



# INDUSTRIAL HEMP & FLAX

◆ Opportunity Seminar

a growing  
northern Alberta  
opportunity

## Contents

Message from the Chair .....	2
About the NADC .....	3
Northern Alberta Development Council .....	3
Mandate .....	3
Vision .....	3
Executive Summary .....	4
Participant Feedback .....	5
Recommendations .....	5
Emerging Opportunities .....	6
Presentation Summaries .....	8
Conclusion .....	11
Recommendations: .....	12
Appendices .....	13
Instant Poll Technology Results .....	14

## Message from the Chair

I am pleased to provide you with the Proceedings Report for the Industrial Hemp and Flax Opportunity Seminars hosted in St. Paul on March 30, 2017, and Whitecourt on April 4, 2017.

There is a growing trend and demand for supply among the local, provincial and international bio food and fibre industry. Supporting field research illustrates the benefits of northern Alberta grown crops producing flax and industrial hemp; this directly impacts economic development opportunities for our northern communities.

Discussions with community leaders, government staff and economic development officers across northern Alberta revealed support for an Industrial Hemp and Flax seminar. The intent of this opportunity seminar was to deliver further education and related supports and services regarding this emerging industry to northern Alberta communities.

On behalf of the Northern Alberta Development Council (NADC), I thank all the delegates, planning committee, presenters and event facility staff who supported these events and contributed to their success through participation and contributions.

Debbie Jabour  
Chairperson  
Northern Alberta Development Council



# About the NADC

## Northern Alberta Development Council

The Northern Alberta Development Council (NADC) champions the cause of Alberta’s northern economies and communities by exploring opportunities for growth and developing programs and services to facilitate this growth.

The Council is made up of nine public members and a Chair. The position of Chair is traditionally held by a Member of the Legislative Assembly (MLA) of Alberta. The Council reports through the Chair to the Minister of Economic Development and Trade. Council membership reflects the geographical, cultural, and vocational diversity of northern communities.

### Mandate

As set out in the Northern Alberta Development Council Act, the NADC mandate is to “investigate, monitor, evaluate, plan and promote practical measures to foster and advance general development in northern Alberta and to advise Government accordingly.” The NADC supports the Provincial Government’s commitment to prosperity by facilitating the development of a thriving and progressive northern economy.

### Vision

A stronger Alberta through a stronger north.



## NADC Region: In Brief

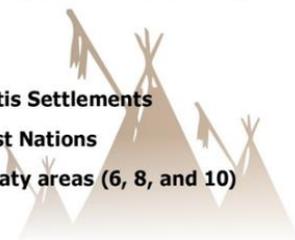
**60%** of Alberta's total land area  
Natural region is largely Boreal Forest

**10.6%** of Alberta's population, 2011 Census  
At least 88 native languages  
Over 100 ethnic groups



- 19** Municipal Districts
- 23** Towns
- 9** Villages
- 11** Summer Villages
- 101** Hamlets
- 2** Cities (Cold Lake and Grande Prairie)
- 2** Specialized Municipalities (Mackenzie County and Regional Municipality of Wood Buffalo)
- 2** Improvement Districts (No. 24, Wood Buffalo and No. 349)

- 8** Métis Settlements
- 32** First Nations Treaty areas (6, 8, and 10)



## Executive Summary

The Northern Alberta Development Council (NADC) regularly engages with northerners to identify emerging issues, opportunities, and partnerships to advance the north. For the NADC, hosting the Industrial Hemp and Flax Opportunity Seminar aligned with Council's goals to ensure: strong, vibrant northern communities; a skilled and educated workforce; and a diversified northern economy. These Opportunity Seminars advance biomaterials projects and identify related challenges and opportunities specific to northern Alberta.

Through research, development of initiatives, and stakeholder engagement among interested partners, the event planning committee included representatives from:

- Northern Alberta Development Council
- Alberta Agriculture and Forestry
- InnoTech Alberta (formerly Alberta Innovates Technology Futures)
- Alberta Economic Development and Trade (Entrepreneurship & Regional Development)
- Conseil de développement économique de l'Alberta (CDEA)
- Northern Alberta Regional Economic Development Alliances (REDAs):
  - Northeast Alberta Information Hub Ltd. (Alberta HUB)
  - Grizzly Regional Economic Alliance Society (Growth)
  - Peace Region Economic Development Alliance (PREDA), and
  - Regional Economic Development Initiative for Northwest Alberta (REDI)

Approximately 70 delegates attended each session in St. Paul and Whitecourt, including representation from:

- Agricultural Societies and Boards
- Agricultural Business Development Specialists
- Northern Alberta Farmers and Residents
- Municipal leaders
- Local governments
- Economic Developers
- Small and Medium Sized Entrepreneurs
- Indigenous Communities
- Regional Economic Development Organizations
- Educational Institutions
- Business Support Agencies

The seminar delivered the following outcomes:

- Shared results on the current research regarding the nutritional data for northern Alberta and Canada flax/hemp industry, grown under northern prairies conditions;
- Information on the potential market access and global supply chain for Alberta's bio fiber-food;
- Highlights regarding the advancement of industry technology and innovation;
- Resources and supports to encourage business and economic development strategies;
- A list of strategic issues that impact growth in northern Alberta;
- Information on how to access education on the product, relevant research and technology development; and
- Information on potential funding sources, and how to access.

