

# **Industrial Hemp Overview and Market Opportunities**

**Vermilion, Alberta February 6, 2018**

**Vegreville, Alberta February 8, 2018**

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Lori-Jo Graham, Biomaterials – Lead**

**Alberta Agriculture and Forestry**

# Presentation Outline

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**1. Overview Industrial Hemp Industry**

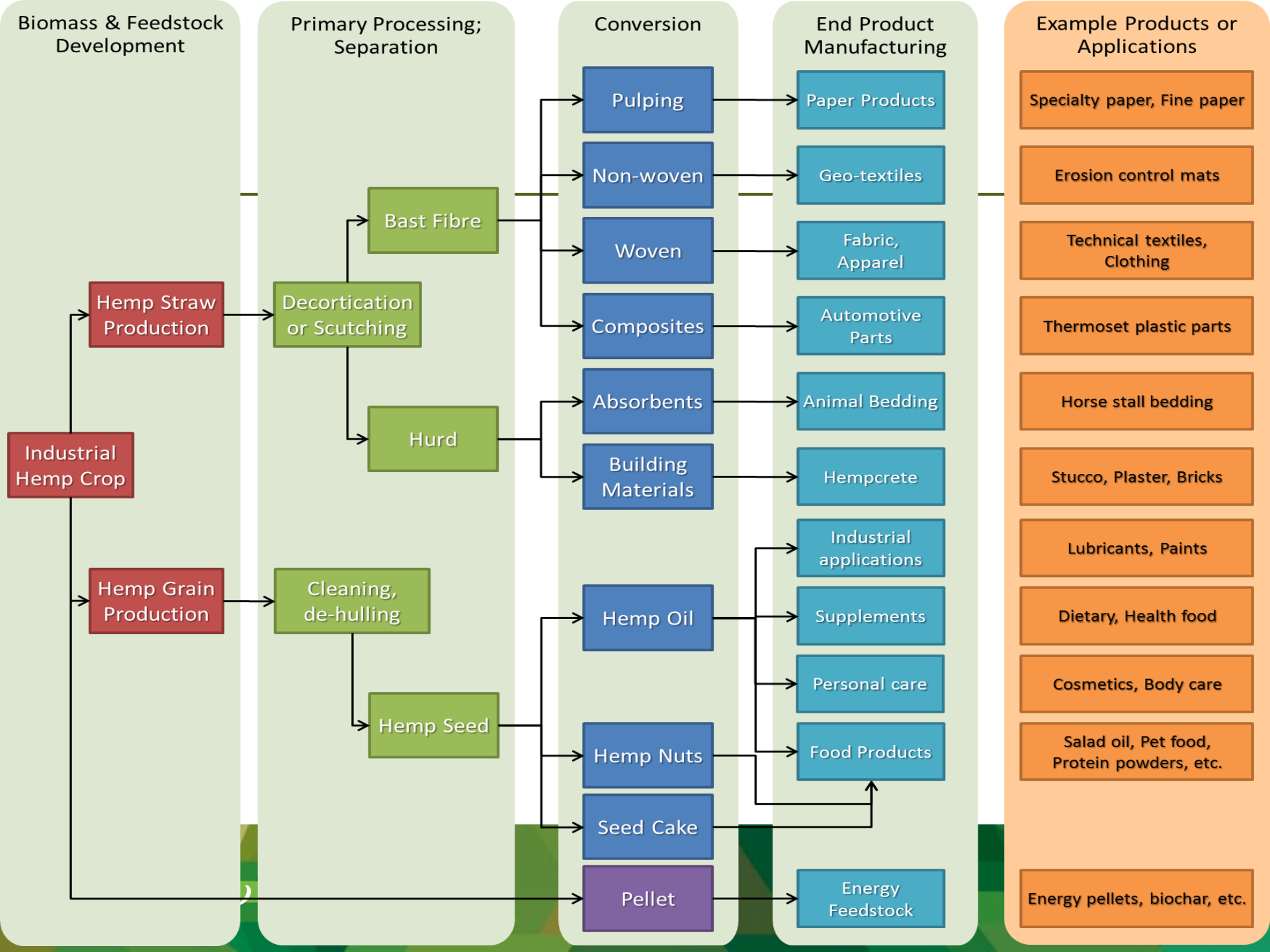
**2. Hemp Market Opportunities & Future Outlook**



