

BUILDING SASKATCHEWAN'S BIO-ECONOMY



Message From the Chair

As Chair of the Board of Directors, I am proud to present the first annual report for this new organization - Ag-West Bio Inc.

Created from the union of Ag-West Biotech Inc., the Saskatchewan Nutraceutical Network and Bio-Products Saskatchewan Inc., the goal of the merger was to build on each organization's strengths, to provide a stronger voice for the life science sector in Saskatchewan, to gain synergies and efficiencies by combining the three organizations, and to continue building on its predecessors' strong track records.

Saskatchewan has been very successful in creating strong and effective industry organizations in the life sciences sector. Ag-West Biotech was a key driving force in establishing Saskatchewan as a global leader in ag-biotech. It did so by promoting the industry globally, providing business development and regulatory services for local companies, being a voice for the industry on key policy areas and investing in early stage companies.

The Saskatchewan Nutraceutical Network was an industry-membership organization which provided market intelligence and support for Saskatchewan companies and promoted the industry globally. The result was strong industry linkages with nutraceutical companies internationally and good awareness of Saskatchewan's capabilities worldwide. Bio-Products Saskatchewan, the youngest sibling of the three had, in its short time frame, already positioned Saskatchewan as a key player in the hot and emerging sector of bio-products.

These 3 founding organizations each had a mandate to grow and strengthen Saskatchewan's life science industry. Together, they capture synergy from the combination of knowledge, expertise and experience and are using this synergy to place Saskatchewan as a leader in Canada's bio-economy.

Emerging as an effective organization with a robust strategic plan, the first fiscal year of Ag-West Bio was an unqualified success. Building on this past success, Ag-West Bio will continue to be a voice for the industry, to provide support in areas such as business



Chair, Ag-West Bio Board of Directors, Armand Lavoie

intelligence and regulations and invest in companies with new initiatives in the life science sector. Under the leadership of Dr. Ashley O'Sullivan, the board and management are looking to develop new and better ways of providing services and opportunities to continue to build Saskatchewan's bio-economy!

A handwritten signature in dark ink, appearing to read 'Armand Lavoie'.

The proud members of the Ag-West Bio team. From left to right (back row) Janice Tranberg, Susan Kuzmak, Ron Kehrig, Ashley O'Sullivan, Cindy Yungwirth, Krista Dennis, Muriel Adams, (sitting) Carol Ann Patterson, Tony Bassett, Marylou Langridge, Tyler Bradley



Message From the President

Humans have been harvesting biological systems to capture their benefits since the beginning of time. We use techniques such as breeding, hybridization and other technologies to improve yield, quality and agronomic characteristics to increase their value.

What is unique to the 21st Century is that our understanding of gene structure and function creates an unprecedented opportunity to capture previously unimaginable wealth from biological systems. The convergence and application of these technologies, including advances in bio-processing and bio-informatics, is facilitating the production of new renewable and improved products which are safer, more cost effective and more environmentally friendly.

Ag-West Bio's lines of business support the growth of this new economy - the bio-economy. A seed-stage investment fund is used to attract and grow companies in Saskatchewan. We mentor, build management capacity and leverage funding to ensure the future success of our investee companies and, in turn, Saskatchewan's life science industry.

Research and development is the cornerstone of a successful bio-economic cluster. Bringing private industry, government, financial institutions and regulatory authorities together with research institutions to develop and commercialize innovation is what sets a successful cluster apart from a ménage of organizations working independently. Ag-West Bio is this glue, facilitating linkages between our many stakeholders to create economic value and a competitive advantage.

Ag-West Bio's many research and development initiatives are helping to achieve this goal. Flax Canada 2015, for example, is working to develop and implement a national strategy to turn flax into a \$1.5 B industry by 2015. We are also working with

the sector to develop a national bio-industrial oils and a plant-based bio-actives strategy.

We helped to facilitate the move of Genome Prairie from Calgary to Saskatoon. The two organizations share contiguous space and the resultant synergy will add significantly more impetus to the growth of the bio-economy on the prairies.

