



BRANDON
UNIVERSITY

CASE STUDY

Richardson Milling

Strategies for Growth of Bulk Food Processing in Manitoba

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FEBRUARY 2015

>> Acknowledgements

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Executive Summary

>> This applied research project answers the question: *Where are the opportunities for growth in bulk food processing?*

This case study is one of three conducted to describe successful bulk food processing companies in Manitoba and give insight into opportunities for growth and innovation in these industries.

Richardson Milling is a leading North American manufacturer of processed oats, a subsidiary of Richardson International. Richardson established itself as an industry leader by becoming a reliable supplier of quality bulk ingredients for North American breakfast cereal and granola bar manufacturers. Sells in units: of bags, totes and bulk rail.

Major past innovations:

- Kilning
- Organization change to Richardson
- Education
- Investments

Opportunities for growth in future are:

- Gluten free product
- Turn the focus to oat's health benefits
- Oat breeding & Beta-Glucan

A preliminary cross case analysis report of the three case studies can be found at:
www.brandonu.ca/rdi/files/2011/02/Innovation-in-Agri-food-Processing.pdf

Introduction

PURPOSE OF STUDY

Growth in food processing to produce bulk ingredients represents a major opportunity for Manitoba to increase economic activity in the province.

This research is a preliminary study into the growth opportunities from innovation in the bulk food processing industry in Manitoba.

Case studies were conducted for three Manitoba bulk food ingredient processing companies and their associated supply chains.

For the purpose of this study a bulk ingredient processor is defined as a company that sells to manufacturers, bulk wholesalers, distributors or businesses; the unit of sale will be significantly larger than the retail size.

RESEARCH METHODS

The main research method was interviews with company and association leaders through the supply chain, together with researchers and other innovation partners.

This research uses “Instrumental Case Studies”: three particular cases are examined to provide insight into growth and innovation the bulk food processing industry.

The studies gather data on: history, activities (describe chain processes), setting (product & industry), other contexts and informants (chain). Beyond this description, the focus of the study is growth and innovation in each company and supply chain.

The “Oslo Manual” guidelines for collecting and interpreting innovation data were used to formulate the interview tool for the semi-structured interviews conducted in this study.

An innovation is defined the implementation of a significant change in product, process, marketing or organization that is new (or significantly improved) to the company.

The interviews covered several areas of focus:

- Overview: a description of the company, industry and supply chain are structured and how they work together
- An investigation of innovation in the companies, supply chain and industry:
- Past innovations that lead to this industry
- Innovation opportunities for the future
- Factors that affect ability to innovate
- Linkages to outside innovation resources

INTERVIEW PARTICIPANTS

Participant	Role
Richard DeKievit <i>Richardson Milling</i>	Processor
Art Enns <i>Prairie Oat Growers Association</i>	Producer, Producer Association
Dave Shambrock <i>Manitoba Food Processors Association</i>	Processor Association
North American Ingredient Distributor	Distributor
American Baked Goods Manufacturer	Customer
Rex Newkirk <i>Canadian International Grains Institute</i>	Researcher
Nancy Ames <i>Agriculture and Agri-Food Canada</i>	Researcher
Bonnie Bain <i>Farm Credit Canada</i>	Financial
Susan Abel <i>Food & Consumer Products of Canada</i>	Manufacturer Association

Oslo Manual Source: OECD & Eurostat Agri-Food. 2005: Guidelines for collecting and interpreting innovation data.

THE OAT INDUSTRY

Oats have been around since ancient times and are a staple crop both in Europe and North America, used in breakfast cereals, cosmetics, dyes and for livestock feed. In 2013, Canada produced 2,680 thousand metric tons of oats. Today, Manitoba producers harvest over 800,000 acres of oats each year, which is more than 25% of Canada's annual production. The majority of oats produced and processed in the Canadian prairies are exported to the United States and Mexico; smaller markets include the Caribbean, Latin America and Asia.

RICHARDSON MILLING

The Company

This case study examines the Richardson Milling oat processing plant located in Portage la Prairie, MB. This plant was established by Can-Oat in 1989 as a result of significant demand increase associated with oat bran consumption. Manitoba was chosen as the location based on raw material supply, strong local workforce, removal of oats from the Canadian Wheat Board, and competitive outbound logistics to key US destinations. Industry and market changes enabled Can-Oat to significantly grow the business and build a second facility in Martensville, SK. Later acquisitions of facilities in Alberta and Nebraska were added to complement and diversify the capabilities. In May of 2013, Richardson International acquired all of these oat milling assets from Viterra Inc. and formed Richardson Milling.

