



F O R A G E N VISIONS

President's Message.



Dr. Murray McLaughlin PhD, P.Ag.

As President of Foragen Technology Management Inc. I am pleased to launch this first edition of *Foragen Visions*. I am confident this newsletter will provide information and inspiration to those who are involved in agricultural technology research and those who are managing companies based on agricultural technology.

Visions will be published on a monthly basis. It will bring you news about our partner companies, investment clients plus information on industry trends, business successes, and product innovation.

Foragen Technologies Management Inc. manages a 42 million dollar fund for the limited partner which has investments from RBC Technology Ventures, SGF-SOUQIA

(Quebec), and CIC (Saskatchewan). To date Foragen has helped to make 12 strategic companies into significant agricultural initiatives. We are pleased with this result and now we continue to search for the good investment opportunities.

As an early 'seed' investment venture capital firm, we invest in projects that will have excellent potential. We manage our projects, with a focus on building value. As the value increases, we build the management team. Our objective is to build solid companies, based on strong science, protected by patents, a great market potential, and backed by solid people. I look forward to providing information on our investments through our *Visions* newsletter. In this issue we will profile *MCN Bioproducts*.

I hope the *Foragen Visions* will become a resource for you and that Foragen Technologies Management becomes part of your business alliance network.

Throughout my career, I have recognized the importance of a compelling vision on which to build. Today agriculture is at a stage that it needs a powerful vision. At Foragen

we make our contribution by focusing on "Ideas to Grow the Future." We are building the foundation for agriculture in the new millennium by demonstrating real value-added beyond the farmgate. I look forward to hearing about new opportunities in the advanced agriculture technology areas. Please let us know when you identify a likely project.

Welcome to Foragen Visions!

Sincerely,

Dr. Murray McLaughlin,
President and CEO

PS. If you are reading someone else's copy of *Visions* and would like to receive it direct, please e-mail foragen@foragen.com. We will add your contact information to our distribution list.

"The Future is not some place we are going, but some thing we are creating. The paths to it are not found but made."

foragen

Comments from the Chair

Susan Smith, President and CEO, RBC Technology Ventures Inc.

As Chair of the Foragen Technologies Board of Directors' I am pleased to see the launch of this newsletter. I share Dr. McLaughlin's belief that it is important to turn dreams into reality. As President and CEO of RBC Technology Ventures Inc. I am responsible for three funds: Milestone Medica, Primaxis, and Foragen Technologies Management. Every day I have the privilege of working with fellow dreamers, and I live with the satisfying knowledge that many of the companies we are supporting are able to attract additional funding and are establishing their place in the international marketplace.

There have been many significant changes on the Canadian scene in the past few years. As a business community, we have developed a new confidence and willingness to try new things and compete in new ways.

Governments have increased investment in research and research infrastructure. Public research institutions have accepted a new paradigm, and are taking very seriously their responsibility to capture economic value from the public and private investment in research. Most importantly, growing companies with great ideas - whether in Winnipeg or Saskatoon, Laval or Markham, Minneapolis or San Francisco - have discovered that they have the attention of customers in Japan, in the UK, and in Germany.

The Canadian Government's newly crafted National Innovation Strategy brings clarity and commitment to achieving specific objectives in all Knowledge-Based Enterprise. The Strategy recognizes the need to work together toward a common agenda.

It outlines specific and quantitative objectives. While we may not all agree on the nature of those objectives, there are worthy goals incorporated in the document— such as being one of the top five countries in the world in terms of R&D performance by the year 2010.

I sense that the innovation network throughout North America is being rejuvenated. I feel a new air of excitement and momentum building. In 1997 the funds that RBC directs were started with a \$30 million placement from the Bank. These were quickly matched by investing partners. Today I am delighted to say that we now have \$160 million of RBC money for fund creation, and we anticipate that this will be matched dollar for dollar by expert partners.

MCN BioProducts Inc. A Leader in Agribiotechnology.

"If the canola business is to continue to grow, it must create new products and new sources of demand. MCN's technology addresses this need."

MCN BioProducts Inc. is a research company based in Saskatoon at the University of Saskatchewan. The company was incorporated in March 2000 by University of Saskatchewan feed scientists Dr. Dave Maenz, Dr. Hank Classen, and Dr. Rex Newkirk. The President of MCN is Mr. Todd Lahti. Their product is science-based, involving the isolation of particular

chemical components found in canola seed.