## Participant Feedback

A participant evaluation conducted before and after the Industrial Hemp and Flax opportunity seminars demonstrated an approximate 45% increase in participant's knowledge about the opportunities for industrial hemp and/or flax production in northern Alberta, and an approximate 52% increase in awareness of the value and demand for industrial hemp and/or flax.

In addition, seminar participants identified interests and opportunities for greater regional industry development as follows:

- Exploration of northern and central Alberta for fibre market potential from bio-fibre to food production.
- Exploration of opportunities to form regional/provincial alliances and co-ops.
- Identification of appropriate harvesting equipment and share knowledge in relation to infrastructure, storage and marketing.
- Provide continued education, opportunities to network and engage, and develop contracts among producers and manufacturers.

## Recommendations

The NADC supports several recommendations resulting from the Industrial Hemp and Flax Opportunity Seminars:

- Support the movement towards reducing federal government regulatory barriers that link industrial hemp to marijuana.
- Develop provincial legislation to avoid unnecessary constraints in this sector, thorough support and consultation with various industry representatives.
- Expand future development of industrial hemp and flax industry to support provincial sustainable rural economic development and diversification.
- Encourage continued funding towards Alberta Agriculture and Forestry, Economic Development, and Alberta Innovates/Innotech Alberta in delivering programs and services, and in participating in collaborative initiatives to advance the bio-food and fibre industry.

## Emerging Opportunities

Industrial hemp and flax is a rapidly growing bio-food and fibre sector in Alberta. Both offer a wide range of existing and potential uses for food, natural health products, textiles, building materials, and industrial products. Industrial hemp and flax could play a key role in a diversified sustainable economic option for rural Alberta.



*"Flax offers great potential for the entire supply chain from the producer to the consumer."*

Presently there is no use for flax straw after seed harvesting. Flax straw left on the ground decomposes slowly, causing problems managing next year's crop. InnoTech Alberta carried out preliminary research on winter retting (natural preparation of fibres from low or freezing temperatures in the fall) of flax straw and fiber processing in their decortication facility. These activities attracted the attention of the textile and construction industry interested in the utilization of unexploited post-harvest residues. Flax fibers are used for the manufacture of high quality linen fabrics and other industrial products.

Northern Alberta possess the advantage of geographies that are unique for industrial hemp production and other dual-use food and fibre crops such as flax, which are suitable for growth in a narrow temperate climate band that crosses through Western Canada, which experiences long daylight hours in the summer and low or freezing temperatures in the fall for natural preparation of the fibres (retting) for harvesting and processing. Access to a global hemp and flax fiber market provides two additional high-value rotation crops that can also boost seed and oil exports for farmers.

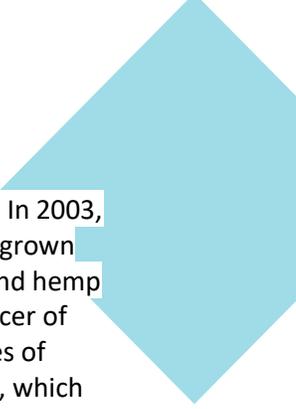


*"Hemp production is a fantastic opportunity, and one that will pursue on our farm."*

According to the Flax Council of Canada, the flax industry contributes approximately \$300 million annually to the Canadian economy. However, only about 9% of Canadian flax is currently produced in Alberta, with most of the production being concentrated in southeast Saskatchewan and southwest Manitoba<sup>1</sup>. However, Alberta flax acreage has been increasing, with average flax acreage over the past 5 years of 70,000 acres. Alberta flax production is ramping up as markets have shifted from Europe to China; China is currently our largest export market (47% of export market share of Alberta flax based on a 5-year average from 2012-2016). 93% of Alberta flax is exported to China, Belgium and U.S.A. and new markets are emerging in Korea, Germany and the Netherlands.

Preliminary research carried out by the NADC and InnoTech Alberta (formerly AITF) has demonstrated promising early maturing lines that could serve as breeding material for the development of flax varieties in a number of regions in northern Alberta. The NADC has partnered with InnoTech Alberta and committed funds towards the Biochemical profiling of selected lines/varieties of northern adapted flax and full utilization of Alberta's flax fibre project for the period of February 2016 to March 2018.

<sup>1</sup> Source: <http://www.nadc.gov.ab.ca/Docs/Early-Maturing-Flax.pdf>



Similar to flax, hemp has also shown great potential for northern Alberta growers and investors. In 2003, over 6,700 acres were grown across Canada, primarily in the Prairie Provinces. The industry has grown substantially since then. In 2015, over 84,000 acres of land were licensed for hemp cultivation and hemp has been grown with success all across Canada, from coast-to-coast.<sup>2</sup> Alberta is the lead producer of industrial hemp in Canada, followed by Manitoba and Saskatchewan. In Alberta the 32,000 acres of hemp grown are grain crops. The rest of the crop including the straw and hulls are left as waste, which have an incredible potential value to be realized.

