricultural and food biosciences.

Mandate: To provide leadership, as a catalyst, to link existing capabilities and resources in order to strengthen the bioeconomy industry in Saskatchewan.

Ag-West Bio Board of Directors

Steven Webb (Chair) – Global Institute for Food Security

Erin Armstrong (Vice Chair) – Retired

Nevine Booth – Federated Co-operatives Limited

Drew Britz – Retired

Shawn Gibson – Saskatchewan Ministry of Agriculture

Shannon Hood-Niefer – Sunnysdale Foods Inc.

Chris Masich – McKercher LLP

Jennifer Milo – SynergyAG

Leah Olson – Prairie Agricultural Machinery Institute

Kate Sanford Mitchell – Acadian Seaplants

Lee Whittington – Four Oaks Investments, and Coaching Excellence Organization

Ag-West Bio Staff

Karen Churchill – President and CEO

Kyle Adams – Director of Investment and Commercialization

Joanne Baczuk – Director of Ecosystem Development

Amy Carruthers – Program Development Manager

Kent Gulash – Director of Industry Relations

Lana Mollard – Corporate Secretary and Executive Assistant to the President & CEO

Jackie Robin – Director of Communications

Jay Robinson – Chief Operating Officer

Virginia Tomas – Manager of Finance and Administration

Savanna Veilleux – Communications Assistant

Pamela Warren – Office Administrator





Since the launch of the Global Agri-Food Advancement Partnership (GAAP) in December 2021, the stakes have become higher and the opportunities have become greater for agri-food in Saskatchewan. Global events have highlighted the impact of political instability, supply chain issues and climate change on food security.

Industry Overview

Shaping Saskatchewan's Agri-food Ecosystem

The GAAP founding partners: Ag-West Bio, Global Institute for Food Security (GIFS), the Saskatchewan Food Industry Development Centre (Food Centre) and Innovation Place.

Businesses around the globe are looking for a stable place to land. It's a chance for Canada—and Saskatchewan—to shine. The agri-food ecosystem in Saskatchewan is moving quickly on networking, innovation and infrastructure development to not only feed the world, but also to sustainably supply the world with innovative agri-food products.

Ag-West Bio President and CEO Karen Churchill says, “An ecosystem is a complex network or interconnected system. For it to be successful, it needs to have political stability, economic growth, a talent pool, and sector strength, as well as financial incentives, including investment dollars and a supportive tax structure.” By tending each of these areas, the GAAP partners are building a resilient and sustainable ecosystem that can weather any storm.

Nurturing networks

Strengthening existing networks and establishing new ones has been a focus.

Ag-West Bio has been supporting the establishment of the Saskatoon Food & Ingredient Processing Cluster (SFIPC). Issues related to the sector are presented at networking events where entrepreneurs, investors and government organizations meet, discuss challenges, and find synergies.

Churchill says, “In many ways our ecosystem is very mature, particularly related to production and research capability. But in other ways, the ecosystem is still nascent. To be competitive, we must continue to





The GAAP launch in the greenhouses at Innovation Place, December 2021.

adapt. We're working to fill a pipeline with ideas and businesses, get them to a place that is 'commercial ready' and send them further along the pipeline to becoming successful. We're building 'watering holes' around various topics, like fermentation or biodiesel."

Blair Knippel, who co-chairs SFIPC with Churchill, says, "We are at the stage of creating an effective, strong network and are expanding quite quickly with new members every month. Members are making network contacts by attending meetings and working directly with Joanne Baczuk, Director of Ecosystem Development. Saskatoon will ultimately have a stronger economy and a more cost effective and resilient food and ingredient processing cluster because of those interconnections."

These networks expand beyond Saskatoon's city limits. Economic Development Regina recently launched the Agriculture and Food Innovation Strategy for the Greater Regina Area, and Ag-West Bio opened a Regina

office. Penny McCall, Assistant Deputy Minister for Regulatory and Innovation at the Ministry of Agriculture says, "It's exciting that these incubation spaces are expanding into Regina. Having this space in Regina will help Ag-West Bio better serve the southern part of the province."

