Indigenous Agribusiness Workshops for Alberta

Agribusiness Opportunities for your Community

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Goals of a community based agribusiness

- To create employment and training opportunities for Indigenous community members
- To grow our own food for health, wellness and food sovereignty of community members
- To convert agriculture and food crops into value added products
- To make a profit and ensure long-term sustainable of all agribusiness ventures
- Develop opportunities that fit within Indigenous community vision and values

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How will this be achieved?

This can be achieved by:

- Developing opportunities that have an identified market opportunity - ***market pull*** *vs* ***market push***
- Being smart about agribusiness investments
- Complete due diligence and business planning before any investments are made- *avoid angels with dark wings-technology, market, governance and ownership, share structure and control, voting rights*
- Ensure community and members' interests are met and are included in the process
- Utilize existing assets to develop agribusiness opportunities (land, water, infrastructure, people, institutions)
- Developing profitable and sustainable agribusinesses- ROI is different for everyone and every circumstance
- Should be part of community development plans
- **THERE IS NO RUSH !!!**; don't ever feel pressured that you have to make a quick decision, that is usually a warning flag!

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What to do?

- Form an agribusiness committee; goals to identify opportunities within community for agribusiness
- First steps is to look at the assets and resources on the Nation;
  - What is your community interested in? Let's talk as a community first.
  - Community members
  - Land, on-reserve and off reserve lands- pasture, forested, cultivated agriculture lands
  - Water, water treatment plant, river, irrigation potential?
  - Buildings, can these be repurposed for other uses? Vegetable storage, community food processing kitchen, grain bins
  - Energy sources; any waste heat from pulp mills, hog fuel burning, oil and gas flares, geothermal
  - CO2; carbon capture and storage; partner with industry to purchase offsets-by 2030 CO2 offsets will be worth $170/tonne

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Bison Ranching

- Bison operations are similar to other livestock:
  - Cow-calf operations
  - Breeding stock operations
  - 'Gate to Plate' operations
- However, Bison require different handling
  - facilities need to accommodate stronger, taller animals
  - Several acres per head: 20 bison could demand 60 acres
- Bison butcher bulls (18-30 months)
  - Average Live Weight: 950-1250 lbs
  - Average Yield: 57% of Live Weight
  - Average Meat Yield: 450 lbs / carcass of very lean meat
  - Bison leather is excellent for shoes and accessories

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Bison Marketing and Sales

- **The Marketing Plan should be developed prior to investing as this determines the type of operation**
- **Meat bulls typically are top revenue**

Hydroponics

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WHAT YOU CAN **GROW**

Brassicas
5-6 weeks from seed
Ex: Broccoli and mustard greens

Asian Hearty Greens
6 weeks from seed
Ex: bok choy and water spinach

Microgreens
2-3 weeks from seed
Ex: red sorrel, chives, and mizuna

Herbs
8-10 weeks from seed
Ex: mint, dill, basil, and rosemary

Leafy Greens
4-6 weeks from seed
Ex: lettuce, kale, and chard

Cultural crops
Ex: Qungulit (Mountain sorrel)

Strawberries(beta)