In the many regulatory, policy and consumer acceptance challenges facing the emerging bio-economy, Ag-West Bio works with stakeholders to encourage the development of a transparent and efficient regulatory framework allowing Saskatchewan-based industries to be globally competitive. For instance, we helped establish Plant Innoculants Canada, an industry-led organization focused on solving the regulatory challenges facing that industry. We were also signatories to a Smart Regulations Declaration supporting the principles for an effective regulatory framework in Canada on behalf of our member companies.

Launching our membership drive in January of 2005, Ag-West Bio is now proud to serve its over 80 members through a range of services in our Business Competitiveness and



*Ag-West Bio President and CEO,
Ashley O'Sullivan*

Communications lines of business. Interacting with key federal and provincial officials and politicians, Ag-West Bio works to ensure they understand the economic potential and issues facing the sector. In so doing, we act as an effective voice for Saskatchewan's bio-economy.

With our huge productive land base, abundant natural resources and unique science and innovation infrastructure, Saskatchewan is poised to be a major player in the bio-economy of the 21st century. Ag-West Bio Inc. is leading the way!

Ag-West Bio Board of Directors

Armand Lavoie (Chair)
Foragen Technology Management Inc.

Dr. William Compton (Treasurer)
ERCO Worldwide

Dale Botting
Botting Leadership & Development Corporation

Dr. Pete Desai
Desai & Desai Inc.

Dr. Abdul Jalil
Saskatchewan Agriculture and Food

Jerome Konecsni
Bioriginal Food & Science Corp.

Ian McPhadden
Producer

Robert Morgan
POS Pilot Plant Corporation

Ian Newton
Ceres Consulting

Mark Pickard
InfraReady Products Ltd.

Dr. Brigitte Weston
Bayer CropScience Canada Inc.

Investing in Entrepreneurship & Innovation

Canadians are well known for their innovation, but finding sources of funding to bring these ideas to reality have been challenging, especially between the proof of concept and marketing stages.

Ag-West Bio's investment fund has become a key avenue to bridging this gap for Saskatchewan entrepreneurs.

At the launch of Ag-West Bio in April 2004, investments of over a half million dollars in six local life science companies were announced. Since then, an investment in Guardian Biotechnologies Inc., a company focused on molecular farming to produce vaccines, diagnostic assay kits and commercial enzymes, has occurred. Several other Saskatchewan investment opportunities are currently being reviewed.

Through their commitment to growing Saskatchewan's life science industry, Ag-West Bio presented their Developing the Business Plan Workshop in May to June of this year. This year's participants demonstrated a high level of sophistication, according to the program leaders.

"It's promising to see this kind of entrepreneurial spirit as it moves into action. There are tremendous opportunities for new business in our province's life sciences sector, including alternative energy, natural health products, and biotechnology."

- Tyler Bradley
Ag-West Bio Investment Analyst



Ag-West Bio's Business Development Workshop brochure

Ag-West Bio Initiatives - ABIC Foundation



Ag-West Bio, secretariat and Chair of the ABIC Foundation, is extremely proud of the success of the Agricultural Biotechnology International Conference (ABIC).

ABIC 2002, held in Saskatoon, attracted nearly 1,000 delegates and participants worldwide and contributed approximately \$1 million to the Saskatchewan GDP. In 2004, ABIC went international for the

first time. Held in Cologne, Germany, ABIC 2004 recorded over 700 delegates registered from over 37 different countries. ABIC 2006 will be held in Melbourne, Australia followed by Calgary, Alberta in 2007.

"Since its inception in 1996, the ABIC conference has grown to become one of the world's premier conferences on agricultural biotechnology."

- Muriel Adams,
Ag-West Bio's General Manager and
Corporate Secretary for the ABIC
Foundation

Facilitating Research & Development



Saskatchewan is brimming with innovative research ideas. One role of Ag-West Bio is to channel this innovative research towards the formation of partnerships, new business and sources of funding, thereby enabling the commercialization of innovation.