As entrepreneurial networks are connecting, other cluster members are focusing on building a skilled agri-food workforce. Mehmet Tulbek has just taken the reins of the Saskatchewan Food Industry Development Centre (Food Centre) and is overseeing a shift into capacity building on the human resource development and training front. "We need to be in a position to train 500 to 1000 staff to fill new positions in the new plants opening in Saskatchewan in the next three to five years," he says. With programs targeting Indigenous youth and new Canadians, they're tapping into potential talent pools, drawing talent to Saskatchewan, and keeping it here to support a growing value-added industry.

Fostering innovation

The innovation landscape in Saskatchewan has shifted slightly in the direction of streamlining and stabilizing the mix of funding, infrastructure and collaboration that supports start-ups.

The Saskatchewan Government announced in March that Innovation Place will be under the ownership of Innovation Saskatchewan. Kari Harvey, CEO of Innovation Saskatchewan, says, "There are a lot of synergies between the two organizations. We have joint stakeholders and clients, but we support them in complementary ways. Working together more deliberately, we can drive government's priorities in the innovation space."

"The most interesting opportunity is on the investment attraction side. We can amplify the story of our innovation ecosystem across Canada and internationally. The province is opening international offices. This package, in terms of research funding, the opportunity



Top left: Jay Robinson, President and CEO for the GAAP.

Top middle: The Food Centre is a central player in the Saskatchewan research cluster.

Top right: The GAAP founding partners cut the ribbon at the launch event. L-R: Brent Sukenik (Innovation Place), Dan Prefontaine (Food Centre) Jay Robinson (GAAP), Karen Churchill (Ag-West Bio) and Steven Webb (GIFS).



to be part of an innovation hub, and the ag-tech hub at the Innovation Place campus, has already attracted international attention.” Harvey cites Israeli genotyping company, NRGene, which selected Saskatoon as its North American office location in 2020.

For the GAAP founding partners, the sense of urgency is still palpable. As an agriculture innovation catalyst, the Global Institute for Food Security (GIFS) continues to connect the agri-food ecosystem, advance innovation and bridge the gap to commercialization to deliver resilient and sustainable food security for all stakeholders.

GIFS’ CEO Steven Webb says, “We can’t afford to tackle today and tomorrow’s challenges with yesterday’s tools and technologies. This means that research should be applicable to the challenges, with a view to addressing needs and meeting market demand. Discovery and applied research, as well as commercialization in agriculture and food sectors, help us take successful innovations to market to enable Canada to fulfill its moral obligation to feed the world sustainably.”

GAAP offers the opportunity of a two-way exchange of information: getting our innovations out to the world, but also bringing global innovation to the province. Churchill says not every problem has to

be solved at home. “GAAP is also able to bring innovations from around the world to serve the needs of Canadian producers and businesses. It’s a different but important angle that will help grow the ag sector. Often there has been a lot of time and money spent on a problem elsewhere that we can adapt to our type of agriculture for a win, especially in our growth areas, such as the value-added field.”

Building the infrastructure

While the intangibles like collaboration are critical, success is impossible without tangible funding dollars committed to innovation, and physical infrastructure is also needed, both on small and large scales. SFIPC hopes to connect entrepreneurs with similar needs to create efficiencies. “For example, we’re looking at shared ownership models for critical pieces of infrastructure for smaller scale processors,” says Knippel.

Infrastructure is important at both the R&D and commercialization phases. Webb says, “GIFS has developed research infrastructure and state-of-the-art equipment that takes the burden of capital investment off ag-tech companies and start-ups, knowing our facilities exist here in Saskatoon.”

Tulbek gives a nod to the five proposed new canola crush plants announced for





The Saskatoon Food and Ingredient Processing Cluster (SFIPC)



Saskatchewan. “We need to increase not only canola crushing capacity but also pulse processing and fractionation capacity. We need to find space to utilize co-products for fermentation. The Food Centre is expanding 7,800 square feet to create an Advanced Food Ingredient Centre specializing in fermentation.” The goal is to attract companies to set up in Saskatchewan, using local infrastructure, a local workforce and locally grown raw materials.

Aiming for sustainability

The layers of sustainability in the evolution of the ecosystem are many: research into sustainable production solutions; creating value out of what used to be considered waste; telling the story of the environmental benefits of Saskatchewan agriculture; building a stable and prosperous ecosystem that is vital and resilient—and feeding the world at the same time.