The Portage based oat mill employs between 115-130 people, and is one of the largest oat mills in the world. Richardson Milling's western Canadian oat plants have an annual capacity of over 350,000 tonnes, making them the largest exporter of processed oats.

The oat-bran craze of the 1980s spurred the beginning of the business; in the late 80's supply could not keep up with demand. However, the oat-bran collapse in the early 90's caused the

number of customers to drop drastically. Richardson Milling (then Can-Oat) worked hard to show customers they could meet their needs better than anyone else in the industry and successfully gained market share. Richardson Milling is now the supplier of choice for many flake and flour customers.

Richardson International is Canada's largest agribusiness company and has been serving the Canadian and International agriculture and food sectors for more than 150 years. They are recognized as a global leader in agriculture and food processing as well as a worldwide handler and merchandiser of all major Canadian-grown grains and oilseeds. Richardson has over 2,500 employees across Canada and the United States.

Processing Oats

Oat processing begins with basic grade cleaning which removes any unwanted materials. The next step is the hulling process where the hull (30% by weight) is removed from the groat. The de-hulled oat (groat) goes through the kiln, which heats the groats to deactivate enzymes that cause rancidity and gives it a toasted flavor. The kiln can be adjusted to give different functional properties for later processing. The kiln is a major part of the proprietary nature of the business, integral to meeting customer specifications. Next, the groat is sized and cut. Finally, the groat is processed into one of the many rolled, flaked or flour products that are offered by Richardson Milling.

Oat Products

- Whole oat groats
- Large Flake Rolled Oats
- Instant oat flakes
- Whole oat flour
- Oat hulls (animal feed ration)
- Oat hull pellets (bio-mass fuel)
- Steel cut oat groats
- Quick rolled oats
- Baby oat flakes
- Oat bran

Markets / Customers

Richardson Milling prides themselves on being a large scale oat ingredient supplier to end-use customers. They sell in wholesale quantities to large industrial manufacturers of cereals, snacks, biscuits, crackers and cookies. The majority of their sales are to the United States; they also sell within Canada and export to Mexico and Latin America.