Ag- West Bio's activities in this area have assisted and led to a number of new and currently developing initiatives and collaborations:

Flax Canada 2015 - to identify and exploit value-added opportunities for flax
Bio-Industrial Oils - exploring the field of plant-based oils for the development of new opportunities for seed oils as industrial feedstocks

Bio-Actives - to establish a research strategy for plant bio-actives derived from Canadian grown crops, botanicals and marine plants directed towards a more preventative-based approach for health and wellness

Genome Prairie - petitioning support for prairie-based Competition III Genome Canada projects

Saskatchewan Capacity Building - working with the research community to secure funding in support of the new Level 3 biosafety vaccine research laboratory (InterVac), for operations and business for the Canadian Light Source, promotion of the POS Pilot Plant and working to make Saskatchewan a center of excellence in the life sciences

Memorandums of Understanding - Ag-West Bio signed an agreement with the Punjab Biotechnology Park in Chandigarh, India to develop scientific, economic and technical linkages for the benefit of both Saskatchewan's life science sector and the Punjab Biotechnology Park. Further to this MOU, Ag-West Bio helped arrange a following MOU signed between the province of Saskatchewan and the Indian state of Punjab

Branding Canada's Functional Foods & Natural Health Products Industry - a pilot project branding strategy was investigated and reported to Agriculture and Agri-Food Canada, based on our excellence in innovation and science & technology

Stakeholder collaborations with Sustainable Technology Development Canada - targeting investments in the areas of bioenergy and biofuels

Genomics Funding - helped source a commitment of 3M Euro from German government officials for collaborative research on fusarium head blight in wheat and altering canola meal properties suitable for human consumption

Ag-West Bio Initiatives - Flax Canada 2015



A national initiative formed to position flax as one of the main drivers of the Canadian bio-economy by the year 2015. This new initiative, facilitated by Ag-West Bio, will work to identify opportunities and focus research towards the development of new, high value flax based products and processes in five key areas:

- 1) Human Health
- 2) Animal Health
- 3) Fiber
- 4) Industrial Feedstocks
- 5) Breeding and Production

For more information about the Flax Canada 2015 initiative, please visit: www.flax2015.ca



Regulatory & Policy Development

Encouraging safe and efficient regulations for the commercialization of innovation drives Ag-West Bio's commitment and participation in a number of local, provincial and national committees and focus groups. For example, Ag-West Bio's participation in Health Canada's consultations for the new Canada Health Act will help ensure the safety of Canadians is protected while allowing Canadian business access to the best available technology.

With technology and innovation advancing so rapidly, Canada's regulatory policies are having a difficult time keeping pace. Canada's

Smart Regulations and their underlying principles of effectiveness, cost-efficiency, timeliness, transparency, accountability and performance could provide an opportunity to level the playing field and provide a balance between consumer protection and the commercialization of innovation.

Ag-West Bio supports Canada's Smart Regulations and is working to encourage the implementation of these Smart Regulations through a declaration of support from a coalition of Canada's agriculture and agri-food associations.



Western Canada is becoming a leader in bio-energy

Ag-West Bio Initiatives - Bio-Industrial Oils

In March 2005, Ag-West Bio hosted a two-day, invitation-only event where leaders in the field of plant-based oils discussed the opportunities and potential for bio-industrial oils to help diversify our agricultural production while replacing our dependence on non-renewable resources. This event set the stage for the development of a national Bio-Industrial Oils strategy.



Dr. Pete Desai speaks at the 2005 Bio-Industrial Oils Symposium and Workshop

"Plant-based oils are an extremely important aspect of the Canadian economy. Developing an effective strategy to direct the growth of the bio-industrial oil industry in Canada is therefore equally important and I am pleased Ag-West Bio is able to take a leading role in this initiative."

- Ron Kehrig,
Ag-West Bio's Vice President
of BioProducts and BioProcesses



Team Saskatchewan at IFT 2005 in New Orleans, Louisiana

Business Competitiveness

Ag-West Bio's business competitive activities help Saskatchewan organizations harvest the world for innovative research, intellectual property and advanced technologies contributing to their growth and competitiveness.

Since the amalgamation, Ag-West Bio has been involved in the organization of over 25 visiting delegations and informational seminars representing countries world-wide such as India, Chile, Poland, Taiwan, Israel, Sweden, Germany, and the United Kingdom.

In May of 2004, Ag-West Bio hosted Bio-Science Week, a unique conference of three symposia; Co-existence: The opportunities and challenges, Bio-Logical Futures II, and Forging Links

to Health Care. A total of 63 presenters, covering topics on biotechnology, bio-products, and natural health products, presented to an audience of almost 300 national and international scientists, industry, government and business leaders.

