

Phase II Report
Feasibility Study of Proposed Projects

Report: Phase II Report
Feasibility Studies of Proposed Projects

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I Executive Summary

This report provides a full discussion of each of the project ideas YAA is considering. The overall objective of this engagement is to examine and identify project initiatives that YAA could consider implementing to help provide growth and open new markets for its members and the Yukon agricultural and food processing sectors.

The initiatives we reviewed were:

1. Food Innovation Centre
2. Yukon Branding Program
3. Abattoir
4. Egg grading station
5. Bulk Storage
6. Equipment Rental
7. Feed Grain Mill

Hart & Associates undertook an extensive research program to contact industry representatives in the Yukon and across Canada who are involved in the agri-food industry. We conducted interviews and developed a web-based survey to reach out to growers and food processors, retailer and community groups in the Yukon. We also contacted senior managers of food research and innovation centres and other organizations to provide YAA with a current and accurate assessment of the business initiatives being considered.

The key findings of our review are:

1. The three projects selected by the YAA advisory committee to be considered for business plan development were the Food Innovation Centre, the Yukon Branding Program and the equipment rental operation.
2. The Food Processing Innovation Centre would offer a number of different services to Yukon growers and food processors including a test kitchen for product development as well as a food processing facility to cook, mix, process, freeze and package a wide variety of products including meat, bakery, sauces, jams, berries and beverages.

Some of the key aspects of our evaluation of this centre include:

- a. The objective of this facility is to both encourage growers (and those interested in processing food) and provide a facility for them to process food for all markets including retail.
- b. Users will have access to food science and food processing professionals (facility manager as well as professionals at other food innovation centres [Leduc and Guelph Food Technology]).
- c. It will provide educational programs and community sessions on how to process food, how to sell and obtain customers, how to develop new products and other topics.
- d. While the Innovation Centre will receive fee revenue from facility users, the centre will require on-going financial support from government to survive and grow.

- e. The estimated capital cost of establishing this Centre is \$178,700 to purchase processing equipment and retrofit a leased premise close to Whitehorse.
- f. We evaluated locating the Centre at the YAA property, however, we feel locating it in a lease premise near Whitehorse would provide YAA some time to establish the operation and prove its success without risking capital to construct a building. Once the operation proves successful, YAA could then proceed to build a facility on the YAA land. The total cost of constructing a building and buying equipment would be \$429,700.

3. Yukon Branding Program

- a. This program is intended to help Yukon producers and processors of all products get listings at the large and independent grocery stores under a brand that promotes food quality and consistency.
- b. The manager of this program, also planned as the manager of the Food Innovation Centre, would act as both a sales person for Yukon products as well as a resource to educate the program's users on how best to market and position products to gain access to sales in retail, food service and commercial sectors of the marketplace for local and possibly export markets.
- c. The program would provide a platform to make it easier for store managers to source from one salesperson for a wide variety of processed foods as well as fruits, vegetables and meat products.
- d. The objective of this initiative is to help Yukon growers and processors gain access to store shelves to replace products coming in from other markets.

4. Equipment Rental Business

This will be a fairly easy business to expand as YAA already owns and rents this equipment, albeit on a limited basis. The equipment would be relocated on the YAA land and equipment maintained and rented from this location. While the revenues from this operation would be modest, this would be an additional service YAA could offer its members.

5. Decision Planning Model for Land Use

This report also provides a planning and business decision model that YAA can use to help plan, select and implement proposals from those that would like to use the YAA land for such purposes as the Yukon Horse and Rider facility, equipment and grain storage and other ideas as they may arise in the future.

This report also discusses in detail the reasons why the other ideas (abattoir, egg grading, storage and feed mill) did not proceed to the business planning stage.

- 6. In the case of the abattoir, there may be merit in a white meat abattoir but not until the chicken production levels increase in the future. These projects may have merit in the future if local production increases and there is more of a demonstrable need.

II Background - Review of Previous Reports

This section of the report provides the reader with an overview of previous reports YAA has commissioned on identifying projects that could be pursued to help grow the markets for YAA members and others.

YAA has conducted many studies over the past several years on the feasibility of projects and initiatives. The following provides a recap of the findings of each of these studies for the reader.