# What is Industrial Hemp?



**Cannabis plants and plant parts, of any variety, that contains 0.3% tetrahydrocannabinol (THC) or less in the leaves and flowering heads.**



# Hemp Processing in Canada

**STALKS**



**Hurd**

**Fibre**



**Dust Fraction**

**SEEDS**



**Hulls**

**Oil**

**Protein**



# An Environmental Super Star

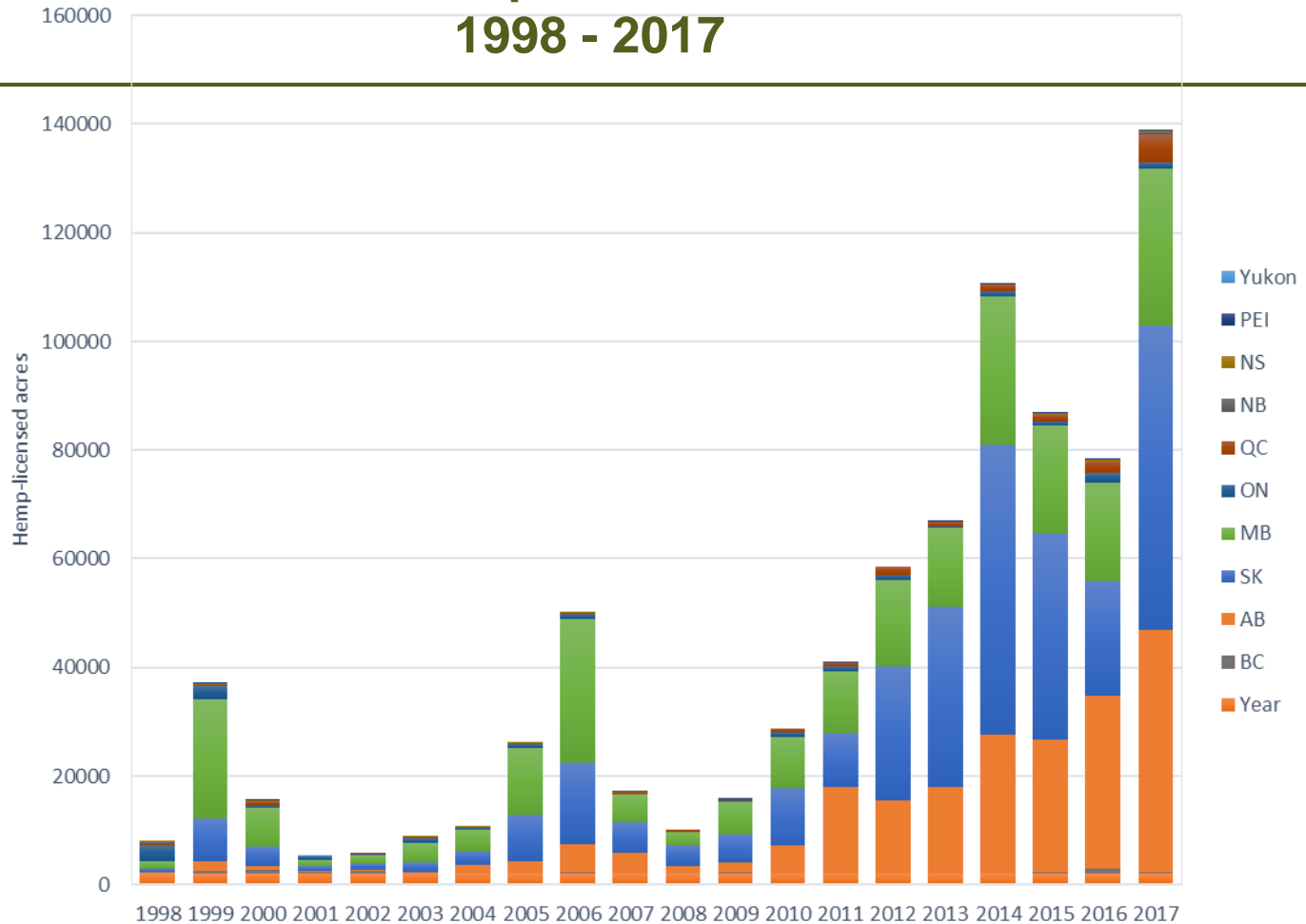
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## Hemp is...

