



# Strength in Community

AG-WEST BIO ANNUAL REPORT 2022-23



YEARS

## PRESIDENT'S MESSAGE

# Pure heart. Prairie science.

Nurturing innovation in the bioscience sector takes care, patience, and the vision to play the long game. The Saskatchewan Ministry of Agriculture clearly agrees; it has provided Ag-West Bio with another five years of funding. Time flies – next year Ag-West Bio will celebrate 35 years in business!

Our refreshed strategic plan has enabled us to drive solutions at the regional, national and global level. Our *Purposeful Connections* strategy has led to new partnerships, and we have expanded our reach into rural communities to draw on the knowledge of Saskatchewan producers through discussions about innovation.

Ag-West Bio was given a leadership role in the growth and rebranding of the Saskatoon Food and Ingredient Processing Cluster. Now known as Prairie Food Link, the membership has expanded from 30 to 150!

Bioscience companies encounter unique challenges. We work with Global Agri-Food Advancement Partnership (GAAP) through the Voyage program to help companies overcome hurdles on the long runway to commercialization. Through Voyage, Australian-born BioScout is bringing its technology for early detection of crop diseases to our producers – and opening a Saskatchewan office! With the second edition of the program, called Navigate, we anticipate a pipeline of success stories in the coming years.

Ag-West Bio made two investments this year: in Clean Seed Capital, a company developing precision seeding technology; and Proxima, a contract research and development company. We look forward to working with them!

The ABIC Foundation continues to be active. Despite hurricanes, we hosted Kevin Folta as our keynote for the Spring 2023 ABIC Speaker Series. Brent Zettl provided another generous donation to ABIC, once again showing his support for ag entrepreneurship in Saskatchewan.

We welcomed three new staff members this year: Amanda, Shae, and Kaylee. Thank you to all Ag-West Bio staff, a dedicated group of enthusiastic people, motivated to build the agri-food / bioscience industry.

I am very grateful for our board members who volunteer their time and expertise to guide Ag-West Bio's mandate. And of course, our sincere thanks to the Saskatchewan Ministry of Agriculture for its ongoing support through the Canadian Agriculture Partnership (CAP) program.

Finally, thank you to our members! By attending our events, sharing advice, or mentoring others, you strengthen the community. Time and again I hear that nowhere in Canada is there an ecosystem like ours, where community comes together to support startups and entrepreneurs.

Dr. Karen Churchill

## MESSAGE FROM THE CHAIR

# Evaluation, & Evolution

As we emerge from the global pandemic, during which almost everything was done virtually, Ag-West Bio continues to excel in its role of connecting and strengthening Saskatchewan's agri-food community.

As initiator, organizer, and participant in a wide range of events, Ag-West Bio presents, shares, and promotes information on topics of direct and growing relevance to this sector.

The importance of Ag-West Bio as a community connector has been recognized by the provincial Ministry of Agriculture through renewal of its core funding for another five years. The Ministry's support is the foundation for the continued operation and effectiveness of the organization. On behalf of the board of directors, I thank the Ministry for its ongoing support.

Ag-West Bio continues to evolve under the leadership of CEO Karen Churchill. She is working to streamline the company's internal operations and

constantly evaluating and fine-tuning its focus. Karen has assembled an outstanding team at Ag-West Bio, and they generate more ideas for initiatives than they have time for! The board thanks them all for their dedication and diligence in advancing Ag-West Bio's objectives.

The board of directors has been committed to supporting Karen and her team in strategic review and direction-setting, as well as overseeing the organization's governance. Board members have been engaged, thoughtful, and generous in contributing their time to provide this support. A special thanks to two board members whose terms are ending this year: Shannon Hood-Niefer, Vice Chair, as well as Chair of the Governance & Corporate Strategy Committee for the past year; and Drew Britz, who has been Chair of the Finance & Audit Committee since joining the board in 2020. We wish them both well.

I would also like to extend thanks to the various organizations that partner with Ag-West Bio in developing and delivering programs central to strengthening the bioscience and agri-food community – for the benefit of Saskatchewan's entire agriculture sector.

It has been a privilege to serve as Chair this past year and to work with all the board members, Karen and her staff as Ag-West Bio continues to play a pivotal role in growing Saskatchewan's bioeconomy.

Dr. Erin Armstrong

**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

Erin Armstrong (Chair) – Independent

Shannon Hood-Niefer (Vice Chair) – Sunnydale Foods Inc.

Jeff Bertholet – BASF Canada Inc.

Nevine Booth – Federated Co-operatives Ltd.