The reports conducted include:

1. Multi-Use Facility Feasibility Study- Phase I
Opportunity Analysis
Transnorthern Management Consulting, September 2006
2. Multi-Use Facility Feasibility Study- Phase Two
Detailed Facility Requirements
Yukon Agricultural Association, not dated
3. Multi-Use Facility Feasibility Study- Phase Three
Business Feasibility Study
David Loeks, December, 2006
4. Multi-Year Development Plan for Yukon Agricultural and Agri-Food 2008-2012
Serecon Management Consulting, 2007
5. Planning for the Development of the Yukon Agricultural Association Agricultural Lease
Klassen, July 2013

Highlights of the studies

1. *Multi-Use Facility Feasibility Study- Phase I
Opportunity Analysis
Transnorthern Management Consulting, September 2006*

This study evaluated the feasibility of four projects:

- Vegetable cold storage
- Value-added processing for red meat
- White meat abattoir
- Professional grade processing kitchen

Each project was discussed and evaluated.

The conclusions of this study were:

<u>Project</u>	<u>Decision</u>
- Vegetable cold storage	Do not pursue/Insufficient demand
- Value-added red meat processing	Pursue
- White meat abattoir	Pursue but business case uncertain
- Professional grade processing kitchen	Pursue

2. *Multi-Use Facility Feasibility Study- Phase Two Detailed Facility Requirements
Yukon Agricultural Association, not dated*

This report provided building and equipment requirements assuming that it housed a red meat processing operation, a poultry processing floor, a mobile abattoir dock, community kitchen, cooler and freezers and possible unspecified uses (retail, storage, admin).

This study estimated this facility would cost \$2.4 million.

3. *Multi-Use Facility Feasibility Study- Phase Three
Business Feasibility Study
David Loeks, December, 2006*

This report provided descriptive business case scenarios for revenues derived from:

- rental of professional kitchen facilities
- poultry abattoir
- processing red meat-fee for service
- processing of red meat into value-added products

Report provided business case scenarios for revenue ranging from \$110,000 to \$658,000.

4. *Multi-Year Development Plan for Yukon Agricultural and Agri-Food 2008-2012
Serecon Management Consulting, 2007*

The goal of this report was to “to increase and sustain production, sales, and profitability in the Yukon agricultural and agri-food industry.”

This project had five objectives:

1. Develop an overview of the current state of the agriculture and agri-food sectors in the Yukon;
2. Determine strengths, weaknesses, opportunities and constraints for each identified sector;
3. Determine how to strategically integrate and coordinate sectoral strategies;
4. Prepare a five-year development plan designed to assist the industry to progress in a sustainable market; and,
5. Develop performance measurement indicators for each component of the development plan.

The recommendations of this report were:

1. Implement an annual or periodic survey of the Yukon agriculture and agri-food industries;
2. Move forward with a multi-use facility (or develop a secondary strategy for meat and vegetable processing infrastructure);
3. Support the development of permanent community market facilities including infrastructure at the Fireweed Community Market;
4. Implement a new marketing strategy;
5. Implement plans to support the organic sector;
6. Implement a five-year research program;

7. Improve access to finance, and reduce costs associated with land development;
8. Broaden the base of support for agriculture in the Yukon;
9. Improve labour availability; and,
10. Develop strategies to manage and reduce disease and pest risk.

5. *Planning for the Development of the Yukon Agricultural Association Agricultural Lease Klassen, July 2013*

This was a descriptive report identifying a list of possible initiatives YAA could pursue including:

- abattoir
- vegetable processing
- commercial kitchen
- community hall and other projects
- horse and rider

This report provided costs to develop the YAA property including road construction, well and other items. This report did not provide expected revenues, costs or profit from these initiatives.

In addition, the following study was conducted for the Yukon Government:

1. Abattoir Feasibility Study and Preliminary Agricultural Development Strategy
A.J. Hunt and Associates, March 1989

Examined the feasibility of an abattoir and development potential of the livestock industry.

As the above shows, YAA has evaluated similar projects. The common objective was the need to help the Yukon agricultural community grow. The abattoir project and some type of kitchen were common projects that reappeared.

III Worksteps Completed

Hart & Associates conducted an extensive program of interviews, research and analysis to develop the assessments of the proposed businesses and the business plans for the selected projects.

In conducting this study, we ensured that we heard from as many individuals as possible in the Yukon agricultural community, food processing, food retailing and distribution and other stakeholders.