Position in Industry

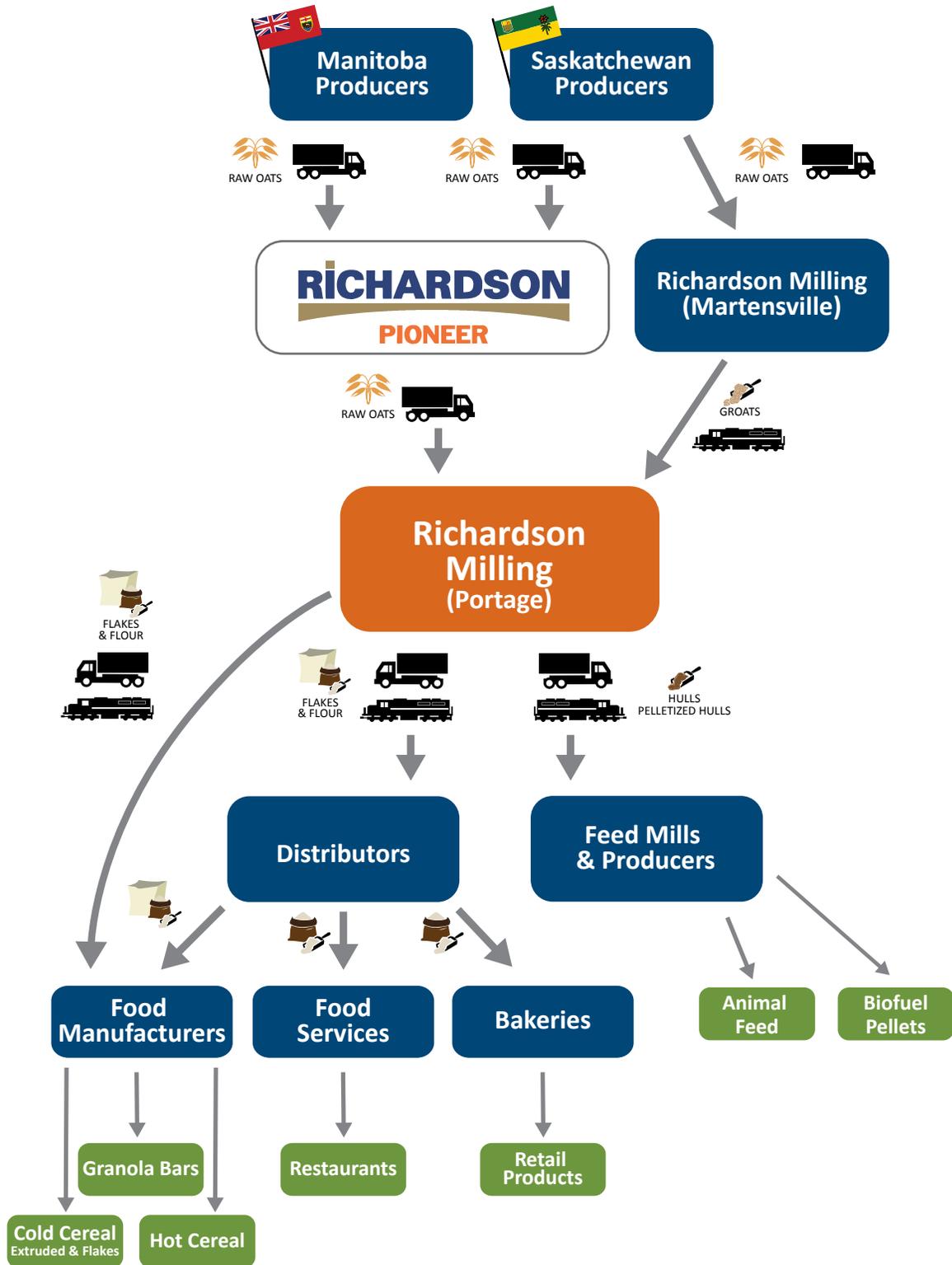
The Richardson Milling plant has been running for 25 years and therefore has a strong position in the oat milling industry. Its customer base is strong, long term and consistent because of the quality of their product, service and R & D capabilities. There are not many opportunities for new suppliers to enter the oat milling market, but Richardson Milling has the opportunity to grow in the market because of its established reputation in the industry and its network throughout the prairies.

Competitors are other oat millers, including some large food manufacturers, (who may also be customers). Internationally, Chile is emerging as a processed oat supplier, especially for the Latin American market.

SUPPLY CHAIN

For the Portage la Prairie plant, Richardson Milling purchases oats from producers in Manitoba and Saskatchewan. Purchasing is done through Richardson International and the extensive Richardson Pioneer network. The grower relationship goes well beyond oats and is a trusted relationship built over time. Shipping of the oats is either direct to the mill by producers or through Richardson Pioneer elevators, whichever is most efficient. The Portage plant can process more finished product volume than its mill is capable of producing. Milled oat groats are supplied to Portage from the Martensville plant for further processing into finished products. Primary and finished food ingredient products are shipped directly to some large customers; food ingredient distributors are also an important part of the supply chain, especially for US distribution. Richardson leases rolling stock to facilitate transportation of their product. 90-95% of finished food ingredient sales are to the United States.

RICHARDSON MILLING SUPPLY CHAIN



Innovations

Richardson Milling has been involved in the oat milling industry for 25 years, leading to its long established relationships within the industry. Although there have been many years for Richardson to innovate, oats are known in the Canadian Prairie as a static and non-changing crop. Therefore, the major innovation in the oat milling industry is the process – the kilning, flaking and grinding. All other innovations that have taken place are market based.

Through interviews, it was noted that as long as there is a return, farmers will continue to grow oats and the industry will grow steadily as well. The most important part is to figure out how to get people to eat more oats which will open more markets. If this happened, the oat acres in Western Canada could double. Financial support for research and promotion is needed, as well as the people to do it.

RM1 Innovation: The Kiln

Type: Process / product

New to: Company, industry at times

Part of supply chain: Processor

When: Past and continuing

Time Line: One-step / incremental

Developed: In-house with Food manufacturers

The kiln deactivates enzymes that cause rancidity, gives the oats a toasted flavor, and allows for adjustment to give different functional properties in regard to cook-ability and bake-ability. This is a major factor in the proprietary nature of an oat milling business, as every company has different ways they use the kiln and this sets Richardson apart from other processors. Richardson is continually working with food manufacturers to adjust the processing conditions (kiln) to achieve the functional characteristics that each customer needs.

