

Road Map to Develop the **INDUSTRIAL HEMP SECTOR** IN NEW BRUNSWICK

New Brunswick Department of Agriculture, Aquaculture and Fisheries



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Introduction

The New Brunswick Department of Agriculture, Aquaculture and Fisheries (DAAF) contracted the services of a qualified consulting firm, Expansion Strategies Inc., to conduct a thorough review of the global industrial hemp sector and to provide specific recommendations to help advance the Hemp Sector in the province.

This work included a market scan, situational analysis, asset inventory, identification of funding programs, regulatory framework and a SWOT analysis. Using this information, the report identified key priority areas, strategic objectives and action items.

These strategic objectives and actions represent the foundation of NB's Road Map for the development of the emerging Hemp Sector.

Engagement with First Nations and Key Stakeholders

Findings from the above Hemp Sector report were shared and discussed with First Nations, industry stakeholders, key federal and provincial agencies, universities and other organizations interested in developing or supporting the Hemp Sector in New Brunswick.

By working collaboratively with all interested players, New Brunswick holds a strong strategic position to leverage its core assets, crop industries, potential partnerships and synergies to further capitalize on opportunities within the emerging industrial Hemp Sector.

Market Overview

In Canada, industrial hemp production has grown steadily over the last 10-15 years.

In 2018, the area in hemp cultivation (registered with Health Canada) was 32,000 ha and mostly grown in three provinces: Saskatchewan, Alberta, Manitoba – representing about 88% of the country's hemp.

In 2018, the value of exported Canadian hemp products was \$87.5 million compared to a peak of \$147.3 million in 2016 and included grain, oil and hempseed cake (protein by-product). This drop was mainly due to a shift of the South Korean market to Chinese products and emerging production in the United States.

The United States is currently the largest importer of hemp goods in the world.

The hemp market generated over \$820 million in sales in the U.S. in 2017, up from \$680 million in 2016, and is expected to expand to \$1.9 billion by 2022. A new Farm Bill in the US has enabled rapid expansion of US domestic production and is providing an economic stimulus, job creation, and opportunities for many US States to participate in international trade.

In Europe, hemp cultivation area reached 46,700 ha in 2017. France is Europe's leading producer with just under 17,000 ha in 2016, with production of grain, fibre and hurds. About a dozen companies in Europe are processing hemp for food, while many are processing fibre for a wide variety of applications including the automotive and bio-composites sectors.

China is the world's largest producer of industrial hemp. Their development plan is to grow 1.3 million ha to produce 2 million tons of fibre to feed the country's textile mills. China has approximately 500 patents granted on various aspects, exceeding 50% of all patents for hemp worldwide.



Hemp Industry in Canada/New Brunswick

In Western Canada, six companies are processing hemp for the food market. The largest, Manitoba Harvest, with sales of US\$56 million was recently acquired by Tilray, a major Canadian cannabis company. The main fibre processing facilities are the Vegreville pilot plant in Alberta and Emerson Plant Distributors in Manitoba making animal bedding material. Other established processors in the food sector are located in Québec: Aliments Trigone, La Minoterie des Anciens, Neptune Wellness Solutions and two fibre processors (Nature Fibres and Agrofibres).

There are approximately twenty companies and individual plant breeders in the hemp seed business. Advances in plant breeding research are needed to improve the hemp cultivars including their content of cannabidiol (CBD).

Compared to other major crops in Canada, the area under hemp production is limited and, accordingly, associated advances in specialized harvesting equipment are not fully developed. Advances in harvesting and processing technologies are expected in the coming years to keep pace with the anticipated fast growth in the area under hemp production in the US.

In 2017, fourteen New Brunswick producers planted a total of 203 hectares of industrial hemp. However, crop yields were less than expected due to unfavourable weather conditions and crop management techniques.

In 2018, approximately 440 ha of hemp was grown. During the season, Health Canada amended federal regulations

to allow the harvest and utilization of the entire hemp plant. This change is deemed significant as farmers can now produce and harvest hemp flowers for the extraction of cannabidiol (CBD) and other cannabinoids. This new opportunity is expected to be more profitable than growing hemp for fiber or grain.

As of the spring of 2019, a number of NB companies have expressed interest in industrial hemp production and processing. In addition, there are four licensed cannabis producers already established in NB which could play an important role in the development of the Hemp Sector.

A strong Research and Development (R&D) network including academic institutions, government bodies and support organizations (Opportunities NB, BioNB and Atlantic Canadian Opportunities Agency) continue to support the development of the NB hemp industry. This support network offers a variety of programs that may help advance the emerging Hemp Sector. In addition, regulatory and policy changes from Health Canada are expected to continue and should allow the sector to develop in a respected regulatory environment.