Drew Britz – Independent

Terry Fonstad – University of Saskatchewan

Shawn Gibson – Saskatchewan Ministry of Agriculture

Tyler Lynch – Saskatchewan Ministry of Trade and Export Development

Gayle MacDonald – Independent

Chris Masich – McKercher LLP

Jennifer Milo – SynergyAG

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

Kaylee Dodds – Business Development Intern

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

Amanda Mpabanga – Office Assistant

Jackie Robin – Director of Communications

Jay Robinson – Chief Operating Officer

Virgie Tomas – Manager of Finance and Administration

Shae Zwozdesky – Communications Assistant

# INDUSTRY OVERVIEW

## Strength in community

### Building a resilient ecosystem and commercializing ag-bioscience innovations - one connection at a time.

Saskatchewan's ag innovation ecosystem is expanding and gaining resiliency. Government, non-profits and local businesses have long been solving ag-related problems, advancing technology and offering financial support to early-stage companies. But now there is a greater focus on something Saskatchewan people do naturally: building community.



Ag-West Bio CEO Karen Churchill says, "This sector is incredibly diverse and there are so many opportunities to connect across the entire supply chain: from genetics to the farmgate, from supply and distribution to the family dinner table."

The end of 2022 heralded the rebranding of the Saskatoon Food and Ingredient Processing Cluster, now Prairie Food Link, which is led by a steering committee of established CEOs, emerging startups,

**Below:** Abdul Jalil, (PrairiesCan ADM) speaks at the Prairie Food Link branding launch in December 2022, with co-chairs Blair Knippel and Karen Churchill looking on.



government officials and retail executives, and managed through Ag-West Bio. Prairie Food Link represents the entire agri-food value chain and offers companies and entrepreneurs opportunities to gather for informal discussions and networking.

Leaders in Saskatchewan's agri-food sector collectively see the value of leveraging the province's unique geographic, political and social strengths. Devin Dubois, VP Legal and Regulatory at Blue Sky Hemp Ventures, and member of the Prairie Food Link Steering Committee says, "We're here in Saskatchewan for a reason. We're here because we can grow this crop more economically here than anywhere else in the world. The small and mid-sized businesses are based here because of our geographical advantage. In this geography, we should be friendly with each other in leveraging that. It makes sense - the same technologies apply to a wide range of crops. We can remain in a silo, but there's more opportunity if we go beyond that silo."

Churchill says, "Saskatchewan's strength is in the way we embrace the entrepreneur, the startup, the people with passion and great ideas. That willingness of this community to build each other up is the 'secret sauce' of Prairie Food Link."

### Strengthening technologies with practical applications

A mix of formalized programs, government policies and opportunities for connection are creating an environment that supports practical and applied solutions that directly

benefit growers and manufacturers in Saskatchewan. The Global Agri-Food Advancement Partnership (GAAP) is filling an important void in innovation and international collaboration that supports the Canadian agri-food industry.

The GAAP, now a year old, is a long-term incubator that provides lab and greenhouse space, tailored programming, and meaningful investment for local startups as well as for international, growth-stage companies looking to expand into Canada. The Navigate program provides travel funding for international companies to come to Saskatchewan.

Jay Robinson, GAAP CEO says, "Through our Navigate program, we offer investment in companies that already have market traction and are bringing tangible, sector-specific technologies to the marketplace. It covers a broad spectrum of end-user value-targeting technologies that improve on-farm production while minimizing the environmental footprint as well as food technologies that look to address sustainability while offering superior quality and economics.

The team that we've assembled around GAAP have all built and sold companies in these applied technology areas - so we have the bumps and scars through experience."

He adds, "We're close to the precipice of meaningful change, of new innovations  
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Joanne Baczuk, Director of Ecosystem Development

# PRAIRIE FOOD LINK

## Building connections for the food community

### A small but mighty food cluster is developing in Saskatoon and region.

In December 2022 we celebrated the rebranding of the Saskatoon Food and Ingredient Processing Cluster. The name Prairie Food Link better reflects the potential impact of the cluster beyond our region. Membership is now over 150 individuals from 113 organizations representing food and ingredient processors and support organizations within the ecosystem (supply chain, investors, research facilities, accelerators, and government).

Creating opportunities for our members to make rewarding connections is what Prairie Food Link is all about. In 2022, we hosted 10 events where members could discuss industry concerns. Thanks to connections made at these events, member companies have increased efficiencies or expanded their businesses.

Prairie Food Link facilitated roundtables and led facility tours to connect government departments to industry, discuss programs and share industry insights on issues, such as labour shortages and training needs. On this note, we were successful in linking our members with students and new immigrants to fill job vacancies in the region.

We also participated in Saskatchewan Indian Institute of Technologies' (SIIT) Beyond the Harvest conference and members took a lead role in supporting SIIT's agri-food processing micro credential program.

Ag-West Bio continues to support this industry-led cluster, providing a homebase for Prairie Food Link's Director of Ecosystem Development, and Karen Churchill serves as co-chair of Prairie Food Link's Steering Committee. ▲

It's vulnerable to show up and show your cards, to not gain an edge for yourself, and instead move the whole group ahead together.

Jay Robinson



making a difference on a working farm. We get to see the people who use it reap the benefits.”