The technology at the heart of MCN's research involves a fractionation process to isolate elements that produce more effective livestock feeds. Canola is the dominant oilseed crop in Western Canada, and thus commands substantial focus by MCN.

The MCN trio is well recognized in the field of feed science with expertise in animal nutrition, feed processing and biochemistry. They have carried out many research projects involving

livestock nutrition and feeding and are active members of the U of S Department of Animal and Poultry Science.

The fledgling company caught the attention of Foragen Technology Management Inc. very early on. After a period of negotiation, Foragen signed an agreement to invest approximately \$1 million in MCN BioProducts Inc.

INDUSTRY PROFILE

The logo for Foragen, featuring the word "foragen" in a lowercase, sans-serif font. A green curved line arches over the letters "o" and "r".

Since the signing, Foragen has provided management expertise to MCN. Foragen head Dr. Murray McLaughlin says that MCN is a good example of science co-operating with business for mutual benefit. “We are pleased to have MCN within our investment portfolio. The principals are energetic, capable scientists and keenly aware of what the market needs.” Armand Lavoie, Foragen’s Western Vice-President, is actively involved in the business of MCN. He and Dr. Murray McLaughlin sit on the MCN Board of Directors.

The MCN Opportunity

Grown primarily for its oil, canola is an important Canadian crop. Canola oil is used extensively in the food industry, and is a staple within the crushing industry. Oil makes up approximately 40% of the canola seed. The remaining 60% of the seed left after crushing and extraction, is referred to as canola meal. Traditionally, this byproduct has less value in the marketplace. Its primary use has been as a low-value feed ingredient in animal nutrition.

Canola meal has a number of unfavorable characteristics that limit its value to the livestock industry. Its fiber and phytate levels are too high for effective use in either the dominant livestock industries or the emerging aquaculture industry. The fiber dilutes the protein found in the meal, and the phytate is difficult for most livestock to digest. While meal is not a quality feed ingredient for any one species, it is sold as a protein source for a variety of species. To enhance the meal’s value, its components must be adapted for markedly different digestive capacities and nutrient requirements.

Meal enhancement cannot be achieved using traditional production

methods. In contrast, the new technology developed by MCN over the past three years generates products more specifically formulated to the needs of particular livestock. In addition, MCN’s technology is able to respond to the new demand for plant-based protein sources.

According to MCN, traditionally bred canola has significant competitive advantages that support expansion into protein markets. Canola protein is

- one of the highest quality plant-based protein sources
- more abundant and more predictable in supply than fish meal
- free of human and livestock disease concerns
- not as likely to be subject to bans and non-tariff trade barriers
- well suited to address the European demand for non-GMO protein

The emergence of disease caused by animal-based feeds has resulted in bans in the UK and EU on meat and bone meal as protein feed sources. As well, global concerns regarding human and animal health have challenged the use of growth promoters and antibiotics as feed additives. These incidents have left livestock producers urgently seeking safe, natural, high-quality feed sources that will help sustain and safeguard their assets and their markets. MCN is working to deliver a cost-effective and efficient feed ingredient to these producers.

MCN is also aware of the rapid expansion of the international aquaculture market. Aquaculture production has been expanding at a rate of 15% per year, and is predicted to continue to grow dramatically in

the future. With such rapid expansion, the industry is expected to quickly outstrip its ability to generate sufficient feed from current sources, such as fishmeal.

Products based on processed fish offal, or culled captured wild fish, are a finite resource. Further, fishmeal supply is subject to the vagaries of climate and fishing conditions, and pricing is therefore volatile. The aquaculture market is ready for new protein sources to replace fishmeal. MCN products offer an excellent solution to this industry’s challenge. Canola protein products can be delivered at a steady pace and with consistent price. Supply is not as sensitive as for fishmeal sources, and the product can be produced and stored with relative ease at more modest cost.

In summary, there is increasing demand for new plant-based protein sources that are of high quality, natural, safe and abundant. MCN is well positioned to meet this demand, and is on the leading edge with its new technology.

Product Development and Support

MCN has come a long way in a short time. Dr. Dave Maenz, former Research Director for the Prairie Feed Resource Centre and one of the founders of MCN, acknowledges Foragen has played a major partnership role. Maenz says, “Foragen is unique in that it focuses on emerging agri-technology. Foragen provided much needed business investment in the early stages of our project.