Tulbek says, “It’s obvious, with what we’re experiencing now with the changing world order in the post-Covid food system, that food will become more precious. We need to utilize our commodities and products more efficiently and the world will be looking more and more to Canada and Saskatchewan. We need to sustain and bolster this growth to really maximize our opportunities. Sustainability supports all our

activities—it will be our nucleus of growth. We want to help all the organizations grow together. We need to work closely with stakeholders, local groups, government, clusters, universities, and the entire, overall industry.”

The GAAP founders believe that consistent government support is key to that sustainable development.

McCall agrees: “We’re on a firm path forward. We’re very clear on our direction and committed to staying the course. We provide consistent and effective policies and programs. 2021 was Saskatchewan’s highest export value year, ever. We’re on the right path. Our trifecta of strength in the agri-food sector is the quantity, quality and diversity of what Saskatchewan produces, the research and innovation to make those crops more profitable, and the people, including Ag-West Bio, with the vision to make it happen.”

Churchill affirms a two-fold approach to this sustainable development—nurturing the ecosystem at home, while building relationships abroad. “We’ll be continuing with our collaboration and moving beyond what we can grow, regarding ideas in Saskatchewan. We continue to echo that ‘innovation is a team sport’ and we are privileged to have a strong team that genuinely believes in growing the agri-food ecosystem.” ■

The Saskatoon Food and Ingredient Processing Cluster (SFIPC) is centred in Saskatoon and includes businesses and organizations from a variety of communities within the region and Northern Saskatchewan. SFIPC is fostering relationships with over 90 food and ingredient companies, world-class education institutions and research and development facilities.

Prairies Economic Development Canada (PrairiesCan) has been supporting SFIPC since 2018, with research, outreach, pathfinding and funding. This work created the initial momentum for the cluster, including the establishment of the Cluster Steering Committee and regular CEO meetings. With the creation of the industry-lead SFIPC Steering Committee, work began on several initiatives with the goal of creating a cluster of for-profit, not-for-profit, academic and governmental organizations focused on growing the Saskatoon region food and ingredient processing sector.

Karen Churchill and Blair Knippel serve as co-chairs for the SFIPC, and Joanne Baczuk (Ag-West Bio) is Director of Ecosystem Development.

SFIPC strives to become a global leader in food, beverage and ingredient innovation and processing. Its mission is to develop a strong business environment for the value-added agri-food processing cluster through collaboration, ideation and resource maximization. By working together, we can enhance opportunities for investment and job creation for the benefit of the entire agri-value sector.



Every aspect of Boreal Heartland Herbal Products' business is about the place it comes from and the people who live there. Boreal Heartland is an Indigenous business based in Air Ronge, SK. From the beginning, the goals have been simple: provide sustainable income opportunities for the community, showcase the abundance and value of boreal forest plants, and be environmentally and socially sustainable.

Member Profile
Boreal Heartland
Herbal Products

Sustainability at the heart of northern company



Above: A gathering team for Boreal Heartland.

Boreal Heartland began in 2017 as a division of the Keewatin Community Development Association (KCDA) and has remained true to its roots as a community economic development initiative.

“We were looking for ways to help industrial sectors develop in Northern Saskatchewan,” explains Randy Johns, manager of Boreal Heartland and CEO of KCDA. “When we came across the non-timber forest products sector, we thought there was room for development.”

As the name implies, non-timber forest products (NTFPs) are produced naturally in forests and can be harvested without cutting down trees. While the economic wealth of Canada's forests has long been measured by the value of the trees that can be harvested, NTFPs are a somewhat hidden resource that contributes millions of dollars to Canada's economy every year.¹

Johns says one of his first exposures to NTFPs was in 2016, when the Saskatchewan Herb and Spice Association brought Gerald Le Gal from Quebec to speak at an event in La Ronge. “He talked about non-timber forest products and that was when I realized there's potential here.”

KCDA started working with the Saskatchewan Trade and Export Partnership (STEP) to identify potential products and markets. They developed a business plan and worked with Western Economic Diversification (now Prairies Economic

Development Canada) to conceptualize the business and how they might develop.