- the first and strongest natural fibre cultivated.
- the second fastest growing land plant on earth.
- unlike cotton, it can be grown without chemicals or pesticides.
- processed mechanically without the use of chemicals, no effluent.
- valuable in rotations, it helps control disease & adds to nutrient cycling.
- due to its strong tap root, it is beneficial to disturbed or impacted lands.
- carbon negative -sequesters 5 X more than equivalent acres of forest.

# Canada Hemp Acres Based on Provincial Hemp Production Permits: 1998 - 2017



Source: Health Canada and Alberta Agriculture & Forestry

# You Need a License to Grow, Store & Process Seed


You need a license from Health Canada to grow. For growers, this includes:

- Criminal record check
- GPS coordinates of fields
- For corporations, your certificate of incorporation

Contact the Industrial Hemp Section for a copy of the Application for an Industrial Hemp Licence

[hemp@hc-sc.gc.ca](mailto:hemp@hc-sc.gc.ca)

Industrial Hemp Section  
Authorizations Division  
161 Goldenrod Drwy  
AL 0300B  
Ottawa ON K1A 0K9

 Health Canada Santé Canada

Your health and safety... our priority. Votre santé et votre sécurité... notre priorité.

Healthy Environments and Consumer Safety Branch  
Office of Controlled Substances  
November 2016

APPLICATION FOR AN INDUSTRIAL HEMP LICENCE  
(disponible en français)

Have you previously been licensed or authorized under the Industrial Hemp Regulations?  
 YES  NO File Number 9636-S-\_\_\_\_\_

Do you currently possess industrial hemp from a previous year?  
 YES  NO

**SECTION 1: APPLICANT INFORMATION**

<input type="checkbox"/> Mr.	<input type="checkbox"/> Ms.	Surname	Gender	<input type="checkbox"/> Male
<input type="checkbox"/> Mrs.	<input type="checkbox"/> Miss			<input type="checkbox"/> Female
First Name		Second Name	Date of Birth (Year/Month/Day)	
Mailing Address (Include PO Box, if applicable)			Address Line 2 (RM, District, County, etc)	
City/Town		Province	Postal Code	
Telephone Number	Fax Number	Email Address		
Preferred Language of Communication <input type="checkbox"/> English <input type="checkbox"/> French		Preferred Method of Communication <input type="checkbox"/> Telephone <input type="checkbox"/> Email		

**SECTION 1.1: CORPORATE INFORMATION**

Corporate Name:

If the applicant is a corporation, cooperative, or partnership, the following must be attached to the application form, where applicable:  
For renewal applicants, are there changes to the corporation information from the application submitted in the previous year?  
 No (proceed to Section 1.2)  Yes (proceed below)

For new applicants, or renewal applicants who answered 'yes' above, please attach the following:  
 copy of the certificate of incorporation or other ~~constating~~ instrument; or  
 copy of any document registering with a province the name and style under which it operates or intends to operate; or  
 evidence of partnership agreement.