Currently, Alberta industry supporters are working to address market constraints, including:

- Regulatory licensing (Health Canada);
- Development and commercialization of new hemp and flax products through research and innovation;
- Increased awareness of the product, best practices, licensing, cultivation and harvesting, etc.;
- Consideration for Alberta based processing plants (i.e., decortication) and handling facilities, as well as crop production specifications;
- Producer and manufacturing interest; and
- The attraction and securing of global markets - identifying volume and quality requirements;

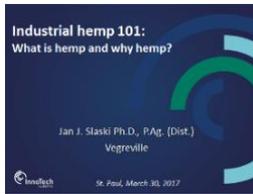
The Alberta Government invested in the **Pilot Decortication Facility** at Vegreville to aid innovation and development of products using renewable fibres for a variety of markets. This facility has the ability to commercially process straw through the \$4 million 1 tonne/hour capacity decortication line.

Many industries, including construction, food, textile, and automotive, are looking for new growers and partners to support the increasing market demands for flax and industrial hemp. Communities need to remain informed of the emerging opportunities available today, and in the future, in order to prepare for new business and growth prospects. Developing and supporting existing businesses and entrepreneurs in northern Alberta through education, innovation, and connectivity may be an answer to diversifying the economy and creating a resilient future for the north.

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<sup>2</sup> Sources: [www.hemptrade.ca](http://www.hemptrade.ca) and Canadian Hemp Trade Alliance (CHTA).

## Presentation Summaries



### Industrial Hemp and Flax 101 - Part 1

*Dr. Jan Slaski – Agronomist  
InnoTech Alberta*

*What is Hemp and Why Hemp? In 1938, the Opium and Narcotic Act banned cultivation, possession and processing of hemp in North America, resulting in a 60 year knowledge gap that became evident when, in 1998 Health Canada restored the ability to grow and supply hemp products to the market.*



### Industrial Hemp and Flax 101 - Part 2

*Dr. Jian Zhang – Agronomist  
InnoTech Alberta*

*BioFibre Food for Northern Alberta Economy  
Flax is a great opportunity for agricultural sustainability and diversification for our northern Alberta economy. There is a need to recognize the full value of the opportunity for biofibre food in local, national and international markets.*



### Pathways to Agri-Value Success: Alberta Programs and Services

*Patti Breland – Industry Development Officer, Biomaterials and BioProducts*

*Alberta Agriculture and Forestry  
This team at the Alberta Ministry of Agriculture and Forestry is focused on maximizing the value of Alberta's bio-based resources by working with producers and manufacturers to create value fibre supply chains and working with other government ministries when needed.*



### Flax Market Outlook

*Neil Blue – Provincial Crop Market Analyst  
Alberta Agriculture and Forestry*

*General trend is rising in flax production and exports. Average flax export value is \$350 million Canadian and \$35 million from Alberta. Flax is currently economically competitive with other crops.*



## Capture Marketing Opportunities for Flax and Hemp – Part 1

Lori-Jo Graham - Biomaterials Lead

Alberta Agriculture and Forestry

*Hemp is a natural bio refinery; the entire plant can be used for a multitude of applications. Industrial hemp market opportunities continue to build including a number of growing success stories among Alberta's industry.*



## Capture Marketing Opportunities for Flax and Hemp – Part 2

Krista Kotlak – Field Crop Business Development Agrologist

Alberta Agriculture and Forestry

*The flax industry update 2012 report "Global Demand for Flax is Growing: We'll be Ready" stated that the North American use of flaxseed in baked goods has tripled in the past decade, increasing industry demand.*



## Northern Alberta Industrial Hemp and Flax Production – Part 1

Francois Catellier – Agricultural Business Advisor

Eco-Ouest (on behalf of CDEA)

*Eco-Ouest is contracted by CDEA for the Northern Alberta Hemp Procession Initiative (NAHPI). The project will explore the feasibility and sustainability of a hemp processing plant in northern Alberta; build on optimizing fibre processing, create commercial samples to potential buyers around the world, and establish contracts with potential buyers.*



## JustBioFibre Structural Solutions Corp.

Terry Radford - President

JustBioFibre Structural Solutions Corp.

*JustBioFibre, located in Calgary, AB develops and manufactures sustainable building systems. Their innovative product is designed as a modular block wall system that is assembled by stacking interlocking blocks and the application of a bonding material between adjacent blocks and courses.*



## HEMPCO Canada

Charles Holmes – CEO

HEMPCO Canada

*HEMPCO started as a small family company. They have grown an international customer base to countries such Korea, USA, Germany, UK,*

Japan, Mexico, and soon China. HEMPCO's primary processing facility is located in Manitoba and has recently expanded operations in Nisku.



### Haotai Linen / Blue Mountains Ltd.

Shiming Wang – General Manager  
Haotai Linen / Bluemts Ltd.

Haotai Linen is a textile firm based in China, specializing in linen processing and provides fabric supply for companies such as Zara, H&M and others. Blue Mountains Ltd. was founded in Alberta in 2013 to focus on fully utilizing Alberta's vast supply of biofibre including flax and hemp for textile industry.