That investment was very important in allowing the project to proceed more efficiently, and on a larger scale. The Foragen team also contributes valuable business expertise that accelerated the successful establishment of the company. Their expertise has helped us set us on the road to success.”

Over the past three years, MCN has carried out pilot scale production, animal trials and product validation onsite at the University of Saskatchewan. Applied research trials have also been conducted in the following areas:

- Canada veal calves
- Europe weanling pigs
- Europe Atlantic salmon
- Asia fish-feeds

These efforts give every indication that MCN products will be both efficient and cost effective.

MCN is rapidly moving toward processing products that will both boost the competitive abilities of the animal feed industry and promote the use of commodity crops such as canola. Pilot runs are nearly complete and MCN anticipates the technology will be deliverable on a commercial

scale. Projects are also under way that will lead to new key ingredients for the human cosmetic and food markets.

The market potential for MCN’s products is projected to be in excess of 225,000 tonnes per year.* With assistance from Foragen Technology Management, MCN is well on its way in making its mark in the global marketplace.

For in-depth information, visit the MCN web site www.mcnbioproducts.com

**Source: Feed Management News*

Foragen Management Profile

Armand Lavoie, Vice President Western Canada.



Armand Lavoie MBA; P.Ag.

Several years ago Armand Lavoie, Foragen’s Vice President, Western Canada, identified a commercialization opportunity in the work being done by three researchers in the Animal and Poultry Science Department at the University of Saskatchewan. They recognized the need for enriched additives that would increase performance efficiency and improve nutritional aspects of lower-grade feedstuffs. In 2000 the MCN research team took the initiative and started the business

based on this research. They approached Foragen for a potential investment. In the early stage of the relationship Lavoie worked closely with the team providing consultation and advice to refine their business plan and strategic approach.

“It is very satisfying to work with MCN Bioproducts. Maenz, Classen and Newkirk are enthusiastic about their science and are deeply interested in delivering a significant advantage to livestock producers,” says Lavoie. He adds that as active participants in the Department of Animal and Poultry Science at the University of Saskatchewan, they have excellent credibility with the feed industry and with livestock producers. They are intimately aware of the needs of industry, and are realistic about the nature of solutions that can be offered.

Although he is confident that MCN Bioproducts would have established a good business model over time, Lavoie feels that the business advice and financial support provided by Foragen accelerated the company’s start-up and allowed the founders to concentrate on the technical work of perfecting their processes and products. “MCN passed through most phases of our screening process with few problems. We could see that the principals understood the need for a good business model and were willing to make the necessary effort and



partner with the right people to commercialize their product.”

David Maenz, Research Director for MCN and former Director of Research for the Prairie Feed Resource Centre based at the University, appreciates Lavoie’s working style: “He is great to work with. He listens carefully, considers the options carefully and then makes ‘do-able’ suggestions on how to tackle a problem or take advantage of an opportunity.” Maenz also notes, “It is important

to us that Armand has a good grasp of science. When you combine that with his business expertise and experience, it gives his investees an added competitive advantage.”

“I came to Saskatoon because I was attracted by the world class infrastructure and research occurring at the various research institutions at the University of Saskatchewan and the companies at Innovation Place.” says Lavoie. Working from his office in Saskatoon, he sources, evaluates and manages new technology investments. He is a key player in Foragen’s

agricultural and biotechnology service teams. In his previous role as a consultant with an international firm, Lavoie worked extensively with companies in their start-up, early commercialization, and growth phases. In his current role he continues to lend his expertise to the development of business plans, commercialization strategies, intellectual property strategies, and market assessments.

About Foragen:

Foragen Technology Management Inc. and its team manage investments in advanced agricultural technologies and provide a complete development package to move technology from concept to successful commercialization.

The company seeks out innovative ideas in such areas as human and animal wellness, food and fibre quality and trait enhancement, food safety, and alternative bio-based products, materials and processes.

Foragen is committed to building long-term productive partnerships with technology innovators. Future issues of *Visions* will feature Foragen clients and members of the Foragen Management Team.

For more information, visit our Web site at www.foragen.com, or e-mail Dr. Murray McLaughlin at murray.mclaughlin@foragen.com.

Foragen is a bilingual company, offering services in English and French. For service in French, in Eastern Canada contact Dr. Roger Bernier at roger.bernier@foragen.com, or in Western Canada, Armand Lavoie at armand.lavoie@foragen.com.

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