Canada 

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# Bio-Industrial Resources Available

## Pilot-Scale Decortication Facility

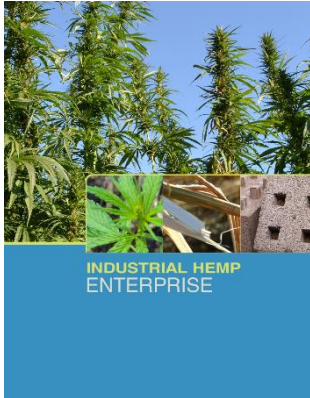


**Bast**



**Hurd**

# Resources



**Industrial Hemp Enterprise** can assist producers with an overview: of industrial hemp industry from regulatory, seeded acreage, marketing, environmental benefits, licensing, growing and harvesting hemp to economics.

**Industrial Hemp Cost of Production**  
Provides 2015 estimated cost of production and returns for dryland and irrigated hemp seed grown in Alberta

INDUSTRIAL HEMP SEED  
PRODUCTION COSTS  
AND RETURNS IN  
ALBERTA, 2015

ARD External Release

Alberta Agriculture and Forestry  
Economics and Comprehensiveness Division  
800  
Food and Bio-Processing Branch



Growing Forward 2.0

Alberta

Canada



**Industrial Hemp Harvest and Storage**  
Outlines growers, processor, and research experiences on the Prairies to help guide harvest and storage practices to ensure quality requirements. Also includes three pre-harvest and harvest videos of industrial hemp in Alberta.

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# Canadian Hemp Trade Alliance



## Hemp Production eGuide

Designed to support experienced producers with industrial hemp production.



- **CHTA is a national organization that promotes Canadian hemp and hemp products globally. Members include; farmers, processors, manufacturers, researchers, entrepreneurs and marketers.**
- **Pacific Rim Hemp Conference  
JULY 18-19, 2018  
Website: [Hemptrade.ab](http://Hemptrade.ab)**



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# New Crop Insurance Initiative (NCII)



- **Dryland hemp seed and dryland & irrigated hemp fibre is covered under “New Crop Insurance Initiative (NCII)” in eligible coverage areas**
- **To be eligible, producers need an active annual crop production insurance contract with insured acres in the current year**
- **Also may be eligible for hail endorsement, check with AFSC in your area**
- **Indemnity's are calculated based on losses on insured crops under your current year's crop insurance subscription**

# Getting Started in Growing Hemp

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- **Grow only with a CONTRACT!!**
  - Demand depends on the market
  - Check for grain contractors on CHTA website and with other growers in your area
- **Global Competition in this Emerging market**
  - Ebb & flow of demand affects your production
  - Can affect your crop rotation plans
- **Need to learn how to grow, manage and store crop**
  - CHTA Hemp Production eGuide & other growers to mentor you



Hemp Production eGuide



Designed to support experienced producers with industrial hemp production.

# New Cannabis Act and Hemp

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- In April, Health Canada introduced Bill C-45, the Cannabis Act.
- The Act will cover medical and recreational cannabis and industrial hemp.
- Public consultation period closed late January 2018.
- The Cannabis Act is expected to be enacted in July, 2018.
- Modernization of licensing and whole plant utilization will result in new market opportunities.

“It is proposed that industrial hemp licences would authorize the intra-industry sale of leaves, branches (or the whole plant)”.



# Hemp Blueprint in Canada

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Canadian Hemp Trade Alliance projects....  
**by 2023 hemp will be a \$1B industry in Canada.**

**Canadian Hemp Industry is \$ 340 M Today** (CHTA 11/2017)

Four Pillars:

- **Food** – well developed in Canada, and still growing
- **Fibre**– lots of interest, but to generate momentum
- **Feed** – strong potential, need to gain regulatory approvals with CFIA
- **Natural Health Products** – strong potential, currently limited by tight restrictions of Industrial Hemp Regulation Act