### Northern Alberta Story – 8th Fire Innovations

Dion Lefebvre - Owner  
8th Fire Innovations

Discussion on the potential of industrial hemp as a bio-mass in North America as well as some common threats, health and safety risks in housing today, the efficiency of hempcrete homes, and the opportunities and challenges advancing this industry.



### Growing Our Northern Alberta Potential...What to Know and Next Steps

Dr. Jan Slaski - Agronomist  
InnoTech Alberta

InnoTech Alberta, Vegreville research facility supports program activity from seed to final product. Their research continuum includes feedstock development, fibre processing, bio composite research and market development.



- 33% of self-described agriculture producers expressed interest in planning to grow industrial hemp and/or flax within the next two years; and 20% as a rotational crop.
- 43% of respondents identified that policy and regulations as the primary obstacle preventing the advancement of the hemp and/or flax market in northern Alberta
  - 15% respondents identified equipment and technology; and
  - 15% identified education and awareness.
- 46% respondents stated interest in supporting the growth of hemp/flax market while identifying the following priorities:
  - Processing Plants,
  - Northern Alberta Demonstration or Pilot Projects,
  - Research and studies,
  - Collaboration with industry, business and community cooperatives, and
  - Business and community cooperatives

### Recommendations:

The NADC supports several recommendations resulting from the Industrial Hemp and Flax Opportunity Seminar. Council recommends that the Government of Alberta support:

- Change towards current policy and regulations, and consultation with various industry representatives to encourage expansion of the hemp and/or flax market.
- Future hemp and flax industry related projects towards sustainable rural economic development and diversification (i.e. processing facility and/or special pilot project development(s) in northern Alberta).
- Cross ministerial collaboration to increase awareness and support the hemp and flax market and bio-food and fibre industry developments in northern Alberta through the delivery of programs, education, training, and special projects.

# Appendices

## Appendix A: Additional Resources

### Information Titles and sites

- [Education Toolkit](#)
- [Canadian Hemp Trade Alliance – Hemp Production e-Guide](#)
- [Flax Council of Canada – Growing Flax Publication](#)

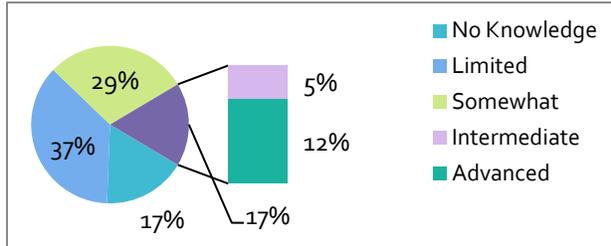
### Organizations

- [Canadian Hemp Trade Alliance](#)
- [Flax Council of Canada](#)
- [Alberta Agriculture and Forestry](#)
- [InnoTech Alberta](#)

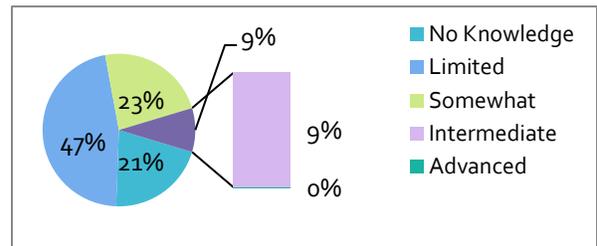
# Instant Poll Technology Results

How would you describe your knowledge of opportunities for industrial hemp and/or flax production in northern Alberta?

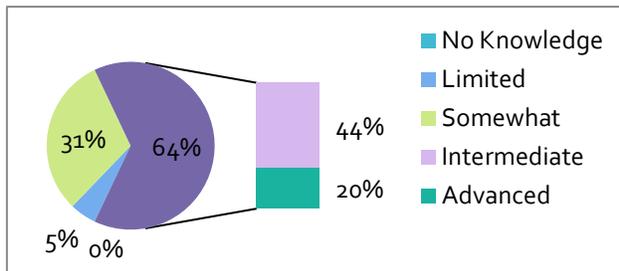
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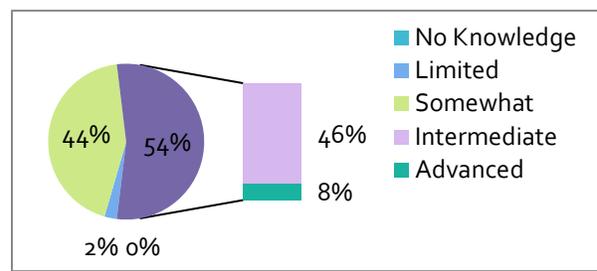
Whitecourt



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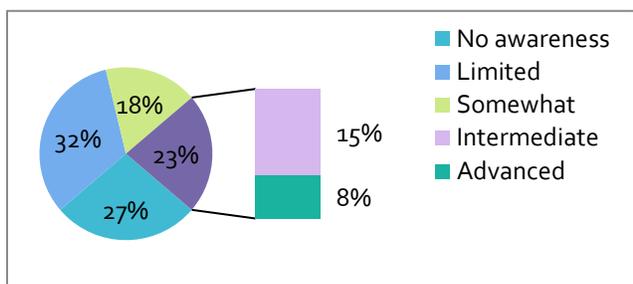


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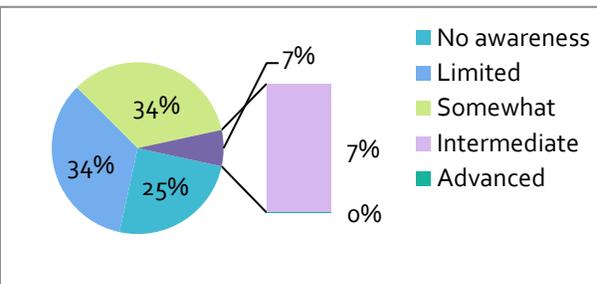


What is your awareness of the market value and demand for industrial hemp and/or flax?

