

CASE STUDY

CANADIAN PRAIRIE GARDEN PUREE PRODUCTS: PUREES

Rural Innovation In Manitoba:
Reducing Barriers to
Commercialization and Growing
Capacity.

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The data, analysis of data, project analysis and conclusions or other information in this report are those of the authors and the Rural Development Institute and not of the Government of Canada or Manitoba.



Rural Development Institute, Brandon University

Brandon University established the Rural Development Institute in 1989 as an academic research centre and a leading source of information on issues affecting rural communities in Western Canada and elsewhere.

RDI functions as a not-for-profit research and development organization designed to promote, facilitate, coordinate, initiate and conduct multi-disciplinary academic and applied research on rural issues. The Institute provides an interface between academic research efforts and the community by acting as a conduit of rural research information and by facilitating community involvement in rural development. RDI projects are characterized by cooperative and collaborative efforts of multi-stakeholders.

The Institute has diverse research affiliations, and multiple community and government linkages related to its rural development mandate. RDI disseminates information to a variety of constituents and stakeholders and makes research information and results widely available to the public either in printed form or by means of public lectures, seminars, workshops and conferences.

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Introduction

The Rural Innovation in Manitoba (RIM) project is funded by the Canada and Manitoba governments through *Growing Forward 2*, a federal-provincial-territorial initiative. It attempts to create new knowledge that enhances the process of innovation by addressing barriers and opportunities in commercialization in Manitoba's Agri-Food sector, and improves capacity in organizations so they can facilitate innovation. As a part of the RIM project, we conducted five case studies that provide the information for a cross case study report on commercialization in the Manitoba food processing industry.

This case study is one of five conducted to explore the commercialization of a product/process innovation, and give insight through interviews with innovators and important stakeholders. For the purpose of this research a stakeholder is defined as someone who helped innovators achieve significant milestones in their commercialization process. The terms agri-food and food processing are used interchangeably: and innovators and stakeholders are referred to collectively as participants.

This case study briefly describes the research design and methods, for additional details see the cross case study report. This case study specifically highlights an innovation from Canadian Prairie Garden. The report provides a brief overview of the company, describes their product/process innovation, and provides an explanation of their commercialization timeline. The report covers the five stakeholders identified by the innovators, who they are and how they helped. The report also describes gaps and barriers identified by the innovator and stakeholders that are specific to Canadian Prairie Garden. Finally, the report concludes with a summary.

Research Methods

This research project seeks increased understanding of the commercialization of innovations in Manitoba's food processing industry. The research method used for this study was qualitative case studies. We conducted five case studies examining the path to commercialization for five recent product/process innovations in the Manitoba food processing industry.

All the studies centre on a product/process innovation that has come to market in the last five years. They document the progress of an innovation from idea through to market, from the point of view of the innovator and five "stakeholders", people who had helped the company on the road to commercialization.

Data Collection

Semi-structured interviews were conducted with the head of the food processing company; who was intimately connected to the commercialization of the product/process innovation.

The interviews explored critical areas to help understand the commercialization of each innovation:

- Background of company or organization and the services or product offered
- Timeline and milestones in the progression of the innovation from idea to commercial product
- Stakeholders and their involvement in commercialization
- The nature, timing, stage and impact of stakeholder involvement
- Barriers and gaps, specific to the innovation and companies involved, and the food processing industry in general.
- Leadership and other skills or characteristics that are needed to successfully commercialize a food processing innovation.

Each innovator identified up to five stakeholders who helped with the commercialization of their innovation. The stakeholder interview explored similar questions to those listed above, as well as the services they offer to innovators.

Ethics approval was obtained from Brandon University Research Ethics Committee (BUREC) for this study. We ensured confidentiality and accuracy by inviting innovators to review the draft case study first, before it was circulated to other participants for validation.