1. Reviewed past reports and held discussions with YAA board members and senior government officials with the Yukon Government
2. Conducted personal and telephone interviews with Yukon individuals: farmers, growers and retailers
3. Conducted interviews with senior management in several leading food research/development centres in Canada including:
 - Leduc, Government of Alberta
 - GFTC, Guelph, Ontario
 - Toronto Food Starter Program (City of Toronto)
 - reviewed other innovation models (BC Food Innovation Centre Study)
4. Reviewed other models we have developed (in BC and Ontario)
5. Conducted a web-based survey to YAA members and Fireweed members.
(The results of these two surveys are provided in Appendix B and C of this report)
6. Conducted a web-based survey for the Horse and Rider Association

The ideas we evaluated in the feasibility phase of the project were:

1. Food Innovation Centre
2. Yukon Branding Program
3. Mobile abattoir
4. Egg grading station
5. Bulk storage
6. Equipment rental
7. Feed grain mill

For each idea we evaluated:

- The logistics of the proposed business i.e. how it would work, issues, etc.
- Who the users and “customers” of each business would be
- Pricing, profitability, capital costs considerations
- Which projects should proceed to the business planning stage.

Through a series of worksteps and meetings with the YAA board, the list of ideas was narrowed down to the selected projects proposed for the business plan stage.

**Exhibit III-1
Summary of Project Worksteps**

Kick-off meeting with YAA Board

Conducted Interviews and Research

Review Meeting with Board
(Market and Logistical Review of Each Project)

Continued research and evaluation of project
ideas

Meeting with Board and Technical Advisory
Committee

Review

Completion of Phase II Report

Submission of Business Plan

IV Assessment of Markets

We undertook several key sections of analysis for this study. This analysis was presented to the YAA Board at a review meeting.

Understanding this information is important as it provides the context and rationale for several of the proposed YAA projects. It not only provides the understanding of the potential but also the limitations and realities of the Yukon marketplace.

1. Review of Fairgrounds in Canada

As YAA was interested in determining if, and how, it might provide a fairground on its land. We conducted interviews with the leading fairgrounds in western Canada to determine how they are structured (non-profit/profit), how they are funded and what events they provide.

The following table identifies results of our discussions with the exhibition operations we reviewed.

**Exhibit IV-1
Comparison of Selected Fairground Operations**

	Abbotsford Agrifair	Cloverdale Rodeo & Exhib.	Western Agribition	Prov. Exhibition Manitoba
Fairgrounds/buildings	yes	yes	yes	yes
Owned by	city	city	city	city
Funded by	city,events,sponsor	city,events	events,sponsor	events,sponsor
Staff	part time	yes	yes	yes
Board/committee	yes	yes	yes	yes
Events	annual fair rodeo equestrian 4H BMX Bd room	year round events rodeo concerts meetings banquets equestrian dances dog show trade show flea mkt/swap mt	major exhibition rodeo equestrian cattle show stock dogs first nation ag 4H grain expo education	cattle show rodeo equestrian ag exhibition family events car show banquets
Kitchen/catering	yes	yes	yes	yes
Incubator/test kitchen	no	no	no	no

Common themes of agri-fairs and exhibitions from this review include:

- Buildings and land are owned by municipalities
- Headed by volunteer committees or boards from agriculture community
- Only full time staff if buildings are in year round use, otherwise part-time
- Buildings and grounds usually optimized with a variety of events beyond the annual fair
- No exhibitions in Canada reported having “incubator” facilities to help develop business beyond farm gate
- New trend in USA to develop “incubators” on exhibition grounds

The most important finding from YAA’s perspective is that all fairgrounds had buildings and facilities built and paid for by municipal government and that all were located in larger population communities that provided opportunity for multiple events and a larger tax base and user population to offset operating costs.

2. Agri-Food Innovation Centres in Canada

We interviewed senior managers at the leading research and food development centres in Canada to report on what services they provide and learn how they derive revenue to cover expenses.

The following identifies the key operations of the centres.

1. The largest food development and research centre in Canada is the Guelph Food Technology Centre (GFTC)

It began operations with significant capital and operating cost funding from the Ontario Ministry of Agricultural, Food and Rural Affairs. It still relies on transfer grants and program support from the Ontario government; however, it generates revenue from educational, courses and industry conferences. GFTC relies on the profits from its educational, training and other programs to fund its incubator and food development operation.