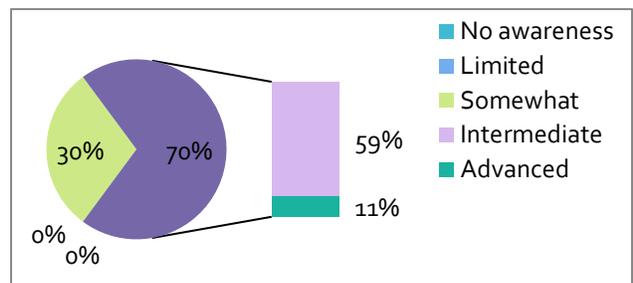
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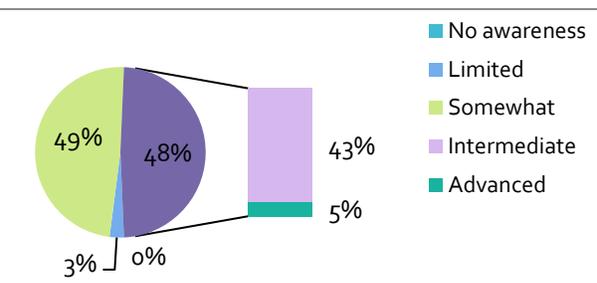
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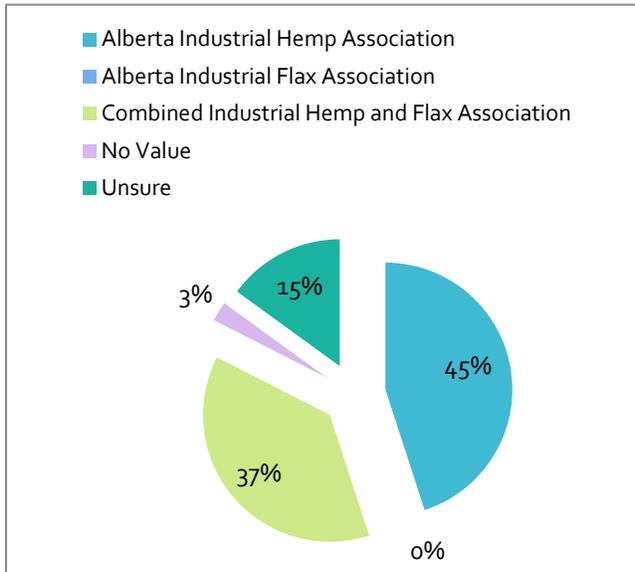


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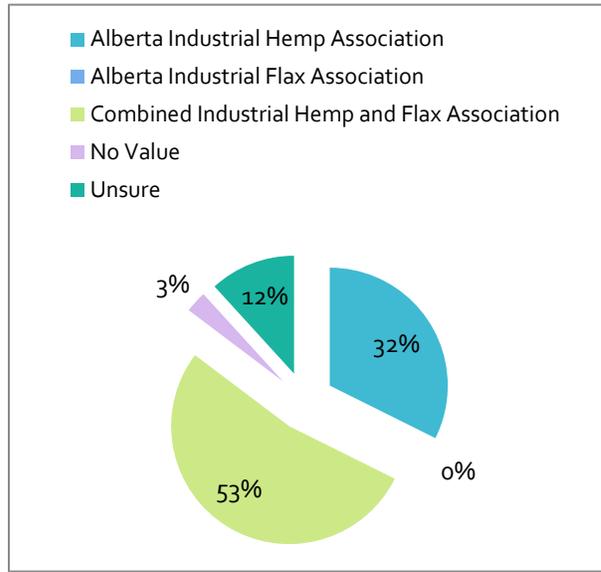


Do you feel there would be value in an Alberta Industrial Hemp Alliance? An Alberta Flax Alliance? Or a combined Hemp/Flax Association?