Showcasing Saskatchewan's exceptional capabilities to the rest of the world is equally as important as offering local opportunities for business competitiveness. Ag-West Bio achieved this goal through numerous conferences and missions globally:

BIO 2004 & 2005

Held in San Francisco in 2004 and then in Philadelphia in 2005, BIO offers opportunities to network with leading biotechnology executives, scientists,

policymakers, and journalists from over 60 countries. Saskatchewan's BIO 2004 delegation consisted of 7 companies and organizations and BIO 2005 involved over 9 companies and organizations including Saskatchewan Industry and Resources Minister, Eric Cline.

ABIC 2004

A Saskatchewan delegation consisting of members from Saskatchewan Industry and Resources, including Minister Cline, along with 8 other life science companies and organizations impressed ABIC 2004 attendees with our collaborative approach to promoting Saskatchewan's life science community.

World Congress on Industrial Biotechnology and Bioprocesses

This conference focuses on the convergence of biotechnology, chemistry and agriculture for innovations from industrial manufacturing to production of consumer goods and environmental protection. Canadians made their presence known in 2005 contributing over one tenth of the total 700 international delegates. Ag-West Bio took its Bio-Products Showcase to provide a sampling of Canadian-made bio-products.

IFT 2005

A world-renowned technology-based conference for the food industry, IFT 2005 served more than 20,000 delegates from around the world including industry giants like Kraft, Nestlé, and Cargill. A Saskatchewan contingent of 7 companies and organizations attended IFT 2005 in New Orleans to spread the message, "Saskatchewan provides science and technology SOLUTIONS!"



Communicating Innovation

Communicating innovation contributes to the growth, expansion and promotion of Saskatchewan's life-science community, understanding of the benefits of the developing bio-economy, and the major trends and opportunities for research and development through to commercialization.

Vehicles for communication involve our newly designed website launched June 2004, news releases, and our many publications. Information from these vehicles, along with new articles and reprints has been cited in over 75 other publications, websites, and media venues.

Our flagship publications - **AgBiotech Bulletin**, **NutraNews** and **Bio-Prospectors** - are distributed internationally to over 50 countries worldwide. Featuring articles on the latest innovations and research, regulations, business and 'In the News',

these publications keep scientists, government officials and business leaders informed of Saskatchewan's and Canada's life science industry.

Our newest publication produced specifically for members - **Ag-West Bio E-News** - is a bi-monthly collection of up-to-date, pertinent stories in the areas of health and nutrition, agricultural science and technology, bio-products and bio-processes, and events and opportunities.

Recent Publications:

- *Saskatchewan providing science & technology SOLUTIONS*
- *Saskatchewan's Analytical & Bio-Processing Capacity: Taking innovation from an idea to a bio-product*
- *Ag-West Bio: Building Saskatchewan's Bio-Economy*
- *Ever think there's a better way?*



The Ag-West Bio website is a focal point of the organization's communication initiatives

- *Advancing Innovative Healthy Products*
- *Bio-Products Showcase: A window into the bio-economy*

Ag-West Bio Initiatives - Bio-Products Showcase



Ag-West Bio showcased a variety of bio-based products during Biotech Week 2004

Bio-based products are derived from renewable resources or developed using bio-based processes and are, generally speaking, more environmentally friendly products. In an effort to provide leaders, investors, research groups and the public with a better understanding of the benefits and potential of bio-based products and processes, Ag-West Bio developed a collection of bio-product samples, our Bio-Products Showcase.

This showcase has grown over the years and now hosts almost 200 bio-products from approximately 61 different suppliers worldwide. The showcase has been featured at several conferences (ABIC 2002, Bio-Logical Futures I & II, World Congress of Industrial Biotechnology and Bioprocesses), several youth education events and Bio-Products on the Hill, an event aimed at informing our federal ministers and MPs of the benefits of the bio-economy.

Advocacy & Creating Awareness



To be an effective voice for the bio-economic sector in Saskatchewan, Ag-West Bio regularly interacts with key political leaders keeping them informed of the opportunities and issues facing the growing bio-economy.