RM2 Innovation: Gaining Market Share

Type: Marketing

New to: Company

Part of supply chain: Processor

When: Early 1990s and continuing

Time Line: Incremental

Developed: In-house with distributors

After the oat-bran collapse in the early 1990s, many companies were left with no customers. The company (Can-Oat at the time) worked very hard to meet customer needs better than anyone else in the industry. This was achieved by ensuring consistent high quality products through process modifications, listening to and working with customers to fulfill their needs, and providing good service in terms of consistent quality and delivery at a competitive price. These efforts have also included pursuing export markets for their products. These practices though no longer innovative to the company are still followed today.

RM3 Innovation: Grower Education

Type: Product/Market

New to: Industry

Part of supply chain: Producer

When: 1980's / 90's continuing

Time Line: Incremental

Developed: In-house with growers and customers

For Richardson, it was important to educate oat growers on the importance of keeping the groat intact throughout the harvesting process. If the groat is not kept intact, problems can arise in processing such as breaking up the kernel, which results in waste and decreased quality. Growers were educated about this issue through meetings to ensure a supply of the best milling grain available to Richardson Milling. Food manufacturing customers aided in this education, as maintaining the quality of the finished flake products was important to them.

Success with this initiative and the current high quality of their supply is one of the reasons for Richardson's success.

<p>RM4 Innovation: Change to Richardson</p> <p>Type: Organizational / process</p> <p>New to: Company</p> <p>Part of supply chain: Processor</p> <p>When: May 2013</p> <p>Time Line: One step</p> <p>Developed: In house, with equipment suppliers</p>	<p>A number of changes that have enhanced company operations occurred following the acquisition of the oat processing plants by Richardson International:</p> <ul style="list-style-type: none"> • Purchasing and supply is done through Richardson International and Richardson Pioneer – providing consistent high quality supply. • Investment in processing equipment and food safety systems. • Integrated IT systems leading to continuous improvement.
<p>RM5 Innovation: Plant breeding</p> <p>Type: Product / process</p> <p>New to: Industry</p> <p>Part of supply chain: Grower</p> <p>When: Past and continuing</p> <p>Time Line: Incremental</p> <p>Developed: Researchers & growers</p>	<p>Oat varieties are under constant development, to improve disease resistance and enhance properties desired by the rest of the supply chain, such as protein, or beta glucan content.</p> <p>There is very good cooperation with breeders and the chain to cooperate on setting priorities and funding for oat breeding in line with what the value chain wants. Changes in the variety registration program to protect breeders’ rights to intellectual property are anticipated to have a beneficial effect on plant breeding activity.</p>
<p>RM6 Innovation: Promotion of Health Benefits</p> <p>Type: Marketing / product</p> <p>New to: Market</p> <p>Part of supply chain: All</p> <p>When: 1989 to future</p> <p>Time Line: Incremental</p> <p>Developed: Entire oat industry, medical and other researchers</p>	<p>Oats have been scientifically recognized for heart health benefits since the 80’s. FDA approval for a beta-glucan / soluble fibre food label health claim in 1997 was an important milestone in the promotion of oat products. There is an opportunity to expand the market for oat products further by promoting the other nutritional components of oats such as protein. High protein is seen as desirable by consumers, and the fact that oat protein is a particularly well-balanced protein should be emphasized when marketing oat products.</p> <p>The health benefits of oats have the potential to cause 5% annual growth of the oat market, significant growth for an established commodity.</p> <p>It was suggested that the health system could have a major impact on promoting healthy ingredients through education of consumers / patients. Getting the health care system (and doctors) to understand the health benefits of oats could give rise to “prescriptions” for improved diet and lifestyle changes for the millions of people at risk of heart disease.</p>