St. Paul

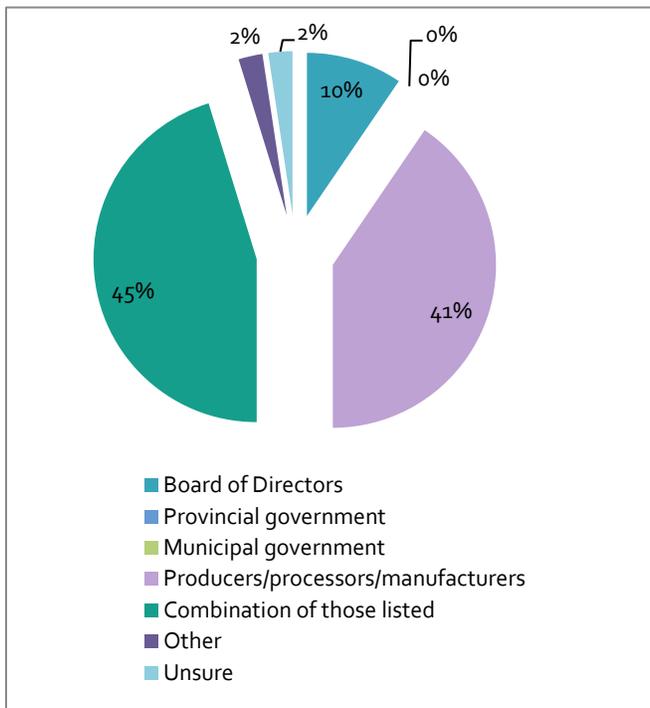


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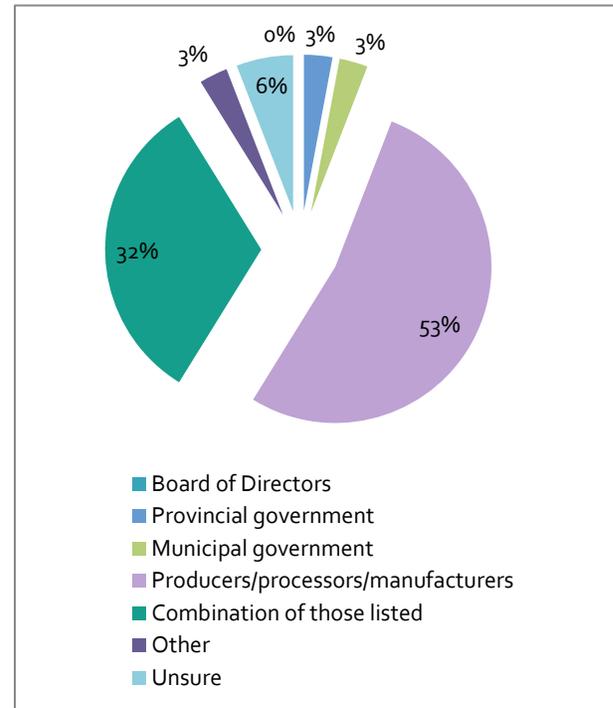


If yes, who do you see as taking the lead?

St. Paul

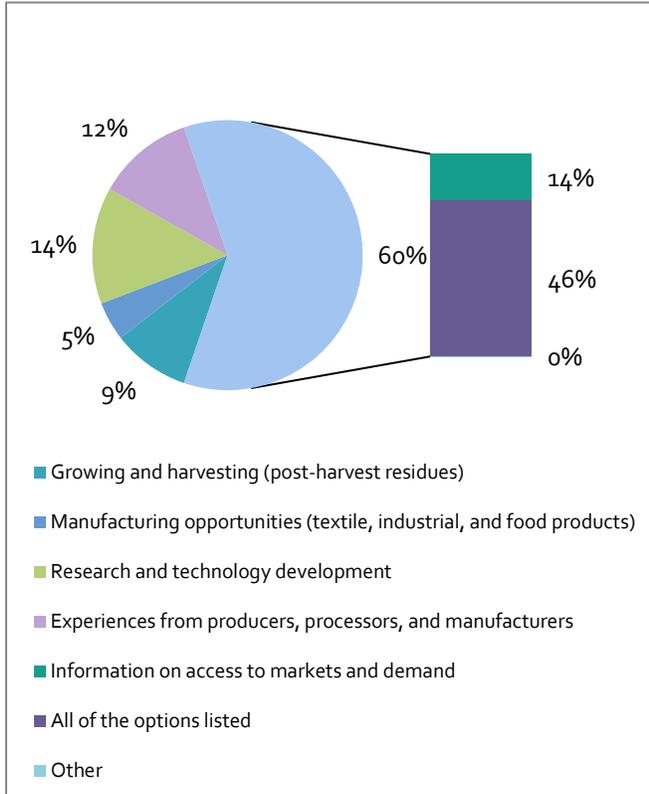


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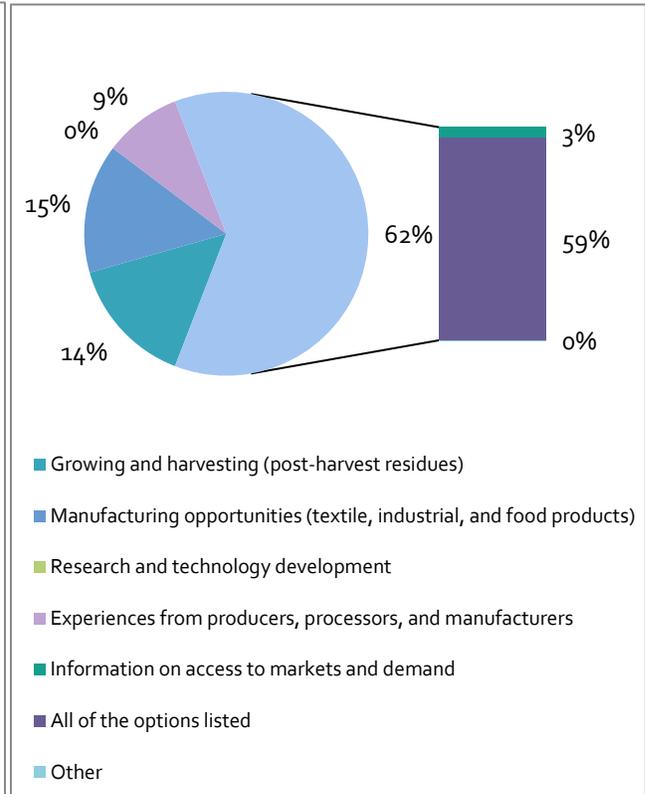