### Strengthening relationships

At Ag-West Bio, every event has a networking component. Churchill says, “There is always someone or some agency in our tailored audiences that can help with business challenges or knows someone who can help, who can brainstorm and create a new idea or improve something that is already out there.”

Mark Pickard, president of InfraReady Products, says, “It’s important for startups to get together with more mature companies and seasoned CEOs. Relationships build community, and from community you can build collaboration and build the industry.”

Shannon Sears, CEO of Bioriginal, says, “You learn from each other – it’s rare that I come back from a Prairie Food Link gathering without having learned something. I wish more leaders would attend. I think they’d find it valuable.”

Dubois says, “I appreciate the opportunity to sit at the table with industry leaders such as Shannon Sears and Mark Pickard. There’s a lot to be learned from local operations. When you’re trying to break into larger markets, it seems like there’s so much more potential when there’s crosstalk between organizations.”

Pickard says, “These challenging times make these conversations more valuable. It creates an environment where startup ideas can be evaluated against the experience of

the seasoned CEO. Some people think their problems are unique to them, but seasoned CEOs can see the commonality in the problems. And finding out how others deal with it is hugely valuable. You’re not just out there on your own.”

“We’re here to support our industry to scale globally,” says Churchill, “That means marketing our strengths in food production and getting advice from those who have ‘been there’ so we can identify where we are most likely to achieve success.”

### Sharpening Saskatchewan’s competitive edge

The Government of Saskatchewan’s Growth Plan for 2030 has set agri-food sector goals to increase crop and livestock production, increase agriculture value-added revenue, including crushing 75 per cent of the canola and processing 50 per cent of the pulse crops grown in the province, while also increasing agri-food exports to \$20 billion.

Paul Johnson, Assistant Deputy Minister, Policy, Saskatchewan Ministry of Agriculture, says, “We are a consistent, stable supplier of high-quality products around the world. We are a reliable trading partner that our customers can trust, and our trade policies are science based, stable and predictable. One of our key strengths is sustainability: new research shows that our crops have the lowest carbon footprint when compared to our international competitors in those same crops. Cluster development, such as with Prairie Food Link, brings businesses in the sector together so they can capitalize on synergies, collaborate on challenges, and

collectively address constraints.”

Prairie Food Link may appear to be a very local organization (Pickard jokes that “it succeeds in part because it feels like ‘stopping in’ on people – something that doesn’t happen much anymore”) but members have their eyes on the prize. Dubois states it clearly: “There is no zero-sum game on the local level. It’s a global system.”

Robinson says tapping into global markets may take a good dose of humility and vulnerability: “When we look at taking the agri-food sector to the next level in the province, it’s going to take partnership and collaboration. It takes a lot of humility for people to admit what they are not good at, but that’s how they stay true to their core competencies, and bring in the companies with the strengths we need to develop. The opportunities are global, not local. We need to be honest about our strengths and about who around us can fill the void. If we build a consortium of complementary groups, we will be very competitive.

“It’s vulnerable to show up and show your cards, to not gain an edge for yourself, and instead move the whole group ahead together. It can be a challenge to manage, but the pie is much bigger and makes it worth the effort.”

“At Ag-West Bio, we are focused on the agri-food sector with its specific challenges. This isn’t just a job for us – this is our community,” says Churchill. ▲

## A global perspective

Global investment in agri-foodtech totaled \$29.6 billion in 2022, a 44 per cent decline from record-breaking 2021 levels.

Although significant, the net drop is not as dramatic as it initially appears, considering 2021’s banner year of \$51.7 billion was an 85 per cent increase over 2020.

Total funding decreased at every stage in 2022. Late-stage capital dropped the most, by 66 per cent, largely due to a slowdown in funding for eGrocery, which accounted for the bulk of late-stage deals in 2021, along with global Cloud Retail Infrastructure, and North American alternative protein startups. Early-stage investing dropped only nominally as more VC firms are shifting to earlier stage investing. In Canada, total deal flow decreased 18 per cent but dollars funded increased by 154 per cent, for a total of \$1 billion funded.

Despite the overall drop in investment dollars, funding increased in Ag Biotech, Bioenergy & Biomaterials, Farm Management Software, Sensing & IoT, and Novel Farming Systems. Bioenergy & Biomaterials funding increased to \$2.3 billion, up 15 per cent from 2021. This highlights a growing momentum for novel alternatives to plastics and animal-based materials as well as clean energy sources. The 2023 outlook for biotech remains positive – from synbio, GMO, biofertilizers and biocontrol products, to climate tech.

\*Source: AgFunder



Kyle Adams

Director of Investment and Commercialization

It has been a great first year with Ag-West Bio. It’s rewarding to be a part of a small, hard-working team with passion for supporting growth of Saskatchewan’s agri-food sector. I am keen to build on 2022’s success to assist more entrepreneurs with their commercialization efforts.