Canadian Prairie Garden Purees

The Company

<http://canadianprairiegarden.com/>

Canadian Prairie Garden Puree Products (CPG) processes high quality, locally grown raw produce into non-GMO purees. Both the plant and the growers are fully CFIA and HACCP certified. After a total of 10 years of technological innovation, Canadian Prairie Garden began full scale processing and operation in 2015, building on its pilot plant, which was established in 2010. There are currently 20 employees working at Canadian Prairie Garden processing plant located in the 'incubator' facility of the Food Development Centre in Portage la Prairie, Manitoba. Kelly Beaulieu, founder, operator and shareholder is a professional agrologist who grew up as a member of the Sandy Bay First Nation in Manitoba, Canada. Canadian Prairie Garden's goal is to establish a processing capability that would capture the superior quality of the area's vegetable, legume, and fruit crops.

Products

★ 30 different low-acid purees with no additional ingredients or preservatives.

For example: Carrot, onion, cauliflower, broccoli, squash, saskatoon berries, beans and pulses

Raw Materials

Canadian Prairie Garden purchases its raw vegetables from local growers, who are also currently pre-processing the vegetables. As a result of the well-suited soil and climate, vegetable growing is a well-established industry in the Portage area. Canadian Prairie Garden can use culled vegetables (e.g. broken & crooked carrots) that do not meet retail standards; as a result, the cost, and waste of valuable food resources are reduced. CPG also buys field run or contracted acreages for their raw vegetable inputs. Beans and pulses are purchased from Prairie producers.

Market / Customers

Canadian Prairie Garden markets its purees as ingredients to both the food manufacturing industry and food service buyers. Its products are sold either directly, or through distributors. The company is currently concentrating on the North American market.

Position in Industry

Canadian Prairie Garden is a new company with an innovative product that is developing its position in the industry. Competitive products are frozen purees, unprocessed beans and pulses and fresh vegetables, particularly in food services.

Competitive Advantages

- High quality purees - pure, colour, taste and nutrients
- Shelf stable - not frozen
- Saves labour - food services
- New innovative ingredients

Awards

Food and Beverage Manitoba Innovation Award 2016

Food and Beverage Manitoba Best New Products Award 2015

Canadian Aboriginal and Minority Supplier Council (CAMSC) Technology Innovation Award 2015

"NEXTY" award at the Natural Products Expo West in California, one of the top 100 companies, 2015

Commercializing a New Food Product

PRODUCT / PROCESS INNOVATION

Purees

Innovation:

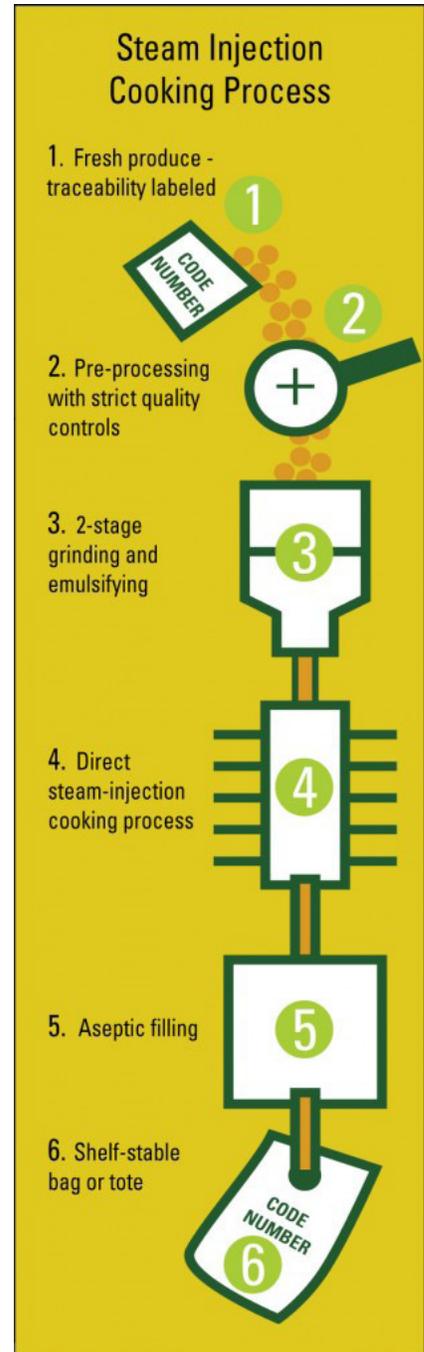
Canadian Prairie Garden Puree Products’ business plan is based on a “new to the world” process innovation that took 6 years to develop, and 4 more years to bring to full production. This process results in new shelf-stable puree products with superior taste, colour and nutrients. These new ingredients require significant process and marketing innovation to bring them to market, and establish consistent relationships with manufacturing and food service customers. There is considerable potential for growth in traditional puree applications and new opportunities made possible by the unique direct steam injection process.