“We also figured out that it's better to do value-added products as opposed to bulk,” explains Johns. “Tea was a good way to get into it because it's a fairly easy process: you dry the plants, you grind them, then you blend them into teas.” Their best-selling blend is a dark savoury tea made from fireweed leaves and wild mint.

From an economic development perspective, Johns says the benefits of value-added are obvious. For example, when they make fireweed into tea, they get 10 times more for it than they do when they sell it to the bulk market. “We have to put more work into it,” he concedes, “but the work is all done by people who contribute to the local economy.”

Between a quarter and half of their revenue goes to the harvesters. “This is all wild-crafted, so it's all picked by hand. We've tried to set our prices so that a person can make \$100 a day harvesting. We want to make sure people are getting value for their work and that the product is valued.”

In 2018, Ag-West Bio approached Boreal Heartland to do a presentation at Innovation Place. Following that introduction, in 2020 Johns and some of his colleagues participated in an agri-value market training

1. www.nrcan.gc.ca/our-natural-resources/forests/industry-and-trade/forest-products-applications/non-timber-forest-products/13203



Processing fireweed for Boreal Heartland tea.

program offered by Ag-West Bio (through the ABIC Foundation) called *Beyond Entrepreneurship: Building an Agri-Value Business*.

“That really was a great program,” says Johns. “It gave us the basics about how to set up a brand, set up your product financing, figure out your business plan, marketing, and so on. There were a number of small businesses in the course, and it was really good for start-ups, particularly in the value-added sector.”

Boreal Heartland began selling its products to specialty food and health stores, primarily in the Prairies. They also made a deal with Federated Co-operatives Limited to co-brand two of their teas, which are available in Co-op retail locations.

They recently hired Red River Indigenous Brands, a food and beverage broker from Regina. “They got us a national distribution deal with Purity Life, so we’re scaling up our harvest to meet the anticipated sales,” says Johns.

They’re also developing new products. In addition to teas and dried mushrooms,

they’re working on some dried soup mixes and test marketing a line of boreal spices. “Because these spices will be new to people, I worked with a couple of chefs to develop recipes and suggestions about how to use them,” says Johns.

A line of ready-to-drink tea is presenting a new challenge: what do you put them in?

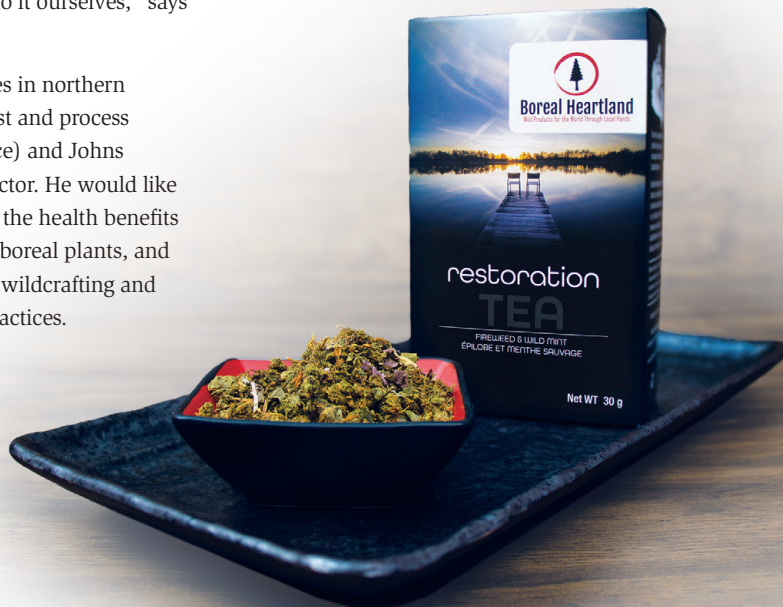
“We want something that’s sustainable, and aluminum cans are the easiest to recycle. So, we’ll either need to go somewhere to get our product put in cans or we will have to make the investment to do it ourselves,” says Johns.

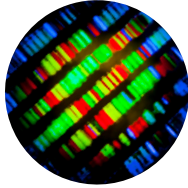
There are other businesses in northern Saskatchewan that harvest and process NTFPs (primarily wild rice) and Johns predicts growth in this sector. He would like to see more research into the health benefits and chemical makeup of boreal plants, and research into sustainable wildcrafting and small-scale agriculture practices.