Since arriving in Saskatchewan in 2022 to fill the role of Director of Investment and Commercialization at Ag-West Bio, I have invested significant time into building relationships and understanding the provincial agri-food ecosystem. In this time, I also provided business planning, input and guidance to 15 early-stage companies to accelerate investment readiness and commercialization.

### 1. Ag-West Bio’s Technology

Commercialization Fund investment thesis was reviewed and updated to broaden the scope of companies assisted, as we recognize “the Valley of Death” for startups extends to scale-up. Historically, we focused exclusively on pre-seed and seed stage investing; this will continue, but completing a limited number of scale-up investments aligns with our strategic objective of increasing the impact of the fund by assisting more Saskatchewan companies and increasing the fund’s performance. Broadening the nature of our investments allows us to properly structure each investment for the nature of the project (e.g. convertible notes).

- a. Two investments totaling \$350,000 were approved for the year, and leveraged to an additional \$1.3 million of funding.
- b. An Economic Impact Assessment was completed on the fund for the period of 2012-2022 by Dr. Stuart

Smyth (an agricultural economics researcher at the University of Saskatchewan). Highlights of this report:

- Economic impact of Ag-West Bio investments from 2012-2022 is estimated at \$243 million.
  - For each \$1 invested by Ag-West Bio, the province receives economic gains of \$122.
  - An estimated 432 person years of employment resulted from Ag-West Bio investments since 2012.
  - Between 2012 and 2022, an estimated \$120 million in leveraged funding has been secured, in large part due to Ag-West Bio investments.
- c. A thorough audit and review of all Ag-West Bio investments was completed. The results:
- An investment/portfolio management tool was created to improve governance of the fund.
  - A long-term fund budget was created to facilitate capital management and strategic planning.

2. We sponsored and collaborated on Startup TNT’s 2023 Agtech Investment Summit.
3. Ag-West Bio co-hosted *Create. Compete. Commercialize. Palette Skills Pitch Night.* ▲

MEMBER PROFILE | PROXIMA RESEARCH AND DEVELOPMENT

# Filling a need no one realized was a need



**“We like to tell clients, ‘don’t ask us what we do; we want to know what you do,’” says Zach Belak, a co-founder of Proxima Research and Development. “Usually, we can help with whatever they’re trying to do, and we can do it more economically than they would be able to do internally,” he adds. “We look at it as providing support and being part of the ecosystem.”**

Proxima is a small contract research company. While they specialize in applied biotechnology, within that they provide more general services to academic and industrial clients who typically don’t participate in the contract research space due to scale or cost concerns. In their first two years in business, they’ve worked with pharmaceutical companies, government organizations, academic labs, other startups, and small and medium enterprises.

Belak and his business partner, Proxima co-founder Iain Wallace, have scientific experience in academic, industrial, biomedical, and consulting environments. They met when they worked together at a pharmaceutical company.

In the wake of the pandemic, Belak says they were looking for more autonomy. “In science, typically it’s a couple years, or even a couple months, and you’re on to the next project. So, we thought, if we’re going to be doing all kinds of different things all the time, we might as well do it under our own purview. Let’s turn that into a business.”

Wallace notes that “not everyone can be

a generalist, not everyone has the unique fusion of experiences that Belak and I and our scientists have. I think our core competency is the know-how, the toolbox we’ve assembled over our careers and how we can apply that to whatever problem our clients come to us with.”

When they’re not working with clients, they also pursue some of their own R&D. For example, they’re working on a bioprospecting project looking at yeast. “That’s where you go out and take environmental samples to isolate different interesting microbes from them and explore how those might be useful in different applications. In Saskatchewan, brewing and biofuels are both very relevant applications,” explains Belak. “We’re the only company doing bioprospecting in Saskatchewan.”

That kind of innovation is exactly what they had in mind when they named their company. Proxima means ‘next’ or ‘close by’ in Latin. “It’s meant to convey the idea that the next great technology, the next great thing that’s going to improve our lives, is what we’re working on,” explains Belak.

“I think our core competency is the know-how, the toolbox we’ve assembled over our careers and how we can apply that to whatever problem our clients come to us with.”

Zach Belak

It’s also a reference to proximity and Saskatchewan-made solutions. While they have clients as far away as Mexico, most are close to home.

“For what we do, supporting crop development and value-added agriculture, this is actually a very important place to be. A lot of the types of clients we serve are located here,” says Belak.

“It’s a hotbed of biotech and especially ag biotech,” adds Wallace.



An assortment of fungi, algae, and bacteria from soil and water samples which have been stained and imaged using fluorescence microscopy. Samples like this are the starting point for isolating potentially useful organisms for food (beer), agriculture, or biofuel production and are used in Proxima’s bioprospecting efforts.

When you’re starting out, especially when you have a unique business model, it helps to have someone in your corner. Belak and Wallace say they’ve found that support at Ag-West Bio.