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Green Automation

- Fully Automated System
- BABY LEAF LETTUCE
- The fully automated growing system is optimized for growing baby leaf lettuce, herbs and small head lettuces, that are to be sold cut. From substrate filling and sowing to harvesting and mixing, the plants are not touched by any human hands.
  A fully automated system for the cleanest, safest and freshest baby greens.
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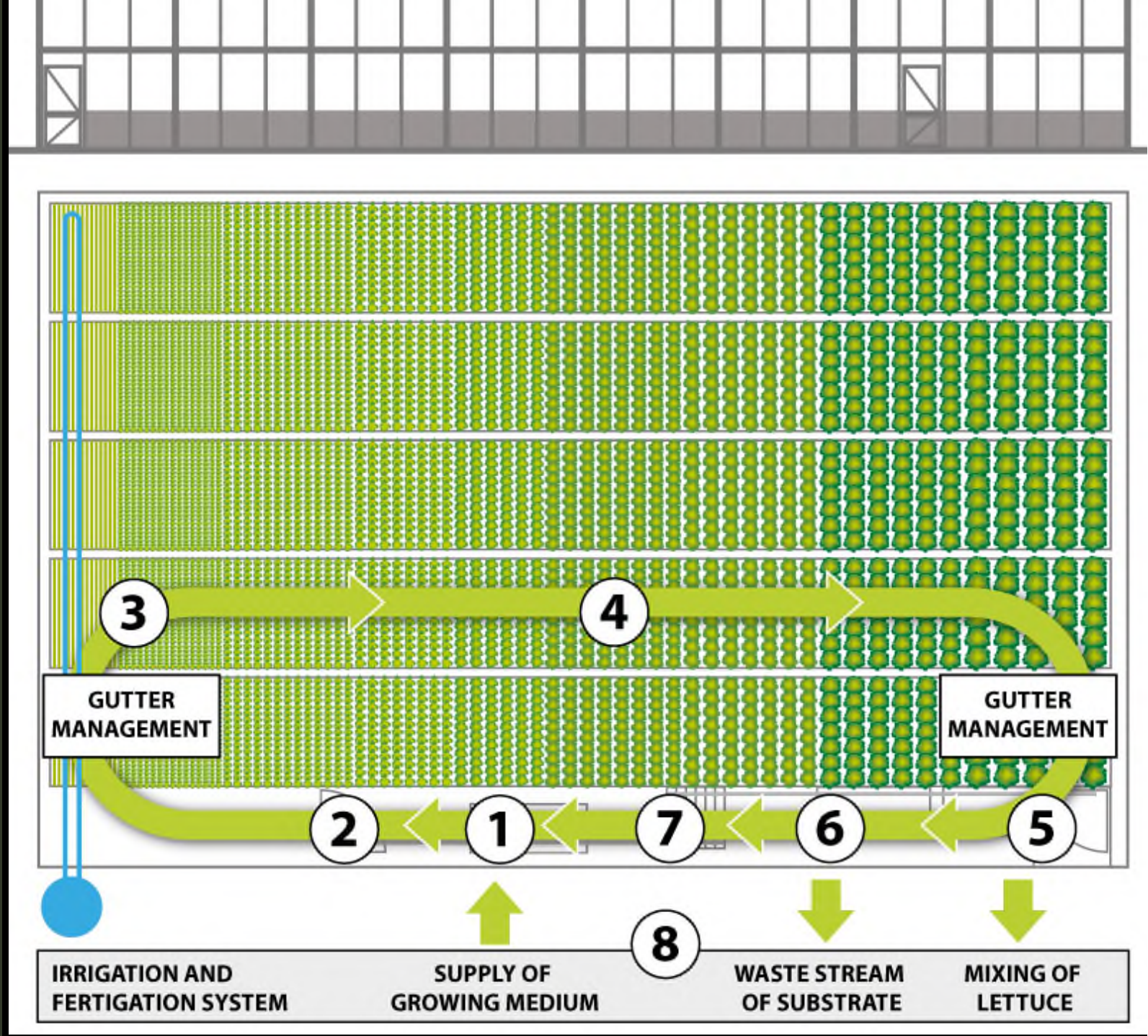
- **1. Medium Filling**
  2. Sowing
  Gutter Management
  3. Germination
  4. Growing
  Gutter Management
  5. Harvest
  6. Removal + Cleaning
  7. Buffer
  8. Additional Processes



Bio-based chemicals

What the Market Wants:

- The consumer is KING
  - Market opportunity for naturally derived ingredients is directly related to increasing global demand for renewable ingredients and biobased chemicals that are green, environmentally safe and sustainably produced – Social Licence
  - New, novel multi-functional actives
  - Science-based research is paramount
  - Traceability/Good Agriculture & Collection Practices (GACPs) and other standards important
  - Need consistent supply (quantity, quality and timeliness-shorter supply chains)
- Must Haves to go to Market:
  - First Nations "story" – traditional use
  - Anti-bacterial properties
  - Anti-ageing properties
  - Traceability

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Biochemicals Opportunities

Specialty Chemical/High Value Ingredients

- **Cosmetic and Personal Care Functions**
  - Anti-microbial/Anti-inflammatory/Anti-irritant/Anti-oxidant
  - Preservative
  - Solvents
  - Emulsions/surfactants
  - SPF Boosters
  - Thickeners
  - Silicone replacements/styling resins
- Biorefining side streams
  - As intermediates for other ingredients
- Industrial and Household Cleaning
  - Surfactants/detergents
- Perfume/Fragrance
- Pharmaceutical/Nutraceutical
- Food and Feed

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Industrial Biochemicals Opportunities

- Renewable Chemicals for the Oil Patch
  - Drilling muds
  - Surfactants
  - Solvents
  - De-icers
  - Rust inhibitors
- Industrial Chemicals
  - Solvents
  - Coatings

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- Hawthorn - Crategus – heart health, decreases fat and lowers cholesterol.
- **Bearberry Kinnikinnick** - Arctostaphylos uva-ursi – internal health maintenance, skin lightening and soothing personal care products.
- Wild Strawberry - Fragaria virginiana rosaceae – healing personal care products, treats sunburn and removes heat from wounds.
- Honeysuckle - Lonicera utahensis – fragrant, healing personal care products, respiratory treatments and treat infections.
- Wheatgrass – Oatgrass - Trisetuc spicatum – anti-ageing and healing, stimulate metabolism for weight loss, return color to graying hair, increase energy, cancer treatment.
- Cranberry - Viburnum edule – healing personal care product.
- Tumeric – anti-inflammatory, cancer treatment relatively new to market.