New Brunswick companies in key manufacturing sectors are strategically positioned to make use of available hemp products as ingredients. These manufacturing sectors include the food and beverages industry; aquaculture, livestock and poultry feed industries; and the forestry and industrial sectors where hemp fibre finds various applications.

NB Hemp Sector SWOT Analysis

Strengths

New Brunswick has the advantage of several important strengths: an attractive business environment, availability of suitable land, support from key research and government organizations, existing hemp producers in place, and an established network of research and development organizations active in cannabis development. The province also has licensed cannabis companies and key manufacturing sectors with potential to use every part of the hemp plant. This gives New Brunswick a strong foundation to support sector development and economic growth.

Weakness

Some of the deemed weaknesses include an undeveloped value chain structure; lack of adapted harvesting and post-harvesting equipment and processing infrastructure; and the limited number of approved pesticides for hemp production. The lack of a quality assurance program, fibre specifications and standards are constraints to the development of the fibre markets. Also, there is a lack of understanding or confusion about the difference between hemp and cannabis for medicinal and recreational use.

Opportunities

There are several opportunities that New Brunswick could seize, including: The production of high purity and quality hemp CBD to supply the strong global demand for CBD for the short and medium term; the production of hemp for the growing organic hemp market, the established international market for grains and hemp oil and the growing fibre market. Developing quality standards for hemp fibre, NB's strategic location and excellent port infrastructure provide for opportunities to reach export markets. Development of genetics and intellectual property protection through R&D may offer customized products. All components are in place to organize an efficient and balanced value chain to help facilitate the development of new high-quality fibres, an organic line of products and the creation of unique branding for the NB sector to compete internationally. Furthermore, investors are already showing interest in setting-up their businesses in the province.

Threats

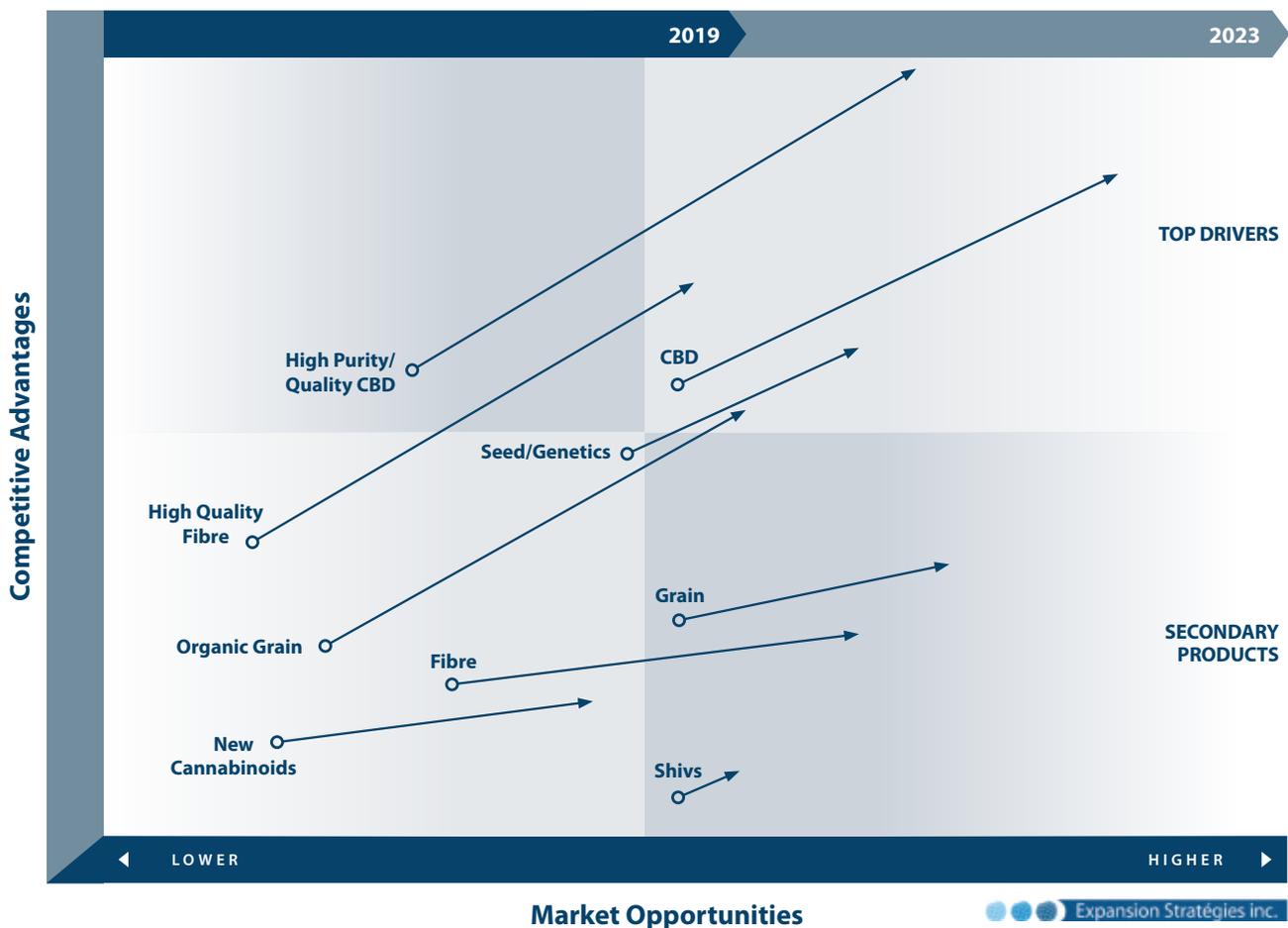
Some of the threats to consider are regulations on CBD in international markets, access to the US market under the new US Farm Bill and emerging trade regulations between Canada and the US. Competition on genetic research may intensify through new start-ups on the international stage. CBD prices may begin to deteriorate as CBD production is expected to significantly increase over the next 5-10 years.