Developing the capacity in their own community means something; their

location is an important part of their brand, and unlike traditional agricultural commodities, Johns says boreal NTFPs will not benefit from genomics research and technology related to large-scale harvesting.

“The fact that we’re an Indigenous organization and we have a connection to the land is really important to us and important to our philosophies and how we approach things,” he explains. “We can’t just do it to make a profit.” ■





Saskatchewan has a long-standing reputation as a global leader in agriculture and agricultural research. The province is also known for its strong sense of community and cooperative spirit. This openness is one of the things that attracted NRGene.

NRGene is a genomics company that uses cutting-edge AI technology to provide end-to-end solutions to help international agriculture, seed, and food companies optimize and accelerate their breeding programs.

Member Profile NRGene Canada

High-tech, tailored solutions for agriculture



Above: Dr. Masood Rizvi is general manager of NRGene Canada. Headquartered in Israel, the company expanded to Canada in 2020.

Headquartered in Israel, the company expanded their operation to Canada in May 2020, when they opened an office and genotyping centre in Saskatoon.

“All the major seed companies and research centres are here,” says Dr. Masood Rizvi, general manager of NRGene Canada, “The idea was to set up a subsidiary within the Canadian prairie region, where most of the agriculture grows. Bringing our technology closer to the Canadian agricultural community allows us to work closely with our partners, who can now take advantage of our technology and work towards more productive and sustainable agriculture.”

Rizvi says the goal is to hire more people in different segments and boost the local economy. “We started with one employee, which was me, in 2020. As of January 2022, we have 11 full-time staff.”

When NRGene was thinking about moving to Saskatchewan, Rizvi says Ag-West Bio was instrumental in providing information to support their decision and to help NRGene make connections in Saskatoon’s agriculture research cluster.

“We see collaborations as the key for success, and Ag-West Bio provided that,” says Rizvi.

One of NRGene’s first major partnerships in Canada was with Protein Industries Canada to develop new pea and hemp varieties for use in plant-based food and ingredients.

The project aims to increase the amount of protein and improve the starch content and texture of ingredients derived from new varieties.

Arriving in the middle of a global pandemic made it more challenging for NRGene to make connections in the agriculture research community, but they managed.

“We are customer focused, so when we started our Canadian operation, we immediately met our customers face-to-face,” Rizvi said. “But we are also a very agile company, so we adapted to the new reality and changed the way we communicate with our partners and started meeting them virtually.”

Now that the pandemic is waning, he says they’re taking every opportunity to get out and talk to their partners, ask what challenges they are facing and discuss how NRGene’s technology can help. The company is quickly learning about local needs, and uses that information to optimize their AI solutions and tailor it to the prairie ecosystem.

“Our Saskatoon branch is offering end-to-end solutions provided by our local genomics breeding team,” says Rizvi.

That ‘end-to-end solution’ is what sets NRGene apart from other genomics companies. “We’re not just a service provider that takes samples and provides data back to the customer. We work with our customers to



Above: NRGene Canada has office and laboratory space at Innovation Place in Saskatoon SK.

really understand their challenges, we come up with the best solution to their problem and support them throughout the project,” he explains.

Using their vast proprietary database and AI-based technologies, NRGene is helping seed and food companies maximize their crop yield while saving time and money. “We strive to give our customers high quality data and help them achieve their breeding goals faster.”

“Our technology allows us to make predictions based on genomics (such as sequencing and genotyping). We can eliminate the trial-and-error factor from the breeding program

and through computational predictions, indicate which plant has the desired trait,” he says. “This can significantly reduce costs, and ultimately, reduce the carbon footprint associated with taking a large number of plants to the field for phenotyping.”

Climate change and a growing population will mean a rising demand for food. Rizvi says the priority for the last 10 years has been to increase yields, but he also sees a need for more resilient crops.

“People are using a lot of different tools—like genomic selection, predictive selection, and phenotyping—to enhance productivity. But what we see for the future is the need to create ‘smart’ crops that can adapt to the changing environment.”

He sees an important role for AI technology to help farmers reduce their inputs and grow

more adaptive crops. “Whether the variety takes less water or can survive with low fertilizer, these traits are all very important to reduce carbon footprints.”