# Value of Processed Grain Products

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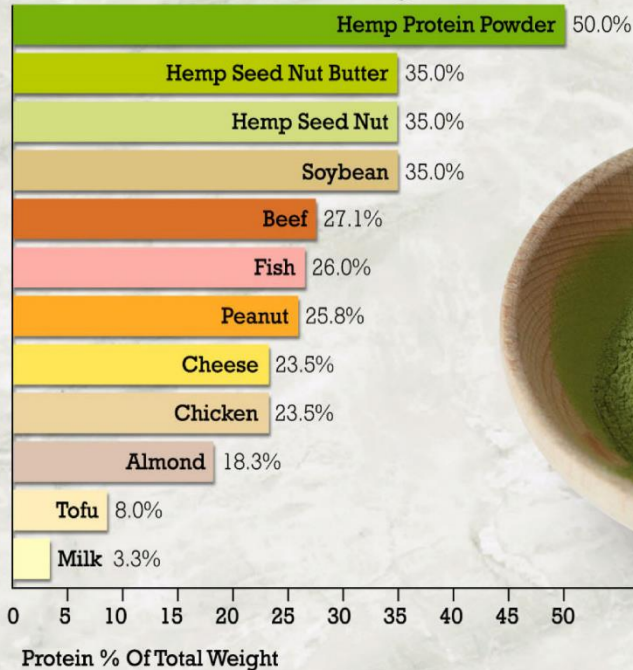
- **Canada is the world's largest producer of food-grade hemp. Hemp exports \$146 M in 2016.**
- US market for all hemp product imports grew from \$2.8 M in 2000 to \$78 M in 2015.
- **Majority of seeds produced in Alberta exported to the United States (often via Manitoba). 95% of the hemp seed US imports come from Canada**
- Growing global demand- Asia
- **Global competition expanding: China, India and now Australia**





# Hemp is a “Super Food”

## Comparison of Dietary Proteins



**50%**  
protein  
power



Your complete protein, power packed with essential amino acids. Easy for the body to digest and assimilate.



# “A Wonder Ingredient” Personal Care & Cosmetics

*“The cannabis skin-care universe is growing by leaps and bounds as long-established companies including **the Body Shop** and **Dr. Bronner's Magic Soaps** expand their product lines, while newcomers hustle to make their mark in this budding beauty segment.”* Los Angeles Times 04/17



**HEMPZ** body care  
ENRICHED WITH 100% PURE ORGANIC HEMP SEED OIL



- Omega benefits include soothing and restoring skin & “moisture locking”
- Protein and hemp waxes in demand
- GLA potential as natural sunscreen
- Protein and hemp waxes in demand
- Hemp is naturally antibacterial
- Industry wants to source organic

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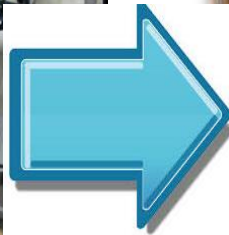
# “A Material of Interest” Fibre/Bio Industrial

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- First established in Europe
- US Hemp fibre imports - US \$3 M 2016
- **Oil Seed:** biocleaners, biodiesel, bioresins
- **Fibre:** automotive, construction, textiles, paper, absorbents & erosion control
- **Hurd:** livestock bedding, horticulture & absorbents
- **Driven by multiple factors**
  - Lightweight, excellent weight to strength ratio
  - High tensile and flexural strength
  - Anti-microbial and UV resistant, non-toxic alternative
  - Fast growing, and renewable

# Hemp Fibre / Bio Industrials: Processing & Manufacturing Expanding



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# Bio-Actives – CBDs & More



CBD Oil Creations Englewood, CO

- CBD's are non psychoactive cannabinoids
- Found in hemp leaves and flowers thought to trigger healing and have a pain killing effect
- CBD enriched health foods, tinctures and oil may become the next revolution in natural health products & medicines
- Requires significant regulatory approval and research to establish safety and efficacy

# Can we use Hemp for Feed?

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## Not Yet...