Product categories demonstrating the greatest opportunities

The following product opportunities have been ranked for NB based on their current competitive advantages, potential markets and expected trends until 2023: High priority: High purity/quality CBD, commodity CBD, high quality bast fibre (long fibre), pedigreed seed and genetic research and organic grains. Medium priority: Commodity grains, oil and bast fibre. Low priority: Shivs/hurds fibre (short fibre) and new cannabinoids.

Priorities by Product: The trend towards 2023



Road Map to Support the Sustainable Development of Industrial Hemp in New Brunswick

The following objectives and actions are designed to create a framework to support the sustainable development of industrial hemp in NB and to foster the development of those high priority product categories. The objectives and actions recommended are based on the consultant's report and feedback received during the engagement sessions with the stakeholders, including First Nations. Stakeholders with strong business plans may be able to leverage support for strategic infrastructure, R&D projects or initiatives that are aligned with the Road Map. This document may also guide organizations and agencies that can provide support to those stakeholders who are contributing to the Hemp Sector and identified priority areas.

Objective 1



Organize the Industrial Hemp Industry

- ✓ Build the foundations of the NB Hemp Sector Organization with inclusion of First Nations
- ✓ Recruit a qualified facilitator
- ✓ Create networking opportunities for stakeholders
- ✓ Create a website and develop communication plan

Objective 2



Support Growers and Processors

- ✓ Provide technical assistance to growers
- ✓ Acquire knowledge related to the production of hemp for CBD and other priority areas
- ✓ Support initiatives that relate to food safety and quality assurance
- ✓ Support R&D programs that address production challenges and/or that support IP Protection (i.e. harvesting/post-harvest equipment, genetics)
- ✓ Support investments in processing, value-added infrastructure and product development for the high priority areas
- ✓ Monitor markets and identify new opportunities
- ✓ Consider new policies that support the sector and attract business

Objective 3



Maximize the Use of the Whole Plant

- ✓ Develop an integrated R&D program on fibre for industrial uses
- ✓ Identify potential partners/investors who have proven fibre processing technologies and value-added companies that make use of hemp fibre
- ✓ Encourage industry collaboration to develop Best Management Practices to minimize waste and maximize the value of crop residues
- ✓ Support initiatives that focus on whole plant use



Objective 4

 *Maximize the Economic Benefits for the Province*

- Focus on priority and high value areas
- Promote the adoption of hemp-based products by NB businesses in the food, beverage, feed, cosmetics and industrial use sectors
- Encourage partnerships with First Nation businesses and include First Nations in the development of new hemp-based products
- Develop the branding of NB hemp products and the NB Hemp Sector
- Promote NB hemp products

This Road Map will allow New Brunswick to grow its expertise in high quality hemp products, build a hemp brand that positions the province as a leader in the Canadian Hemp Industry and realize a substantial competitive advantage. New Brunswick's industry stakeholders including hemp growers and processors, First Nations, research and development organizations and government partners will need to work together to accomplish the objectives laid out in this road map in order to capture the strong opportunities that exist for New Brunswick in the Hemp Sector.





For more information on Industrial Hemp Production and the
Road Map to Develop the Industrial Hemp Sector in
New Brunswick please contact the

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