2. Leduc Food Centre

This centre, located just outside of Edmonton, operates as a branch of the Alberta Ministry of Agriculture. It offers incubator and food development services and food science services to agri-food companies. Similar to GFTC, the Leduc Centre told us that revenues from education and training were critical to its ability to continue and that without direct funding from the Alberta government for both capital and operating expenses, the centre could not operate.

3. City of Toronto - Food Starter

The City of Toronto recently opened an incubator centre as part of the City’s economic development strategy to support and attract food processing companies to Toronto. The centre opened in late 2015 and provides a fairly full range of processing equipment and advisory services to companies wishing to start a food processing operation with the intent of growing into their own facility. This is not a CFIA inspected plant.

4. Northumberland County in Ontario

While not a food development centre, Northumberland County (in eastern Ontario) offers an impressive array of food development assistance such as advice, business planning and product research to companies wishing to enter the market. This program is funded as part

of the Ontario East Strategy which is an integrated economic development strategy focused on encouraging development of new food processors for the region. This program received municipal, provincial and federal funds to pay for the programs.

The important conclusion of this analysis is that any food development/food processing centre requires government funding to operate. Therefore, YAA should realize that a Food Innovation Centre will similarly require significant government funding to allow it to operate.

YAA faces two challenges:

1. Recognition that any food development centre requires financial support on an on-going basis to survive.
2. Additional challenge being located in a small population centre such as Whitehorse. This means that revenues for food processors will likely be modest although this service will be an important step to help processors progress beyond selling at the farm gate level.

Lessons Learned

Food centres find that following certain practices helps in generating awareness and attracting users to their centres. In our proposed plan for YAA, we have also added activities we have found to be useful in generating interest in other food processing and development centres.

1. Create an advisory board composed of senior executives from the food processing, retail and distribution segments of the market. There should be a blend of large, medium and small companies on this board to promote the awareness of the centre and also act as networkers for new companies using the production and incubator services.
2. Hold educational and informational sessions on a wide range of topics. Hart & Associates has been involved in developing some of these educational programs for the industry, as well as our own industry conference sessions. Some of the topics could include creating a brand, recipe development, niche marketing, obtaining customers at the retail, food service and commercial level, food safety, financing a new start-up, business planning and cash flow management and others.
3. Create linkages with the food industry by having the centre manager speak at conferences, send newsletters to the industry and maintain an active and effective web site.
4. Due to the close funding relationship with governments at the municipal, provincial and federal level, leverage these contacts to encourage new food companies to use the facility.

Even with these efforts, it takes several years for food development centres to reach a “successful” level to justify continued government support. All of these centres are viewed as needed services by governments as economic development initiatives to support and help grow the food processing sector in their respective regions.

3. The Size of the Yukon Market for Selected Products

Central to the assessment of most of the projects YAA is considering is the size of the Whitehorse and Yukon marketplace. The strategy we are proposing is to supply the local Whitehorse grocery retail and speciality food marketplace with locally grown products from meats, eggs and processed foods of various types. This strategy is essentially an “Import Replacement” strategy, whereby Yukon growers and processors would sell to grocery stores to replace to some extent products sourced from the established regional and national supply chain to the extent possible.

To develop this analysis, we used national per capita consumption rates for the selected product categories. This analysis shows consumption volumes (retail sales) as well as an estimation of the volume of exiting Yukon production levels to identify what the potential growth level may be.

This is important to help understand what the potential market is for local suppliers in the Yukon for these selected product categories. Any production volume beyond these indicated levels would require a producer to sell into other markets such as BC, Alberta or Alaska, if possible.

The following table provides an analysis of the size of the main farm products for the Yukon - chicken, beef and eggs. (We also show turkey and pork volumes for additional reference for the reader).

The consumption or estimation of retail sales for the Yukon is based on per capita consumption rates at the national level which will closely approximate local consumption levels. (Consumption data is not available at the provincial or regional level)

The top section of this table shows an estimation of the Whitehorse consumption in pounds for the selected products. We then translate this into number of animals required to fill this demand using dressed weight.