## What are you most interested in learning more about?

St. Paul

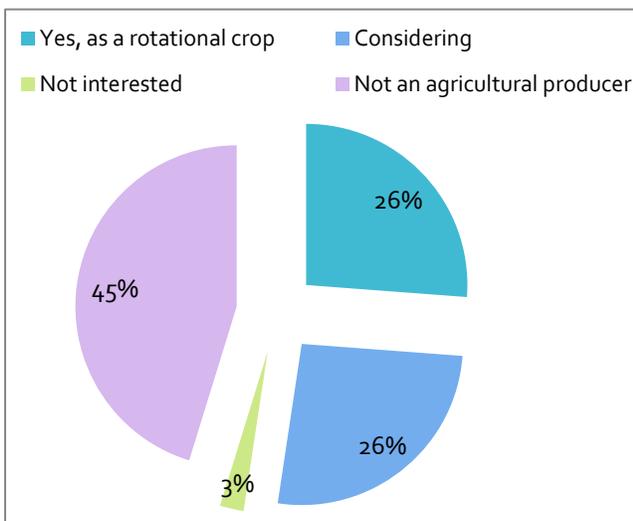


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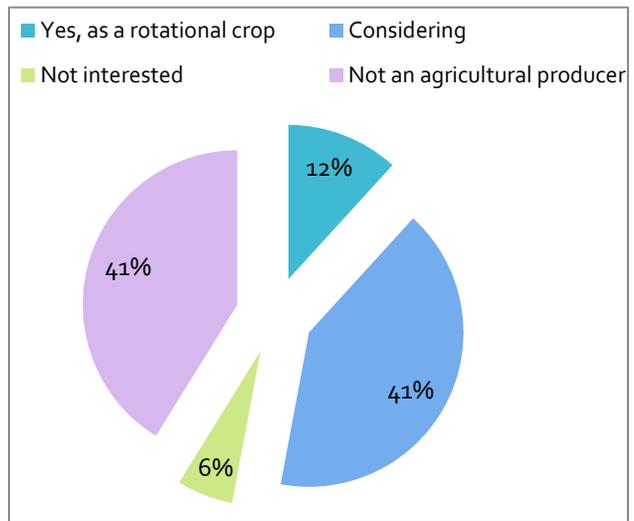


## If you are an agriculture producer, are you interested and/or plan to grow industrial hemp and/or flax within the next two years?

St. Paul

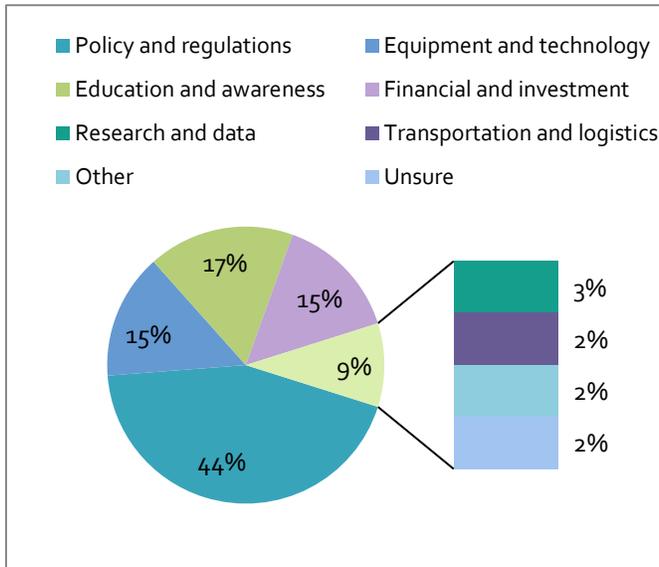


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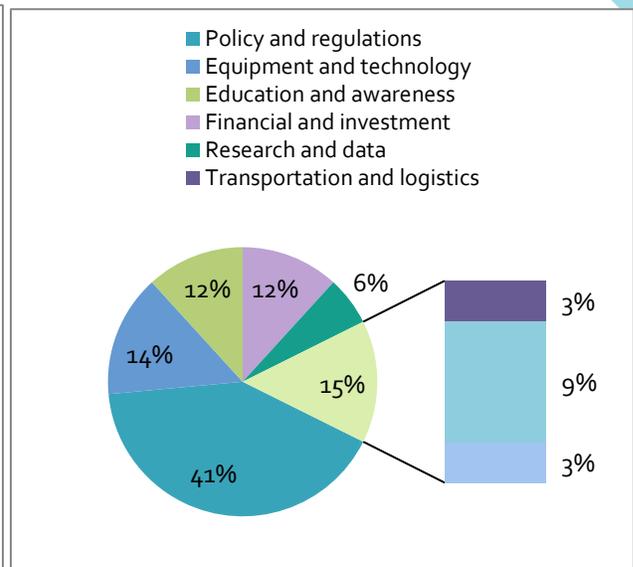


## What do you see as being the primary obstacle preventing the advancement of the hemp and/or flax market in northern Alberta?