Wallace had been impressed with the professional connections he was able to make through Ag-West Bio when he moved to Saskatoon. “I met Ag-West Bio as someone who was job hunting. I went to one of their mixers and met people who were on the executive level and all the way down,” he

says. “The calibre of people I met was really high, and they were very friendly and open.”

So, Ag-West Bio seemed like a natural place for Belak and Wallace to make connections on behalf of their new company. “They’ve really lived up to their mandate of helping us get connected with the local biotech ecosystem,” says Belak. “They’ve been really great at connecting us with potential clients, collaborators, and mentors.”

Wallace and Belak are excited about the

changes they are seeing in the ag biotech industry in Saskatchewan and their place in it. “Saskatoon has a long history in ag biotech, but it feels like things are changing in a very positive way,” says Wallace.

“It’s kind of strange that we were the first to think of doing medium- to small-scale contract research here, but the reaction from our customers and collaborators has been really positive. We are just what they needed, but without anyone realizing there was a need.” ▲

# MEMBER PROFILE | C-MERAK

## Healthy people, healthy planet

C-Merak is rebuilding the connection between farmers and consumers and making new connections to sustainably produce healthy food.

Brett Casavant, C-Merak's CEO, is a fourth-generation farmer who began his entrepreneurial journey by expanding the family farm near Tisdale, Saskatchewan. Rather than simply expand the farm's land base, he wanted to add more value to the crops they were growing.

"We felt there was a real disconnect between customers, who are the people who eat the food, and the people who grow the food. So, we really want to strengthen the bond between producers and consumers by moving up the value chain closer to the end user."

He was driven to unlock the potential of locally grown crops by processing them into higher value ingredients.

"We first got into grain procurement, which was a really good way to ensure grain quality. Then we moved into value-added dry milling, where we clean the grain, dehull the grain, and grind it into powders to make a functional ingredient," he explains.

We keep our footprint light by being energy efficient, using very little water and not generating any waste.

Brett Casavant

C-Merak's new processing plant is creating protein concentrates, flours, and other food ingredients from faba beans and oats. While focused on making raw ingredients for now, Casavant says, "we want to work with our customers to take those ingredients to the next level by improving the performance, functionality, and sensory attributes that will ultimately create better quality food products on store shelves."

He describes the company's relationship with its customers as a closed loop. "We select the varieties. We select the growers. We clean and store the beans and oats in our terminal. And finally, we create our ingredients right here, at the source, using the best, most sustainable feedstock to

ensure quality and a traceable connection back to the farm," he explains.

Sustainability is at the heart of everything C-Merak does. Casavant says farmers are naturally sustainable (they have to be to survive), but he wants sustainability to be a priority throughout the value-added process. "Consumers deserve access to food that is both healthy and environmentally sustainable. Our ingredients are 100 per cent natural. We do not use any chemicals or additives. We keep our footprint light by being energy efficient, using very little water and not generating any waste. Our motto is, 'healthy people, healthy planet.' We are trying to produce healthy ingredients for people, but in a way that is good to the planet."

Casavant says the number one reason C-Merak has focused on faba beans is because it is one of the most sustainable crops they can grow. "Faba beans have higher protein than any of the other legumes we can grow. They naturally fix more nitrogen in the soil than they take out, which revitalizes the land. And they're very nutritious: packed with protein, fibre, vitamins, and minerals that are critical to our diets," he explains.

Similarly, C-Merak works with oats because it is the healthiest cereal crop they can grow in their area. "We picked the healthiest legume and the healthiest cereal as our base ingredients," he says. "They are great as separate ingredients and they also complement each other, especially on the amino acid profile side of things."

we also have growers in the area that can give us some of the best feedstock in the world

Brett Casavant

He describes C-Merak as "a cog in the circular agriculture wheel" that creates opportunities and benefits for the Tisdale area and beyond.

"Not only do we feel like we're very strong millers—we have some world-class techniques for sure—but we also have growers in the area that can give us some of the best feedstock in the world," he explains. "Transforming these locally grown crops creates new local markets for producers. It creates jobs and economic benefits for the community. It helps grow Saskatchewan's value-added sector and attract other processors into the region. Agriculture is really an ecosystem, where working together can yield exponential results."

Joining Ag-West Bio has been instrumental in helping C-Merak develop its business

and make connections in Saskatchewan's ag-biotech community. "Whether it be industry contacts, advisory input, or thoughts around commercialization, Ag-West Bio has really helped us create a strong foundation for the future," says Casavant.

"We started to get opportunities to go to networking events, training courses they put on, and listen to speakers through their network. They've created connections for us that would have otherwise been hard to build."

As the company continues to grow and develop, C-Merak's vision is "connecting everything in our process, right from the seed through to the final ingredient," and partnering with others who share their vision for a healthier future. ▲

## MEMBER PROFILE | BLUE SKY HEMP VENTURES

# Blue skies ahead for versatile crop

Blue sky thinking has no limits. It's about coming up with new and different ideas or solutions. The Blue Sky Hemp Ventures founding partners imagined they could maximize a marginal crop and create opportunities for themselves, their growers, and the planet.