The Product:

Canadian Prairie Garden Purees product process innovation is a “new to the world” process that has created a “new to the world” product. For this case study we will focus on the Canadian Prairie Garden’s purees in general, not focus in on a specific type of puree. Products include 30 different low-acid purees with no additional ingredients or preservatives, including: carrots, onions, cauliflower, broccoli, beans and pulses, squash and saskatoons. Package sizes are 3kg, 10kg, 240kg and 1300kg. Purees can be used as an ingredient in many applications including: soups, baby foods, smoothies, baked goods and desserts, mixed dishes and entrees including pasta enhancements, sauces and dressings.

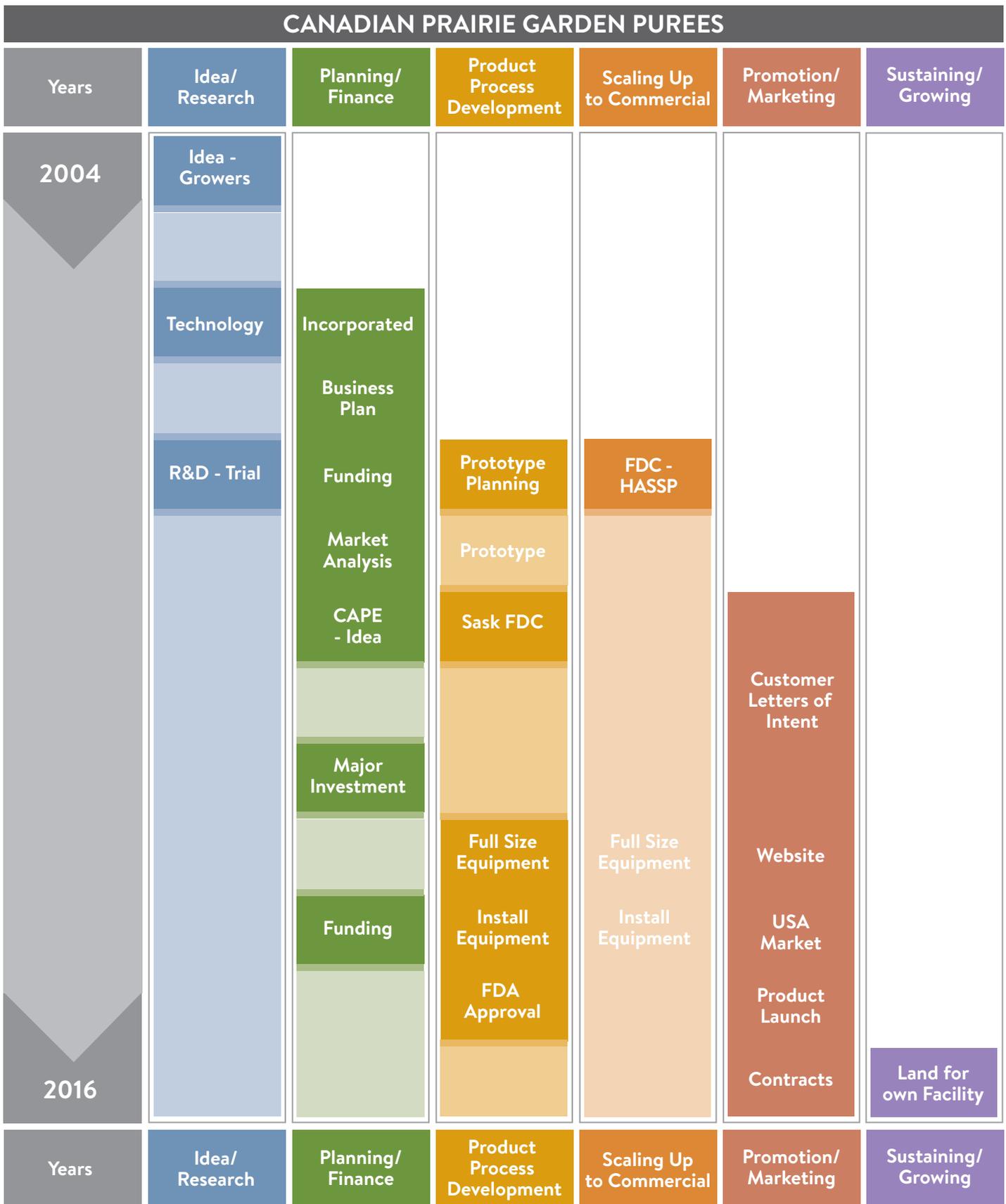
The Process:

Fresh vegetables, fruit or pulses are processed into purees on an enclosed, continuous processing line using a process that is exclusive to CPG Puree Products. The direct steam injection high temperature cooking process results in full cooking and sterilization with minimal damage to cell structure of the vegetable, legume or berry ingredients. Their current processing capacity is up to 25 million kg/year.



Courtesy: Canadian Prairie Garden

Figure 1.1 Canadian Prairie Garden Simplified Innovation & Commercialization Timeline



*Darker shading indicates more intense activity

INNOVATION & COMMERCIALIZATION TIMELINE

Figure 1 gives a simplified representation of the milestones in developing and commercializing purees, as identified by Canadian Prairie Garden and their stakeholders. The milestones are organized on a timeline from the idea for the purees to the present day. They are also categorized according to the stage of the commercialization continuum they were most related to. More details on the progress through commercialization are given in the “Milestones” section below as well as in the sections on how each stakeholder was involved in the commercialization process.

Milestones:

- Canadian Prairie Garden started around 2004 with an idea to establish a company that would use the high quality produce grown in the Portage area.
- Years of research led to a trial run making puree in 2008, establishing a relationship with an equipment supplier and designing and ordering a prototype in 2010. Funding from various sources.
- From 2010 to 2013 a significant amount of time and effort was spent refining the technology and process know-how, and introducing CPG’s innovative product to the industry, meeting customers’ specifications and obtaining letters of intent.
- In 2012 funding was obtained from the CAPE fund and production size equipment ordered.
- Production line installed at FDC in 2014; product/process development and market analysis continued in 2014.
- FDA approval, product launch and the first commercial production runs in 2015.
- In 2016 CPG secured several significant customer contracts.
- CPG plans to build a larger facility as sales grow, and have already purchased the land.

Stakeholders

For the purpose of this study we have defined stakeholders as any person or organization that has helped Canadian Prairie Garden on its path to commercialization. Examples of stakeholders include but are not limited to: family members, scientists and researchers, prototype developers, government agencies, economic and business professionals, funders/bankers, and agricultural associations. The five key stakeholders identified by Canadian Prairie Garden are described below, together with the services they offer and how they assisted Canadian Prairie Garden.