Exhibit IV-2
Size of the Yukon Market by Major Category

Per capita consumption kg	Chicken	Turkey	Beef	Pork	Eggs (dozens)
Per capita comp. kg	30.94	4.08	26.48	20.63	18.74
in lbs	68.1	9.0	58.3	45.4	
Whitehorse consumption lbs.	1,837,836	242,352	1,572,912	1,225,422	505,980
Average dressed weight per animal	3.5	18	650	144	18
Equivalent No. of animals	525,096	13,464	2,420	8,510	28,110
Estimate of existing farm gate market	2000	300	225	300	600
Balance available for retail	523,096	13,164	2,195	8,210	27,510
Est. of retail total Not available	90%	90%	90%	90%	70%
Available	10%	10%	10%	10%	30%
Number of animals/year	52,310	1,316	219	821	8,253
Equate to flock size	8,718	293			
Mkt for local supply	8,718	293	219	821	8,253
Number of production cycles per year	6	4.5			

The estimation of number of animals/birds to supply the local marketplace is shown in bold near the bottom of this table. It is based on the assumption that 10% of the retail sales could be filled by local supply. Our interviews with grocery store managers revealed that while they were interested in sourcing from local suppliers, due to their requirement to carry a full range of meat cuts [chicken and beef] and also on a year-round basis, only about 10% of the store volume could potentially be filled by local suppliers.

The exception is eggs. We found that stores could source up to 30% of their egg purchases from local suppliers.

Therefore, this table estimates the increased production volume sold to Yukon stores could be an additional 8,818 birds, 292 additional beef and 8,253 egg laying hens. Any adjustments to these assumptions would increase or decrease this production potential estimate.

Profit Expectations – Farm Gate Compared to Retail Sales

Also central to the strategy of selling beyond farm gate is the recognition that sales that a farmer makes to the retail channels will be at a lower profit level than what farm gate sales provide.

From a profit maximizing perspective, farmers/growers should:

1. Sell as much at farm gate as possible
2. Decide whether they wish to expand operations to sell to grocery channels
3. Realize that profit margins will be lower when selling to retailers than farm gate sales but that volume could increase significantly.

Comparison of Egg Profitability for Yukon Growers – Farm gate vs. Grocery Retail Sales

	<u>Farm Gate</u>	<u>Sell to retailer</u>
<i>(free run large as example)</i>		
Sell at farm gate-dozen	\$4.99 or higher	
Sell to processor		\$3.49
Grading, packaging		\$1.00
Sell to retailer		\$4.49
Retailer margin (20%)		\$.50
Sell to consumer		\$4.99*
* Superstore price as of Dec/2015		

The purpose of this analysis is to compare the net price to the producer for farm sales to that of retail. The revenue to an egg farmer selling at farm gate may be \$4.99 or higher. Some farmers could possibly sell at \$6.00 for farm gate sales.

If the egg farmer operates his own grading station, the \$1.00 per dozen, cost could be lower.

As this analysis shows, selling at retail will reduce per unit profit for the farmer for eggs, chicken or other products. However, selling to retail greatly opens up the volume of sales-hence the value of adopting a “selling beyond farm gate” strategy.

Comparative egg prices per dozen in Whitehorse stores (December, 2015)

<i>Omega Large</i>	<i>\$4.79</i>
<i>Free Form</i>	<i>\$3.79</i>
<i>Farmers Finest Free Form</i>	<i>\$3.79</i>
<i>Grade A Egg, Medium</i>	<i>\$2.69</i>
<i>Free Form Omega</i>	<i>\$5.59</i>
<i>PC Free Form Large</i>	<i>\$4.99</i>
<i>PC Organic</i>	<i>\$6.19</i>

Estimate of Market Share for Grocery Retailers

Based on our interviews with grocery retailers, we were able to approximate the market share of the major grocery retailers in Whitehorse. We developed this analysis through discussions with store managers on their impressions of the market share of their competitors. We found that there was enough agreement about relative size that we could provide these estimates.

In the table below, we indicate which products retailers feel they could source from local suppliers. The most promising opportunities are for eggs where all grocery stores said that they could supply some or all of their egg purchases. In the cases of the independent stores, all said that they could source all of their egg volume from local suppliers. The two large grocery stores, Superstore and Independent, could possibly source some of their egg volume from local suppliers.