"We founded the company in late 2017 with the intention of building a business on the whole hemp plant—flower for cannabinoids and extraction, seed for food ingredients, and stock for fibre and industrial products," explains Devin Dubois, VP Legal and Regulatory for the company.

Five years later, Blue Sky has two Saskatchewan processing facilities: one in Saskatoon where they produce ingredients that are sold all over the world and one near Rosetown, where they have worked on whole plant utilization, including early work on stalk and flower recovery.

"Our Saskatoon facility has two sides: on the food side of the building, the primary product is what people refer to as hemp hearts; it's really de-hulled hemp seeds. That's the highest-volume product we make in the plant."

They also generate hemp seed oil. "Traditional hemp seed oil sold in health food markets is very green, very hempy," says Dubois. "We've managed to make a refined

**Left:** Blue Sky's management team (L-R) Ben Carnevale (VP Sales & Marketing); Michael Rimell (co-founder, CFO); Luke Deering (VP Business Development CBD); Andrew Potter (co-founder, CEO); Wilson Johnson (co-founder, Chief Agronomist); Devin Dubois (co-founder, VP Legal & Regulatory)



version that has largely been selling into the cosmetics market in Asia."

As a by-product of the oil pressing, they produce a meal that is dried and milled into flours of various kinds and sold in the ingredient market throughout North America.

On the other side of the building, Blue Sky has a licensed cannabis processing facility where they use an ethanol extraction system to make various cannabinoids – CBD and THC extracts.

"The bulk of our customers are other Canadian processors who buy their cannabinoid inputs from us to make retail and medicinal products – vapes, gummies, chocolates, tinctures, you name it," says Dubois.

"One of the things we're hoping for is deregulation of CBD," he says. "If CBD is moved from the cannabis-regulated market into more of a natural health product, that will create a larger demand for the flower."

Expanding their food and cannabinoid markets will help Blue Sky increase production and generate a higher volume of fibre. They've been experimenting with fibre separation in their Rosetown facility, but Dubois says they have yet to establish a meaningful scale of fibre processing.

Hemp has been cultivated for thousands of years and was once an important crop used to make things like rope, cloth, paper, and

insulation. However, hemp production was prohibited in Canada in 1938 because of its association with marijuana. As a result, industrial uses for hemp were displaced over time. "Hemp fibre is one of those industries that really fell out of favour and has been difficult to re-establish," says Dubois.

It has been legal to grow industrial hemp in Canada since 1998, but increasing hemp production today will come down to economics. Hemp generates similar returns for growers as other oilseed crops like canola and flax, but demand isn't there to support fibre production.

"Growers can earn about \$600 per acre for

This plant can sequester huge volumes of carbon in things like concrete building products, textiles, you name it.

Devin Dubois

environment. "This plant can sequester huge volumes of carbon in things like concrete building products, textiles, you name it. By using the seed, potentially taking off the flower on some acres, and sequestering the stalk, you end up in not only a carbon-neutral situation, but a carbon-negative situation."

"Our business is founded on this crop, and over the past five years we've only strengthened our belief that it has the most economic potential on the Canadian plains. There's opportunity for a complete industry around the primary processing of this plant coming off the field, and then, potentially, the secondary processing into some finished products."

Ag-West Bio was one of the first places Blue Sky went for support, direction, and connections within the local food-ingredient processing sector. Dubois says Prairie Food Link, an industry-led cluster supported by Ag-West Bio to encourage development of the value added agri-food sector, has been invaluable.

"We've generated some very good relationships out of our association with other processors, which has led to business opportunities we wouldn't have had otherwise," he says. "In some ways, maybe we're competing with other processors, but I think there's more to be gained if we look for ways to collaborate. I think those who behave that way will do better than those who try to do everything in a silo." ▲

oilseeds, but based on current genetics and farming practices in Western Canada, the fibre industry can only pay \$200 or less per acre," explains Dubois. "If we can get the fibre stream moving, in addition to the seed, then hemp not only becomes competitive, it should do better economically than a lot of competing crops."

Hemp seed and plant proteins are leading the way for what Dubois and his partners see as the real potential. "In all honesty, that's where the real opportunities lie. This can be the first agricultural crop in the region that is truly a multi-revenue stream."

This potential becomes even more attractive when you factor in the benefits for the

# COMMUNICATIONS REVIEW

## Commitment and tenacity



### What makes Ag-West Bio unique?

Ag-West Bio staff dug deep for the answer to this question during a recent branding bootcamp.