RM7 Innovation: Gluten Free	Richardson Milling is putting resources to investigate a gluten free innovation. Oats are naturally gluten free, however in order to put “Gluten Free” on the label the entire supply chain must be free of wheat and barley. This requires the engagement and cooperation of growers, and all those that handle and transport the oats through the supply chain.
Type: Marketing / process	
New to: Company	
Part of supply chain: Supply side	
When: Future	
Time Line: Incremental	
Developed: In-House with suppliers, transporters	
RM8 Innovation: Fractionating	Oats are not being fractionated like other grain products such as corn. Can oats eventually get to the point where there is enhanced value from various fractions: fibre, protein, oil, starch, syrup? Richardson Milling is examining the possibilities of extracting the most functional nutritive components out of oats by investing in the technology available. Expansion of the “functional food” and supplement markets for oats and their derivatives could give another important market for Richardson Milling and the oat industry in general.
Type: Processing/Marketing / product	
New to	
Part of supply chain: Supply side	
When: Next 10 years?	
Time Line: Incremental	
Developed: In-house with Government, university and industry researchers	

Innovation Methods

Factors that Affect Ability to Innovate

Richardson Milling innovates by proactively pushing new technologies out into the industry through their own research and development staff; they are both customer and product driven. They are in collaborative efforts with the Food Development Centre in Portage la Prairie as well as the Richardson Centre at the University of Manitoba. They also have a dedicated milling technologist who aids in the innovation of operational improvements in order to make the plant more productive through improved efficiency.

Innovative ideas generally come from what the customer (distributor or manufacturer) wants and are screened by the marketing team and the research and development team.

The main incentive for Richardson Milling to innovate is the customer; positive changes will keep the customer coming back. Another reason is the operational efficiencies that come with innovation; product quality is improved. Continual innovation means that the company will stay on top as a leader in oat processing.

Food manufacturers' innovations are driven by the customer and projected sales. Ideas are initiated and screened by R&D and marketing personnel.

Innovation Linkages

Richardson's conducts external market research to anticipate and track consumer trends. They also use the services of the Food Development Centre.

Richardson Milling has significant innovation linkages with many researchers including agreements and funding of programs at the university level, government level and in-kind donations. They have mutual non-disclosure agreements when innovating with customers.

Richardson's consistency and stability in regards to distributors and customers is described as coordinated and collaborative as they are considered strategic suppliers. When dealing with suppliers, the relationship is at the cooperative level.

Linkages with the supply chain and innovation partners are stable and based on trust in some situations. With regard to stability, there are multi-year agreements which cause a mutually dependent relationship. The Prairie Oat Growers Association provides a useful forum where all members of the value chain, growers, millers, manufacturers, plant and food researchers can meet and establish a better understanding of each other's needs.

Limits to Growth

Any food processing depends on a reliable supply of quality raw material. Oats face challenges in getting seeded acres due to competition from wheat, canola and soy in Manitoba. Building relationships with producers and strong prices will ensure supply. For some sectors, such as organic (in Alberta) and high protein oats, contract growing is a possible option.

Recent difficulties in shipping grain by rail has led to missed opportunities for export of oats; however Richardson experienced few delivery problems due to their fleet of leased rail cars.

Although oats is an established, stable food, the market has changed in recent years: it has become convenience driven; cold cereals are no longer considered “convenient” and “bar” consumption has increased. Keeping up with these changes is a challenge for ingredient and food manufacturers. Changes tend to be slow, even if there is a health or other benefit; as there is a risk to changing an established product. There is also risk to moving too slowly and missing an opportunity as new innovative products often have a “life-span” of only 5-8 years.

Fully promoting the health benefits of oats and fractionating, splitting oats into various active components has the potential to increase oat consumption by about 5% annually. To achieve this, research must continue and the whole value chain from grower to manufacturer and retailers must work together to promote the benefits of oat consumption.

Conclusions

Major food manufacturing companies need ingredient suppliers that can reliably supply the quantities and quality they need. Richardson Milling is currently fulfilling this need by acting as a “strategic supplier” to several of their customers. Over the years they have built to become a successful company with a mature customer base, through a policy rooted in quality and customer service

Richardson Milling has succeeded in getting a consistent supply of good quality grain for their plant. However attention must be paid to making sure that oat supply is reliable through making it a viable competitive crop for producers to use in their rotation.

There is a possibility for future growth of the oat milling industry. This will stem from successful promotion of the beneficial effects on health of eating oats; to both the medical community and the general public. Promotion of protein content and cholesterol reduction, continued solid scientific research, together with the introduction of new products to make oats more available and attractive to consumers, should result in annual growth of about 5%.



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