Exhibit IV-3 Estimation of the Grocery Store Marketshare in Whitehorse

<u>Retailer</u>	<u>Estimated Marketshare</u>		<u>Opportunity for local supply sourcing</u>			
			<u>Chicken</u>	<u>Beef</u>	<u>Pork</u>	<u>Eggs</u>
Superstore	60%	65%	No	No	No	Some
Independent	20%	20%	Some	No	No	Some
All others including:	20%	15%				
-Bigway Foods						Yes
-Temp Porter Creek						Yes
-Riverside						Yes
-Deli			Yes	Yes	Yes	Yes
Total	100%	100%				

Retailers said they need consistent supply and certified food safety products for meat products.

Limited opportunity to supply chicken to retail grocers - cut/package/sales

The retail market for chicken is made up of a wide variety of products, both whole birds and tray packed cut up portions. The whole birds may vary in size from under 2.0 kg to a heavy roaster up to 4.0 kg. Cut up parts include breasts, thighs (bone in skin on, boneless, boneless skinless), drumsticks (bone in, with or without skin), whole legs (with or without backs attached), wings, wing drumettes and winglets. A whole bird yields on average breasts 45%, legs 45% (thighs 30%, drumsticks 15%) and wings 10%.

The variety of fresh chicken products by weight at an individual grocer varies depending upon their merchandising policy. There is no industry standard for how much of each part an individual store will carry.

For instance, a discount retailer may carry more leg/drum/thighs (lower cost), while another more breasts. Whole birds commonly consist of about 25% by weight of the chicken counter while the balance is tray pack cut up. Cut up parts are usually not represented in tray packs as is their percentage of the whole bird.

Although the market for whole birds is limited so is the supply of broiler chicken in the Yukon. Local retailers indicated that they would consider carrying local chicken if it was of consistent quality, dependability, correct size and competitively priced. Currently tray packed cuts are shipped to the stores prepackaged with their

regular orders so a local chicken processor would also have to supply tray pack competitively. Unless the whole chicken could be sold cut up, this could be a barrier to entering this sector of the market.

Farmer → **Abattoir** → **Cut/package/Sales** → **Retailer**

Pricing of various chicken cuts in Yukon (as of December, 2015)

<i>Organic Chicken breast</i>	\$30.84/kg
<i>Free-From chicken</i>	\$26.43/kg
<i>PC Chicken breast</i>	\$15.41/kg Air
<i>cooled whole chicken</i>	\$8.80/kg PC
<i>chicken thighs- boneless</i>	\$13.21/kg

V Assessments of Selected Projects

In a review meeting with the YAA Advisory Committee held on March 3, 2016, it was decided that three main projects should proceed to the business feasibility stage:

1. Food Innovation Centre
2. Yukon Branding Program
3. Equipment rental

The Board decided not to proceed with the following businesses to the planning stage:

1. Abattoir
2. Egg grading station
3. Chicken processing
4. Equipment or bulk storage
5. Feed grain mill

Although these projects were not selected for business plan stage, we have developed and included in this report a full discussion of the details of these initiatives. We present the details of these initiatives in Appendix A of this report. This provides the reader with a full understanding of the issues and challenges, as well as the opportunities should these projects be re-examined in the future as local production changes.

In the case of the abattoir, there may be merit in a white meat abattoir but not until the chicken production levels increase in the future. These projects may have merit in the future if local production increases and there is more of a demonstrable need.

The following sections of this report provide a detailed discussion of each of the projects we reviewed and the business plans for the ones most likely to prove valuable for YAA to implement.

1. The Food Innovation Centre

The proposed YAA agri-food centre facility would consist of a central multi-service facility to provide a wide range of services for those interested in processing their food products and selling to the local and perhaps “export” markets in BC and Alberta.

The central focus of this Centre is to help Yukon growers and producers make the transition from farm gate sales to selling to grocery, specialty food stores, restaurants, food service and the catering sector.

The Centre will provide food development, processing and business support services for Yukon growers and food processors. The Centre could act as a resource to coach, advise and provide a processing facility for a wide range of products including vegetable, fruit, baked goods and processed meats.

The Centre could also provide a network of food processing professionals including food science and others who can provide local food processors with timely advice. Through the proposed Yukon Branding Program, growers and processors will have access to a sales professional who could

represent locally produced and processed products to grocery retailers in the local and regional areas.