Our culture is really a reflection of Saskatchewan's agricultural community:

- We have great pride in our province, and we are committed to growing the sector.
- Resourcefulness and creativity are central to the culture, borne from our pioneering roots.
- 'Down to earth' is a compliment. Saskatchewan people tend to be modest (to a fault).
- We know that progress requires persistence and hard work; Ag-West Bio has a solid track record of affecting growth in the sector for the past 34 years, but we don't rest on our laurels.
- Like the agricultural sector, Ag-West Bio has patience and perseverance that comes from understanding that this is a life-long project.

These concepts have been distilled down to four simple words:

### Pure heart. Prairie science.

Watch for it in our marketing materials as we continue our important job of growing biobusiness in Saskatchewan!

### Building community through communications and programming

Communications and events go hand in hand at Ag-West Bio.

Our events and communications team provides support for Ministry of Agriculture events when possible. Last year, we assisted with the 2022 FPT Conference of Ministers of Agriculture and the Saskatchewan Agri-Value Forum. We also assisted the Saskatchewan Agricultural Hall of Fame host their Induction Ceremony.

We led the province's Global Biotech Week (GBW) efforts once again in 2022, with help from our local committee.

**Above right:** Kevin Folta was the guest speaker for the ABIC Speaker Series at the Roxy Theatre in Saskatoon in March.

**Right:** Members of the Ag-West Bio team at the ABIC Speaker Series event with Kevin Folta.



Partnerships are the key to Saskatchewan leading the country in GBW activities.

### Highlights from GBW 2022:

*Making Art with Bacteria:* 1000-plus visitors learned about biotechnology and gene editing through an interactive display created by Saskatchewan Polytechnic for Saskatoon's fall art festival, Nuit Blanche.

*A Taste of Innovation:* A lunch at Innovation Place celebrated Saskatchewan's food and ingredients sector and featured Ag-West Bio member food companies. The menu included savoury and sweet choices, like quinoa and feta salad, and a seabuckthorn ice cream topping.

*Indigenous Voices in Sciences:* Hosted by Genome Prairie, this lunch event brought together a panel of Indigenous scientists to talk about obstacles and opportunities they encountered in their careers.

*Café Scientifique:* We have a long-standing partnership with Café Sci creator, Julia Boughner (USask College of Medicine). Last fall, our guest speaker was Jim Robson of the School of Environment and Sustainability (SENS).

*Climate Cool:* Exploring Science for Sustainability: This partnership with Agriculture in the Classroom and Nutrien Wonderhub included an event and a poster competition for elementary students.

The 2023 GBW program is currently being developed. Watch [globalbiotechweeksask.ca](http://globalbiotechweeksask.ca) for updates!

### The ABIC Speaker Series

The Agricultural Bioscience Innovation Centre (ABIC) Speaker Series began in the fall of 2020, and we have hosted two events per year. However, we had to cancel the fall 2022 event at the last-minute as Hurricane Ian descended upon Florida, the home state of our guest speaker, Kevin Folta.

Thankfully, Dr. Folta and his family made it through the harrowing experience unscathed, and *The Biotech Explosion: Amazing Innovations in Agriculture and Medicine* was held on March 1st. He explained how genetic engineering, gene editing and genomics enable scientists to work with nature to create technologies that help society become more environmentally sustainable. He also gave a talk to USask Agriculture and Bioscience graduate students on opportunities in science communications, and delivered a webinar for the Ministry of Agriculture's Public Trust division. A video recording of the lecture is available on our website.

Visit [abic.ca](http://abic.ca) for updates.

Visit our website ([www.agwest.sk.ca](http://www.agwest.sk.ca)) for articles, videos, news releases, news feeds, a member list, and more. Ag-West Bio members are encouraged to share their news in our quarterly *Bio Bulletin* and *Weekly Update* email newsletter. And of course, follow us on Facebook, LinkedIn and Twitter.



# Our events build relationships

## Amy Carruthers

Program Development Manager



### The power of partnerships for building community

Over the past year, Ag-West Bio leveraged many new partnerships to increase our audience and expand our reach. We hosted just under 40 events from April 2022 to March 2023, with over 2500 people in attendance.

### The Knowledge Farm

In its inaugural year, The Knowledge Farm brought over 400 people together to discuss exciting topics while strengthening the agriculture and bioscience community. The Knowledge Farm is housed at Boffins Event Centre at Innovation Place in Saskatoon.

We partnered with a number of organizations to bring exciting topics to The Knowledge Farm.

These included:

- Carbon market experts discussed carbon challenges and opportunities within the agriculture industry at Carbon Conversations;

- Rob Henderson of BioTalent Canada discussed attracting talented labour in biosciences;
- Create. Compete. Commercialize. Palette Skills Pitch Night featured students from Palette Skills' Automation and Digital Agriculture program;
- An expert panel discussed the future and challenges of the cannabis and hemp sectors in Saskatchewan to a highly engaged audience in an energized room at Stirring the Pot 2.0, co-hosted with Saskatchewan Polytechnic.

The Knowledge Farm is also home to our local Women in Bio, which has grown from a group of 10 women to consistent attendance of more than 40 women who work in agriculture and bioscience.