- Red Raspberry – Rubus idaeus – brought over to North America colonies in the late 1700s.
- **Yarrow** - Achillea millefolium – First Nations used it for digestive issues, colds and flus, toothaches,

  insect bites, anti-rheumatic, internal bleeding (specifically in the lung), fevers, bruises, sprains, swellings, hair loss, and to bring on labor .
- Mountain sage wort - Artemisias novegica – First Nations used for a variety of ailments – arthritis, skin inflammation, respiratory problems and as purifying smudges or to flavor foods and teas.
- Saskatoon - Amelanchier alnifolia – used for a variety of minor complaints – also used in native ceremonies including the Sun Dance held when the berries were ripe. An infusion of inner bark for snow-blindness, boiled juice for ear drops, immature green or dried berries for eye drops.

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- Fireweed - Epilobium angustifoilum – First Nations people prepared a poultice and used it to draw out infections.
- Wild Bergamot - Monarda fistulosa – made tea and used as medicinal plant utilizing the purple (occasionally white or pink) flowers. Blackfoot boiled leaves to treat acne. Some tribes used as insect repellant.
- Current - Ribes sp. – no research available.
- Wild Rose - Rosa sp. – no research available.
- **Willow herb** - Epilobium – Widespread use in North America for centuries to treat a variety of diseases and enhance healing.
- Hawthorn - Crategus – no research available.
- Bearberry Kinnikinnick - Arctostaphylos uva-ursi – first to use as a healing herb. Also smoked a mixture with tobacco and sometimes other herbs, during religious ceremonies. Native people used leaves and stems to treat inflammations and as a tonic for health maintenance.

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Maple and Birch Syrup

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Agro-Voltaics

Agrovoltaic energy, also known as agrophotovoltaics, consists of using the same area of land to obtain both solar energy and agricultural products. In other words, solar panels coexist with crops on the same surface. Efficient use of land, consistent temperatures, increase PV efficiency with lower temperatures under panels

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Other Opportunities for Consideration

- **Value added grains processing (human consumption):**
  - Grains processing plant for export market –Central and South America markets
  - Pearled barley(soups)
  - Pet food from grains
  - Specialty/stone milling-whole grain flower, bread and pancake mixes
  - Organic products are in high demand
  - Development of an Indigenous "**Brand**" for its agriculture and food products
  - Agro-forestry, sawmills, biodigestion from pulp sludge, co-generation, maple and birch syrup

PROJECT DEVELOPMENT GUIDELINE for COMMUNITY INVESTMENT

Managing Risk

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Project Development Process

"Managing Risk"

Have the desire to initiate change but don't know where to start or how to find out.
Select an advisor or developer. (This may end up being you!)
Develop a plan
Pre-feasibility analysis and Due Diligence
Feasibility study
Business plan development
Financing
Implementation
Post-project evaluation

Points for Successful Project Development

- A good idea
- Commitment (long term)
- Have to be well organized
- Use all available resources
- Need to develop a plan
- Obtain financing
- Attractive for Investment
- Management
- Lawyers/Accountants/Professionals

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Important Things to Note

Keep investors informed of project development process as project develops

Once a project is successful continue to plan on a regular basis

Agribusiness Readiness Checklist

Four key sections:

- Land Use Planning
- Agricultural Activities
- Engaging Your Community
- Agribusiness Development Capacity

Tip!

Agribusiness development is not a race or competition!

It's about **thoughtful planning that's done at your pace** to achieve community goals.

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Agribusiness Readiness Checklist: Agribusiness Readiness Scoring

Agribusiness Readiness Assessment Scorecard

Sections / Categories	Your Score / Maximum Score	Target Score to be "Agribusiness Ready"	Scoring Comments
Land Use Planning	/ 6	4	If you scored below the target, return to the questions and identify areas for improvement. Begin with the questions where you answered 'no'. Is there anything your community can do today to change that to a 'yes'? Remember, agribusiness development is not a race nor a competition. It's about thoughtful planning that's done at your pace to achieve your community goals.
Agricultural Activities	/ 4	2	
Engaging Your Agribusiness Community	/ 5	3	
Agribusiness Development Capacity	/ 5	3	
Grand Total (Your Total Score)		12	

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Rural Navigator™

Accelerating your growth.

All ideas feel great, but **which one is best?**

Our customized **Rural Navigator Report** streamlines your decision making by comparing and ranking all your projects in one place!

THANK YOU!

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