CAPE Fund (Alex Farley)

<http://www.capecfund.ca/en>

Description:

The CAPE Fund is a Montreal based organization that seeks to promote a culture of economic independence, entrepreneurship, and enterprise management among Aboriginal people through the formation and establishment of businesses. The organization supports Aboriginal people that are both on and off reservations. The Cape Fund focuses on projects that are linked to an Aboriginal group and individual or community through ownership, employment, or geographical proximity. The Fund invests in Portfolio Companies that possess a specific set of characteristics.

Services Offered:

The CAPE Fund financially invests in businesses as a partner through a selection of equity and quasi equity instruments including common shares, and participating debentures. The Fund's investments may be either staged, or one single investment. The Fund also assists in recruiting and developing independent Boards of Directors provides strategic and business support to its entrepreneurs and takes on an active investor role to facilitate the profitable growth of investee companies.

Their Involvement:

The CAPE Fund invested in Canadian Prairie Garden after the product/process innovation was proven and CPG had a pilot machine. CAPE Fund then invested in the company to aid in scaling up to commercial production. They worked with CPG to create a governance structure, and recruited two independent directors. CAPE Fund supported CPG's development by providing them with capital investment and businesses advice. They continue to be an active investor with CPG as they grow.

Saskatchewan Food Development Centre (Dan Prefontaine)

<http://www.foodcentre.sk.ca/>

Description:

The Saskatchewan Food Development Centre (SFDC) is a Saskatoon based not for profit agency that focuses on agri-food innovation. The SFDC assists companies with establishing new products in the market place and with the commercialization process. The centre offers entrepreneurs access to expertise, pilot plant facilities, and research.

Services Offered:

The Canadian Food Inspection Agency has licensed the SFDC's pilot plant for processed food production, allowing food companies to use the facility as a food business incubator to develop, produce, and market their products. The SFDC offers a team of experts in the following fields: food development, pulse innovation, food processing, extrusion, industry training, and path finding. The SFDC's facilities provide the necessary flexibility agri-food companies require to conduct a wide variety of research and development projects in a number of different disciplines that use a vast diversity of processing techniques.

Their Involvement:

The Saskatchewan Food Development Centre has been involved with CPG since the prototype phase. They were involved in two major ways: 1) helping solve technical issues and assisting with capital acquisition, and 2) acted as a sounding board for ideas. SFDC continues to provide CPG with support and advice.

Canadian Prairie Garden Purees (Helen Ann Dillon)

<http://canadianprairiegarden.com/about-us/>

Description:

Helen Ann Dillon is the Vice President of Sales and Marketing at CPG. Helen holds a Masters degree in science and is also a registered dietitian. Prior to her position as at CPG in 2013, Helen's career had focused on food manufacturing and marketing. In the early 90s Helen worked for another start-up company, which was acquired by Campbell's Foods a year later. Helen spent 16 years with Campbell's where she received excellent business training and experience.

Their Involvement:

Helen's business experience and education have contributed to her strong understanding of food and nutrition as well as her ability to understand what consumers want. Helen aspires to unite the art of food and nutrition, and envelop it with her strong business knowledge. While in the initial stages of her position at CPG, Helen established the company's web presence and emphasized the importance of its innovative product. In 2016, Helen secured CPG's first contract worth over one million dollars for a single product.

Canadian Prairie Garden Purees Board (Peter Kreutzner)

<http://canadianprairiegarden.com>

Description:

Toronto based Peter Kreutzner has been a member of the Canadian Prairie Garden Puree Products' board since 2013. Peter has over 30 years of experience in packaged goods, marketing, and food and drink. He has worked for Carnation, Nestlé, Playtex, Thomas Cook, Hero, the makers of President's Choice, and Diageo. Peter became a board member at CPG because of his passion for aiding start-up companies and great interest in the product.

Their Involvement:

Peter's provided CPG with advice and experience regarding the company's target customer demographic, as well as the establishment of a company brand. Peter emphasized the importance of setting goals on gross margins and creating revenue targets. He has also assisted Helen Ann, CPG's Vice President of Sales and Marketing, with customer leads, website design, etc.