The services this centre could offer include:

- facility for processing many of the products grown and produced in the Yukon.
(freezing vegetables, processing berries, smoking meats and sausages and other products)
- processes could include cleaning, cooking, mixing, packaging, freezing and a number of other processes. The specific processes local processors would like to see in a plant were captured in the web survey we conducted.
- access to professional food development services including formulation, recipe development, test production and packaging options. These services can be provided from a network of food professionals in Vancouver and Edmonton including the Leduc Food Centre and other food science and food processing resources across Canada.
- Education courses on such areas as:
 - o Food safety requirements for selling to retailers, restaurants, food service, catering
 - o Food plant sanitation
 - o Packaging
 - o Nutritional labelling
 - o Developing HACCP plans
- A community-based series of events such as how to grow organic produce, wine appreciation, food demonstrations, featuring chefs of the region.
- Business services provided by the centre manager and a network of food industry specialists. This Centre could provide consulting services to agri-food companies in areas such as:
 - o Counselling growers and processors on the business side of agri-food
 - o Education and training services for processors and growers to provide information on how to process food products, food safety requirements, product packaging, nutritional labelling and marketing areas.
 - o How to develop a marketing and business plan, obtain financing, find partners to work with in other regions and provinces.
 - o How to build your brand
 - o How to sell to retailers
 - o Product feasibility assessments
 - o Market research information on food trends, consumer demand, niche products
 - o Potential for special membership to food processing associations in BC or Alberta to access their member programs.

Facility

There are two options for this operation:

1. Build on the YAA property
2. Operate from a leased facility in Whitehorse

The advantages and disadvantages are discussed below.

1. Build on the YAA property

This option would take advantage of the land YAA already owns and could be an anchor building for the YAA site for other developments.

Also due to the nature of the financing available through such programs as GF2 and the Community Development Fund, capital funds may be easier to obtain than operating expense funding as would be the case under a leasing option.

Disadvantages

1. The need to obtain the capital (or to use YAA internal funds) to build the building and run services to the operation for such things as the road, electrical services, water and heat.
2. The location at the YAA property may prove to be a limiting factor to attract processors and citizen users. An in-town location may prove to be more convenient for both food processors and people who may use the facility for seminars, training and culinary purposes.
3. The most significant reason we do not suggest building this facility on the YAA property at this time is risk.

As in any new business venture there is risk. The risk for this project is the inability to generate sufficiently high utilization rates for the processing plant.

The cost to build a facility to house the Food Innovation Centre follows

**Exhibit V-1
Estimated Capital Costs To Construct A Building
For the Food Innovation Centre**

Standalone building	
Foundation- concrete	\$64,000
Site work	\$25,000
Electrical	\$25,000
Building	\$75,000
Septic/pump	\$32,000
Heat	\$15,000
Contingency	\$15,000
 Total	 \$251,000

Therefore, the risk is investing \$250,000, perhaps more when a driveway is added, to build a facility for the Food Innovation Centre.

Leasing a property as a Phase I step would allow YAA to test the business concept and allow it to build the business and increase awareness without risking capital. Once the operation reaches a reasonable level of utilization, YAA could then build the centre as a Phase II on the YAA land.

2. A leased facility in Whitehorse

Advantages

1. A convenient location for food processors and people attending educational and culinary events.
2. Lower financial risks.

Leasing a facility provides considerably lower risk than building a facility for YAA to start this operation in the early phases. Quite apart from risk, using capital for buying a building is usually not a good application of a business' funds compared to investing in the growth of the business.

We feel that this Centre should be located in Whitehorse in a convenient commercial/industrial zoned area.

Disadvantages

It may be more challenging, although not impossible, to arrange government funding to pay for a building lease. Funding from the Government of Yukon, for example, may be structured to help pay for a building lease cost.

To provide better value-for-money and management flexibility of the facility, we also suggest that the YAA office be located with this Centre. The Yukon Brand Program could also be operated from this facility.

This facility could be built in two phases:

1. Establish the operation in a leased facility to minimize financial risk and then proceed to build the Food Innovation Centre on the YAA land once the business proves to be successful.
2. We recommend the facility consist of about 2,000 sq. ft. to allow space for the specified equipment and allow for storage and movement of products. It is unlikely that more than one food processor will be using the facility at any one time so there will be some flexibility in equipment positioning to make the most efficient use of the plant space.

In addition to this production space, the overall facility could also house the YAA office as well as the Yukon Branding office. An allowance for rent of \$5,000 was included in the budget of the Yukon Branding operation which would allow for about 200 more feet for this office. Assuming YAA's space of about 200 square feet would increase the total facility size to about 2,200 for all operations.