St. Paul

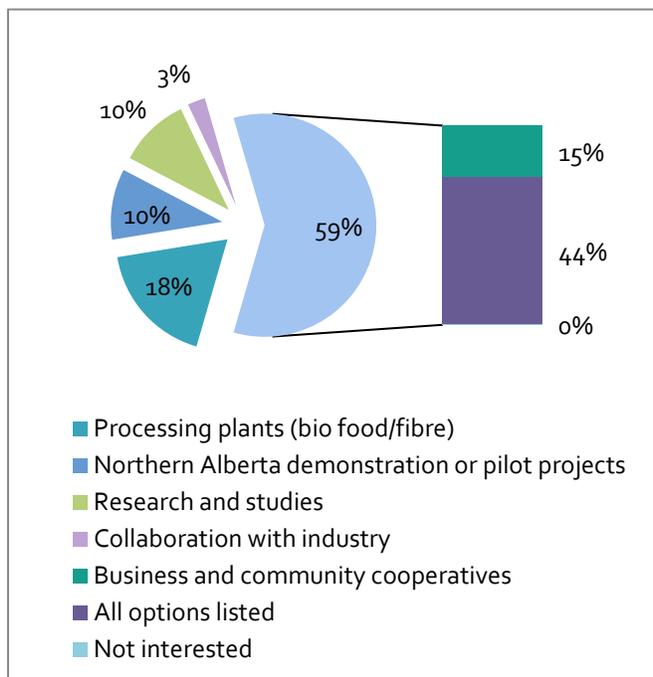


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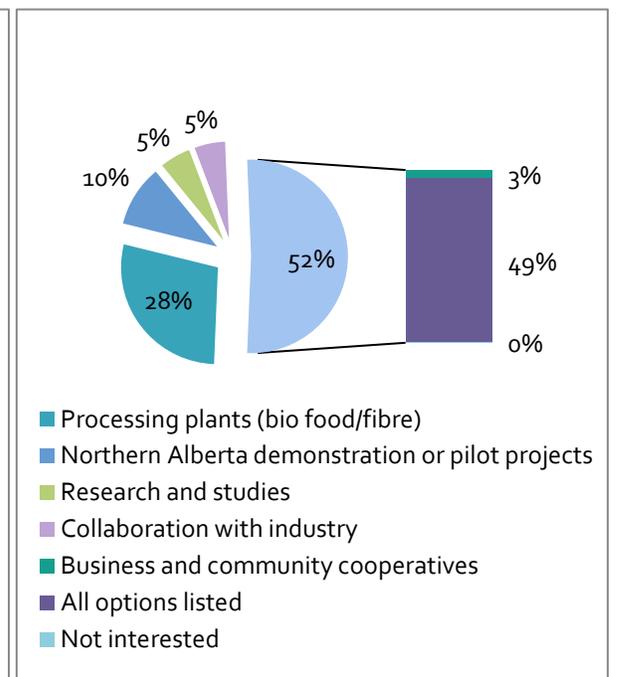


## What area would you like to see supported the most to help develop the hemp and or flax market?

St. Paul



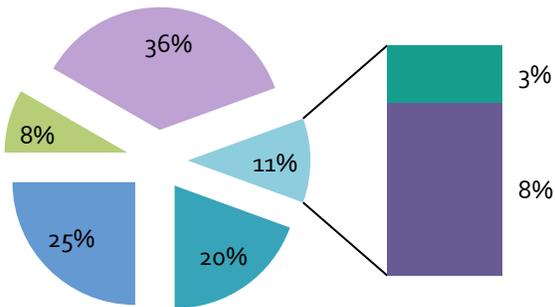
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Are you interested in supporting the growth of the hemp/flax market to support economic diversification in northern Alberta? If yes, what area would you prioritize?

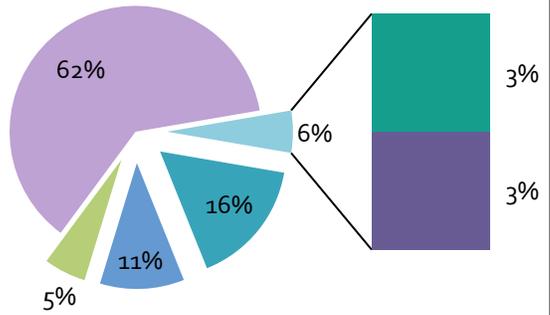
St. Paul

- Yes, producing/growing crops
- Yes, manufacturing/product development
- Yes, expanding into national and international markets
- Yes, all of the above
- Not interested
- Undecided



Whitecourt

- Yes, producing/growing crops
- Yes, manufacturing/product development
- Yes, expanding into national and international markets
- Yes, all of the above
- Not interested
- Undecided



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