Equipment Supplier

Description:

The equipment supplier used by CPG assists food processors, in various disciplines, with developing prototypes, as well as fully operating machines for each company's respective requirement.

Services Offered:

The equipment supplier offers a variety of services to its customers including before-sale service for equipment development and plant layout, installation and after sale service.

Their Involvement:

The equipment suppliers were involved with CPG twice, once with the prototype and once with the full-size production equipment. The equipment suppliers provided CPG with technical support and advice throughout their product process development and scaling up to commercial. This support included installation, start-up, training, involvement with FDA and CFIA approval, and after-sale service.

Barriers and Gaps

A key purpose of this research is to identify gaps and barriers experienced by innovators on their road to commercialization. Below is a list of specific gaps and barriers faced by Canadian Prairie Garden as they commercialized their new puree products and process. The barriers and gaps identified have been ordered by the stages of commercialization.

Planning/ Finance

- A major challenge faced by Canadian Prairie Garden is that it took longer and costs more to get the business started than originally expected.
- Government funding often comes with very specific requirements, they don't give working capital to businesses. Furthermore, it is difficult to find patient capital, which allows a company the time needed to develop their innovation.
- In order to perfect their process innovation, Canadian Prairie Garden had to purchase their own equipment early on. The purchase of this equipment was very expensive.

Product Process Development

- No specific product process barriers were identified.

Scaling up to Commercial

- It is a challenge to build capacity when you are a small company with few staff members. It is also difficult to attract and hire properly trained staff.
- The product/process innovation for CPG was so innovative that it took a long time to receive FDA and CFIA approval because they had never seen anything like it before. This significantly delayed CPG's commercialization process.
- CPG also faces a barrier because they are not in their own facility; instead they share a facility that was not purpose built for their production, and is therefore not as functional or efficient as their own facility will be.

Promotion/ Marketing

- Canadian Prairie Garden's product and process is so novel that it was a disruptive innovation that required other innovations along the supply chain in order to make it successful. For example, the high quality, fresher tasting purees resulted in a change in product and flavor profiles for their customers, requiring re-formulation or marketing changes for their products. Also, CPG purees are so different from conventional purees, that they cannot be easily blended together.
- Since Canadian Prairie Garden is a small company they only have one sales person. This creates challenge for the speed at which sales are made and the amount of awareness of the company.

Sustain/ Growing

- In order for Canadian Prairie Garden to reach their long-term production goals they must build their own facility. This is very expensive and time-consuming process, which will balance increasing sales with production capacity.

Summary

Canadian Prairie Garden is an innovative leader in puree production. The company started in 2006 and they officially launched their product in 2015. Canadian Prairie Gardens Company is built on a product process innovation. The purees created by this process are different from any other puree on the market. Their Direct Steam Injection – Continuous Flow Process results in a high quality, consistent product with a shelf life of 24 months in ambient temperature storage. This process took many years to develop and bring to a commercial scale.

Canadian Prairie Garden identified many stakeholders who helped them through their commercialization process; five were interviewed for this study. Three of these stakeholders came from outside the company. CAPE Fund provided financial support and business advice and has been involved throughout the company's commercialization processes. Whereas, the Saskatchewan Food Development Centre and CPG's Equipment Supplier were involved primarily in product process development and scaling up to commercial with equipment acquisition. Canadian Prairie Garden also identified two stakeholders internal to company, a CPG Director and the Vice President of Sales and Marketing. They are both active in the promotion and marketing of CPG and their products.

Finally, this case study highlights gaps and barriers specific to Canadian Prairie Garden's commercialization of their innovation. Canadian Prairie Garden and their stakeholders identified the most gaps and barriers around finance, and scaling up to commercial. Their challenges focus on the large amount of capital and marketing effort that is required to grow a food business, particularly one that is reliant on highly specialized and expensive equipment.

As Canadian Prairie Garden moves forward they are looking to build their own facility and increase their commercial production and sales.



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