He says Canada’s plan to achieve net-zero emissions by 2050 is mostly a challenge for farmers, because of water challenges and how much fertilizer is going into the field. “It’s all going to change.”

However, those challenges are not only for farmers. Rizvi says it starts with the seed companies, who are quickly implementing genetic technologies to develop crop varieties adapted to climate change stresses, like drought or frost.

“Living on the Prairies, we cannot avoid the frost,” he says. “But we can create crops that are more adaptive to the ever-changing climate.” ■



After surviving a steep learning curve from 2020 to 2021, we are pretty much back up to speed with our events. In some ways, they are better than pre-pandemic. Like so many other organizations, we adapted to the required social distancing by moving online, and then went to hybrid (in-person and online) formats as restrictions eased.

Events and Communications

Adapting and bringing the community together

Most of our events were hybrid last year, starting with our Annual Meeting in June, *The Power of Partnership: building an agri-value ecosystem* in Saskatchewan, where we explored the strengths of the research cluster and introduced the Global Agri-Food Advancement Partnership (GAAP).

Our in-person events included the GAAP launch in December. We took advantage of the still-empty GAAP greenhouses (at Innovation Place) to create a fun and magical space, with strings of patio lights reflected

in the glass walls and colourful, bubbling beakers. Soon, that space will be filled with start-up companies from around the world.

Global Biotech Week

After hosting Global Biotech Week 2020 completely online, it was great to have a few in-person events once again last year. They included *A Mentoring Lunch n' Learn with Mike Fata*, *Trivia Night at Louis' Pub*, *Grow Your Business with Genomics*, and for the eighth year we partnered with Café

Right: The Knowledge Farm events are co-hosted by Ag-West Bio and Innovation Place in the Boffins Event Centre.



Scientifique, with Dr. Kate Congreves (USask) presenting *Balancing Acts for a Sustainable Food Future*. We also partnered with Nuit Blanche for the first time, sponsoring an artist in the annual art festival at River Landing in downtown Saskatoon.

The Knowledge Farm

Although the closing of Boffins Public House at Innovation Place in 2019 was not popular with tenants, it presented us with an opportunity. We partnered with Innovation Place to create the AWB Boffins Innovation Series, using the space on Wednesdays to host a variety of events. The concept evolved and grew, and in early 2022, The Knowledge Farm was born.

ABIC Speaker Series

The third ABIC Speaker Series event was held in the fall of 2021. We were thrilled to have Dr. Jennifer Doudna, Nobel Prize recipient and co-creator of the CRISPR gene editing technology as our guest for a 'fireside chat'. The event attracted around 140 attendees from across North American and overseas, in person at Boffins and online.



Amy Carruthers

Ag-West Bio
Program Development
Manager

The Knowledge Farm

The Knowledge Farm is Saskatchewan's premier forum producing connections that grow innovative ideas in agri-food and bioscience.

This hybrid event series, held at Boffins Event Centre and co-hosted by Ag-West Bio and Innovation Place, allows Saskatchewan's agriculture and bioscience community to listen to, and interact with, speakers from around the world. The events facilitate learning and networking between industry members, entrepreneurs, and other stakeholders in agriculture and bioscience.

In its inaugural year, The Knowledge Farm has served as a catalyst for the development of innovative ideas and creation of new partnerships that will build the Saskatchewan economy. From January to June 2022, we hosted seven events with 184 participants.

This event series will continue to offer programming that highlights original ideas and cutting-edge technology.



Global Biotech Week 2021 Trivia Night was held at Louis' Pub on the University of Saskatchewan campus.

Top: The ABIC Speaker Series networking event menu included genetically engineered Arctic® Apples from Okanagan Specialty Fruits, and AquAdvantage salmon provided by AquaBounty.

Bottom: USask VP Research Dr. Baljit Singh and Dr. Grant Devine visit at the GAAP launch.



The spring 2022 event featured David Melbourne, Chief Commercialization Officer, AquaBounty Technologies, the company that developed and commercialized the world's first bioengineered animal for food. The networking event menu included all kinds of genetically engineered foods, such as AquaBounty's salmon, Innate® Potatoes and Arctic® Apples. For fall 2022, we have invited professor and researcher Dr. Kevin Folta, host of Talking Biotech Podcast. Spring events focus on business while fall events focus on science.