We appreciate the continued support and collaboration of Innovation Saskatchewan on this fun and educational programming series.

### The Green Agenda

In January of 2023, Canadian Agri-Food Policy Institute (CAPI) and Ag-West Bio co-hosted Ag Innovation and the Green Agenda, which brought together leaders to discuss the role that innovation plays in



Making Art with Bacteria in the BioScience Technology Program lab at Sask Polytechnic.



improved sustainability in agriculture. The conversation was flowing at this event with a diverse room full of industry, primary producers, government, and policy makers.

### Sprouting Success across Saskatchewan

In partnership with Affinity Credit Union and the Global Agri-Food Advancement Partnership, the Sprouting Success Speaker Series hosted a sold-out premier event at the Crop Production Show in January 2023 with 120 attendees. The enthusiasm for the series continued into the spring with our April event, hosted at Harvest Eatery in Shaunavon, selling out as well. Two more events are planned in the series for 2023: in Langham July 18th during Ag in Motion; and a finale on November 21st in Regina during

**Top left:** A Knowledge Farm event featured a panel on research capabilities for the hemp and cannabis industry.

**Top right:** A few samples of the artwork students made using a harmless e.coli bacteria.

**Below left:** A panel discusses Ag Innovation through the Generations - the premier event in the Sprouting Success Series.

Agribition. The series has given us opportunities to hear directly from Saskatchewan farmers about the need for and value of agricultural innovation.

### Innovations in the beef industry

Ag-West Bio, the Saskatchewan Cattlemen's Association (SCA) and NRC-IRAP teamed up to host the Beef Innovators' Breakfast at Agribition in late 2022. This event featured a panel discussion about challenges and opportunities, and a discussion on how beef producers and ag startups could work together. One of the panelists was Darren Wolchyn from Australian-based Smart Paddock. Darren had participated in one of our first Knowledge Farm events, leading to partnerships with SaskTel and the Livestock and Forage Centre of Excellence (USask) and bringing Smart Paddock's livestock monitoring tech to Saskatchewan producers. NRC-IRAP and SCA continue to meet regularly to discuss new innovations for the beef industry and identify opportunities for additional companies to work with Saskatchewan beef producers.

We are always open to new partnerships. Please reach out if you have a great idea that you feel will benefit our community. ▲

# DFCC research program yields results



**Carol Ann Patterson**  
DFCC Project Manager



The Diverse Field Crops Cluster (DFCC) is an agri-science cluster led by Ag-West Bio with funding from Agriculture and Agri-Food Canada's Canadian Agricultural Partnership program and industry partners. The DFCC program ran from 2018 to 2023 and included 16 activities. Researchers from across Canada participated. DFCC supports the research and development of high potential, special crops: flax, camelina, canary seed, sunflower, hemp, quinoa, mustard and carinata.

The DFCC's primary goal is to benefit producers and industry through research by accelerating acreage and market returns for these crops, making them viable options to add to the rotational mix.

A few of the results:

- A carinata hybrid, Nujet 400, was launched as the first international, commercial industrial biofuel feedstock, targeted towards the transportation industry.
- New yellow and brown flax oilseed varieties will become available for growers in 2025.
- Two new mustard varieties (the first Canadian hybrid brown mustard and composite yellow condiment mustard) were commercialized and adopted by producers. AAC Yellow 80 has shown a nine per cent increase in yield and AAC Brown 18 has shown a 20 per cent increase. For Western Canadian farmers, these are varieties with the first significant yield increases in three decades!
- Continued development of winter-type camelina varieties and successful development of spring varieties with increased seed size – a boon to producers for seed establishment and harvestability.
- The upcoming release of quinoa varieties adapted to Canadian conditions, with higher yields, earlier maturity, increased protein levels, and lower saponin content. Some varieties show unique functionalities for specific food applications.
- Camelina oil was proven to be a safe and efficacious ingredient in dog food and as a horse supplement. It is now available throughout North America for the companion animal industry.

- Hempseed meal has proven potential as a livestock feed and is nutritionally comparable to canola meal.
- Successful development of long-type confection sunflowers will lead to increased access to the European confection market.
- Processes were developed to make shelf-stable Canary seed flours for the food industry.

A final research report is available with details about each activity. I encourage you to reach out to the DFCC partners and researchers to learn more about opportunities for these special crops. ▲



## To our members:

Thank you for helping us build this community. Saskatchewan has a small population, and we produce more than we can use. For an export province, working together is the best way to compete globally. Thank you for thinking beyond “what’s in it for me?” to “how can I help the entire ecosystem get stronger?”

We look forward to working with you as we move toward our 35th year of growing biobusiness in Saskatchewan.

Visit our website to learn more about our activities and member benefits.

[www.agwest.sk.ca](http://www.agwest.sk.ca)

**PURE HEART. PRAIRE SCIENCE.**

Financial statements are available for members upon request.



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