On a provincial level, Ag-West Bio executives have relayed our message of the Saskatchewan advantage - our abundant natural resources, life science industry

base and unique science and innovation infrastructure - to the Premier of Saskatchewan, as well as key provincial ministers.

In the fall of 2004, Ag-West Bio's former Chair of the Board of Directors, Jerome Konecni, interacted with Saskatchewan's MLAs to deliver a message of the importance of investment in innovation and remind them of Ag-West Bio's economic impact on the province.

Devoted to keeping all provincial MLAs informed of our success in advancing Saskatchewan's bio-economy, Ag-West Bio produces and distributes **SUCCESS**. This quarterly publication promotes AWB's achievements, investments and good news stories from the bio-economy.

"Since 1989, Ag-West has seeded new initiatives and accommodated expansion contributing approximately \$9.9 million towards 53 projects in 43 organizations and companies generating nearly a half billion dollars to Saskatchewan's economy."

- Armand Lavoie, Chair, Ag-West Bio

Ag-West Bio Initiatives - Biotech Week in Saskatchewan

Canada's first national Biotech Week 2004 was a huge success.

In Saskatchewan the collaborative spirit was abundant. Kicking-off the week, Ag-West Bio was featured in the Saskatoon StarPhoenix with a two-page spread outlining the emerging bio-economy in Saskatchewan. Other week-long events included the University of Saskatchewan's College of Biotechnology annual Biotech Week, seminars, panel discussions and closing reception, Saskatchewan Research Council's Science Serving Saskatchewan Information Session, and an informational teacher's seminar on biotechnology.



"Celebrate Imagenation is the theme for Canada's National Biotech Week, and with Saskatchewan being home to over 30 percent of Canada's agricultural biotechnology industry, we have reason to be proud!"

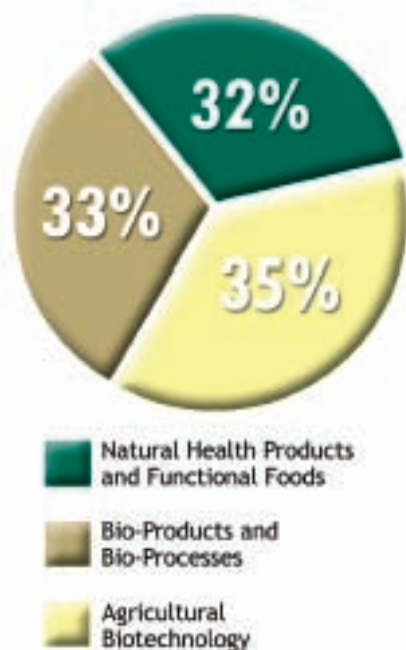
- Janice Tranberg,
Ag-West Bio's
Communications Director

Ag-West Bio Members

Forming the bridge between academia, government and industry, Ag-West Bio works to facilitate linkages between our many stakeholders to create economic value and a competitive advantage.

Following a successful launch of our membership campaign in January 2005, Ag-West Bio now has over 80 members and is still growing. Self categorization by members shows an almost equal division of members between Ag-West Bio's three sectors.

**Ag-West Bio
Membership by Area**



Corporate Members

Agriculture and Agri-Food Canada, Office of Intellectual Property and Commercialization
 Bayer CropScience Inc.
 Becker Underwood, Inc.
 Bioriginal Food & Science Corp.
 Botting Leadership & Development Corporation
 Canadian Light Source Inc.
 Cevena Bioproducts Inc.
 Chromatin, Inc.
 Clear-Green Environmental Inc.
 Contact Canada
 Dow AgroSciences Canada Inc.
 DSG Canada
 Emerald Seed Products Ltd.
 ERCO Worldwide
 Foragen Technologies Management Inc.
 Fytokem Products Inc.
 Genome Canada
 Genome Prairie
 Guardian Biotechnologies
 HeadsUp Plant Protectants
 Hodgins & Company Management Consultants Inc.
 Industry Liaison Office, University of Saskatchewan
 InfraReady Products Ltd.
 Innovation Place
 Investment Saskatchewan Inc.
 Laprell's Beehive Products Inc.
 Maple Leaf Bio-Concepts
 Milligan Bio-Tech Inc.
 National Research Council - Plant Biotechnology Institute
 New Era Nutrition Inc.
 Nipawin Biomass Ethanol New Generation Co-operative Ltd.
 Performance Plants Inc.
 PharmEng Technology Inc.
 Phenomenome Discoveries Inc.
 Philom Bios Inc.
 Pioneer Hi-Bred Limited
 Prairie Agricultural Machinery Institute
 Sangster's Health Centres
 Sask Energy Corporation
 Saskatchewan Agriculture & Food
 Saskatchewan Canola Development Commission
 Saskatchewan Ethanol Development Council Inc.
 Saskatchewan Flax Development Commission
 Saskatchewan Food Industry Development Centre
 Saskatchewan Industry & Resources
 Saskatchewan Research Council
 Saskatoon Regional Economic Development Authority
 The Saskatoon Colostrum Company Ltd.
 University of Saskatchewan, College of Agriculture
 University of Saskatchewan, College of Commerce
 MBA Program
 VWR International, Ltd.