Supporting our partners

In select cases, and if our expertise can be a benefit, Ag-West Bio is happy to partner with other organizations to co-host events. For example, Ag-West staff sits on the planning committee for the Saskatchewan Agri-Value Forum and Networking event each year, and this year, we assisted with registration for the Saskatchewan Agricultural Hall of Fame Gala.

New storytelling tools

There are a number of tools that we have been using for many years (and will continue to use) to share information about Saskatchewan's bioscience activities, such as the Bio Bulletin (our quarterly e-magazine), and our Weekly Update email. We recently completed a brand-new video showcasing Saskatchewan's bioscience research cluster, as well as a short video about Ag-West Bio's services.

We have just revamped our main website (check it out at agwest.sk.ca); and the Sask Agrisource website has recently been updated, with members of the new Saskatoon Food and Ingredient Processing Cluster added to the database, along with hundreds of other organizations that offer bioscience or agri-value products and services in the province. Visit saskagrisource.ca. And of course, be sure to get social: follow us on Twitter, Facebook and LinkedIn.

More to come!

With many new team members bringing great new ideas to the organization, we are looking forward to sharing more success stories from Saskatchewan's growing bioscience sector. ■

A diverse mix to add cropping options



By Carol Ann Patterson, DFCC Project Manager

The Diverse Field Crops Cluster (DFCC) focuses on research to benefit producers and industry. DFCC comprises a mix of small

acreage crops grown across Canada: camelina, canary seed, flax, hemp, mustard, carinata, quinoa and sunflower. While the Covid-19 pandemic continued to cause some delays, many of DFCC's research activities are on track to be completed by the fifth (and final) year of the program.

This fourth year once again illustrates researcher success and the importance of public/private partnerships and collaborations.

- Research by Agriculture and Agri-Food Canada (AAFC) and NuSeed Canada scientists have resulted in the first commercial carinata hybrid, Nujet 400, being launched in Argentina, Uruguay and the United States in 2022.
- University of Saskatchewan's Crop Development Centre has developed a brown flax oilseed line that has been supported for registration in Canada. SaskFlax is the key industry partner.
- AAFC has developed germplasm with increased tolerance to Group 2 herbicide Solo, in carinata and yellow mustards. This is the first step in development of herbicide tolerance in varieties and showcases the partnership between AAFC, NuSeed Canada and Mustard 21 Canada.
- The nutritional quality and safety of hemp meal for dairy cows was demonstrated by Dr. Plaizier at the University of Manitoba, with support from Dairy Farmers of Manitoba. This information will be used to support Canadian Hemp Trade Alliance's submission for regulatory approval by the Canadian Food Inspection Agency.
- Collaborations amongst AAFC, University of Guelph, Sask Food Centre and Mustard 21 have resulted in the development of fractionation processes for yellow mustard into protein, dietary fibre and gum products, and inclusion in high value foods.
- Data from canine and equine studies with camelina oil conducted at the University of Guelph by Drs. Shoveller and Pearson demonstrate its safety and efficacy. Smart Earth Camelina is using this data to prepare submissions for regulatory approval in the United States.

As DFCC enters its last year, the seven crop sector members are preparing a second application as part of AAFC's next agri-science program. The full submission should be ready by late fall.

Ag-West Bio would like to thank all the crop sector members for their support of DFCC and look forward to continuing the successes of this first round. ■

www.dfcc.ca

Thank you!

We truly appreciate the support of our members as we work to grow the bioeconomy in Saskatchewan. Your success means success for the entire sector.

Ag-West Bio members come from private industry and public research institutions and range in size from start-ups to multinationals. They are active in ag biotech, value-added food processing, health and nutrition, digital agriculture, environment, and bioproducts.

Member benefits include a listing on our website, your news and events shared in our newsletters and articles in our Bio Bulletin. Members receive discounts for Ag-West Bio events and for services from various partner organizations, such as Businesswire and BioTalent Canada and others! Visit our website for details.

Consider an Ag-West Bio membership. We will work with you to grow the provincial bioscience sector.

[View member profiles at www.agwest.sk.ca](http://www.agwest.sk.ca)

Financial statements are available for members upon request.



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