People can eat it!

You can feed it to your pets!

You may not feed to  
livestock; not an approved  
livestock feed.



# The Northern Advantage

- ✓ NA's largest R&D Decortication Facility - Vegreville
- ✓ Value- Adding expanding in the North
  - Hempco, GFR Ingredients, Gold Top, Biocomposites Group, 8th Fire Innovations
- ✓ Longer hours of sunshine & cooler nights
  - 30% increase in fibre
  - Higher concentration of Omegas
- ✓ Long dews- advances retting
- ✓ Regional economic and indigenous clusters
  - Northern Alberta Hemp Processing Initiative
  - Alberta Hemp Alliance



# Alberta Industrial Hemp Strategic Plan

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- ✓ Renewable, fast growing plant
  - ✓ Sequesters 5 times or more CO<sub>2</sub> than the equivalent acre of forest
  - ✓ Hemp markets are rising in N. America
  - ✓ Advancing whole plant utilization
  - ✓ USA - not a legal commercial crop
- **AGRONOMY**
  - **HARVESTING EQUIPMENT – Seed, Fibre, CBDs**
  - **HEMP PROCESSING – Decortication, Dehulling, Extraction**
  - **MARKET DEVELOPMENT and ACCESS**
  - **REGIONAL and INDIGENOUS CLUSTERS**





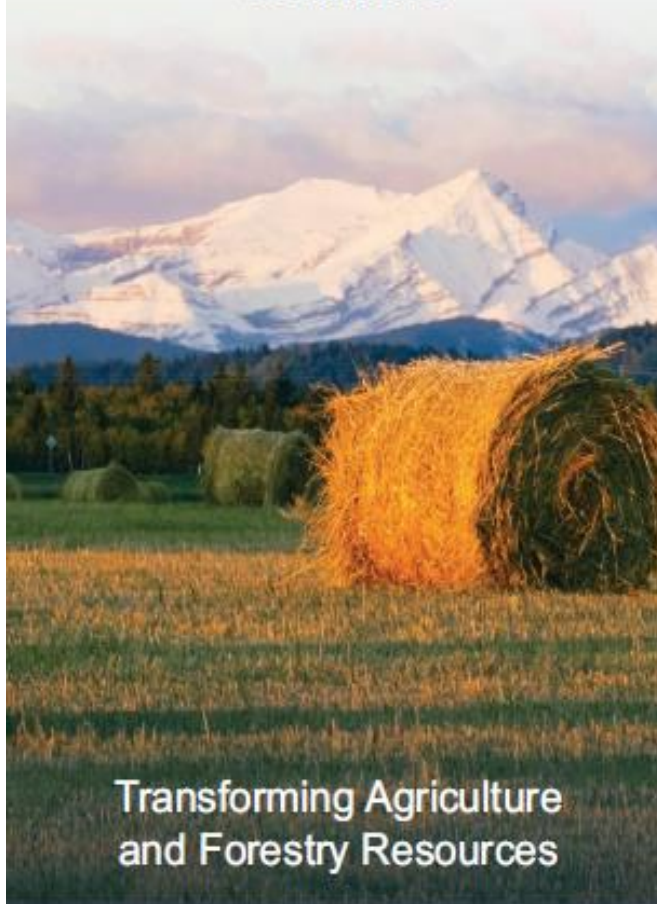
# Funding



## THE CANADIAN AGRICULTURAL PARTNERSHIP FOCUSES ON SIX PRIORITY AREAS:

- science, research and innovation
- markets and trade
- environmental sustainability and climate change
- value-added agriculture and agri-food processing
- public trust
- risk management

## Advancing Renewable Solutions



Transforming Agriculture  
and Forestry Resources

Feedstock Supply | Manufacturing  
Market Access

# Questions ?

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[agriculture.alberta.ca/bio-industrial](http://agriculture.alberta.ca/bio-industrial) |