Associate Members

BioAlberta
 British Columbia Functional Food and Nutraceutical Network
 Canadian Bioenergy Association (CANBIO)
 Canadian Health Food Association
 Canadian Institute of Food Science and Technology
 Centre Quebecois de Valorisation des Biotechnologies (CQVB)
 Manitoba Food Processors Association
 POS Pilot Plant Corporation
 Saskatchewan Environmental Industry and Managers Association
 Saskatchewan Food Processors Association
 Saskatchewan Fruit Growers Association
 Saskatchewan Herb & Spice Association
 Saskatchewan Trade and Export Partnership (STEP)
 Saskatoon Chamber of Commerce

Individual Members

Elizabeth Nash
 Glen Vogt
 Glenn Coulter
 Ian McPhadden
 Ian Newton
 John Culley
 Kathy Johnson
 Kelley Fitzpatrick
 Lope Tabil
 Mercedes Alcock
 Neil Wagner
 Pete Desai
 Ravindra Chibbar
 Rick Lawrence
 Robert Kallio
 Satya Panigrahi
 Xiujie Li

"Thank you for supporting the launch of this new organization, Ag-West Bio. We look forward to your continued support as we build Saskatchewan's bio-economy."

- Ag-West Bio
Board of Directors and Staff



Advancing the Economy of the 21st Century - the Bio-Economy!



Over 30 private bio-products companies involved in R&D, bio-processing, product commercialization, diagnostic services, and support associations.



Around 50 functional foods and natural health products companies ranging from research and development to processing to sale and distribution of commercial products.



Over 30 private agbiotech companies involved in R&D and over 15 support companies (eg: field trials, diagnostic services, economic development, etc.).



University of Saskatchewan's 5 life science colleges, Canadian Light Source (CLS) and Vaccine and Infectious Disease Organization (VIDO).



Government organizations: AAFC-Saskatchewan Research Centre; NRC-Plant Biotechnology Institute; Saskatchewan Research Council; Canadian Food Inspection Agency; Saskatchewan Food Industry Development Centre.



Western Canadian leader in bio-ethanol production with the PoundMaker ethanol production plant in Lanigan, and construction of Husky Oil in Lloydminster and NorAmera in Weyburn.



Bio-diesel production is growing with 2 commercially active bio-diesel additive companies (Milligan Bio-Tech and Diesel Services Group Canada).



Over \$175 M investment in genomics research and infrastructure.



Innovation Place contributed \$184 M to Saskatoon's economy and \$262 M to the Saskatchewan economy in 2004.



Saskatoon cited as #2 in Midwest North America in business cost competitiveness (KPMG 2004).



Ag-West Bio Inc.
101-111 Research Drive
Saskatoon, SK S7N 3R2 CANADA
Tel: 306-975-1939
Fax: 306-975-1966
Email: agwest@agwest.sk.ca
Web: www.agwest.sk.ca

This report was produced with funding from Saskatchewan Agriculture and Food

Support for the development of the Bio-Products Showcase was provided by Canada Adaptation and Rural Development Saskatchewan (CARDS)

Financial statements are available upon request

Photo sources include: National Research Council - Plant Biotechnology Institute, POS Pilot Plant Corp., Saskatchewan Pulse Growers, University of Saskatchewan, Canadian Light Source Inc.