At the time of this report, we did not find commercial space similar to YAA's requirements in Whitehorse. However, based on a discussion with an experienced commercial real estate agent, we found that such commercial space typically leases for less than \$25 per foot. Operating costs would be in addition to this cost.

Below, we show the capital costs associated with leasing a facility, building a facility and lastly building once the operation proves successful.

Exhibit V-2
Costs Comparison- Lease Versus Build Options
For Food Innovation Centre

	Lease a facility I	Build II	Lease then build III
Construction Costs	0	\$251,000	\$251,000
Food Conversion	\$71,300	\$71,300	\$37,500
Processing Equipment	\$107,400	\$107,400	
Relocating costs			\$15,000
Total	\$178,700	\$429,700	\$303,500
Total for 1 and III			\$482,200
Additional cost of Phase 1 and then III			\$52,500

As this table shows, the additional costs to lease, then build would be \$52,400. The analysis shows that spending an additional \$52,400 would cover the risk of spending \$251,000 for a business that may or may not be prove to be successful. The above shows the capital cost to start the operation from a leased facility would be \$178,700 and \$429,700 if built on the YAA property.

The Operations Manager

The Centre would be operated and managed by someone with the following experience:

- knowledge of recipe formulation, food processing, packaging
- experience in organizing educational and community events
- skilled at communication with area growers and food processors

One person for both positions

Ideally one person would serve as the Yukon Branding Program manager and the Food Innovation Manager. Combining these two roles together provides considerably flexibility, cost savings and numerous cross-skill sets valuable to both the processing centre and the marketing/sales functions of the branding role.

Revenue

Our review of food research centres across Canada, including the Leduc and GFTC Centre, shows that revenue from the proposed Yukon Food Innovation Centre could come from a number of sources including:

1. Product development
2. Processing/pilot runs
3. Business services
4. Education
5. Training
6. Rental income

While the Leduc and GFTC centres can draw revenue from a very large and indeed a national market of agri-food companies, the Yukon Food Centre will serve a very small population of agri-food community members and therefore the ability to generate significant income from the services listed above is limited, albeit important for the proposed centre.

All Food Centres Require Financial Support

As previously mentioned, Leduc and GFTC required significant financial support from governments to be financially stable. Leduc continues as a unit within the Alberta Ministry of Agricultural to provide services to their agri-food companies. Similarly, this centre will require on-going funding to operate.

Forecasted Income for the Yukon Centre

We have developed a forecasted income statement for this proposed Centre over a five-year period.

The revenue stream for the Yukon Food Centre will primarily come from a few areas including:

- charge rates for the processing centre
- courses and fees for evening events.
- facility rentals

Even with these revenues, to reach a break-even, this Centre also will require funding to be financially viable.

Profitability

The survey respondents said that they would likely use this facility for at least 120 days per year. Revenue from educational and business services will also help contribute revenue. This Centre will require on-going funding support from government funds which would greatly reduce the capital cost requirements of YAA.

Our forecasted model estimates a more modest utilization level of 50 days per year in Year 1 and ramps up to 120 days by Year 4.

The following identifies the expected revenue and expenses for this facility over a five-year period.

**Exhibit V-1
Forecasted Income Statement
Food Innovation Centre**

	Yr1	Yr2	Yr 3	Yr 4	Yr 5
Revenue					
Facilities charge	\$12,500	\$18,750	\$25,000	\$30,000	\$30,000
Room rentals	\$3,750	\$3,750	\$3,750	\$3,750	\$3,750
Technical advisor Rev	\$7,000	\$12,000	\$14,000	\$14,000	\$14,000
Events revenues	\$8,750	\$8,750	\$8,750	\$8,750	\$8,750
All funding sources	\$93,000	\$86,750	\$80,500	\$75,500	\$75,500
Total revenue	\$125,000	\$130,000	\$132,000	\$132,000	\$132,000
Expenses					
Rent	\$48,000	\$48,000	\$48,000	\$48,000	\$48,000
Facility Expenses	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000
Supplies	\$2,500	\$2,500	\$2,500	\$2,500	\$2,500
Advertising, marketing	\$5,500	\$5,500	\$5,500	\$5,500	\$5,500
Manager	\$45,000	\$45,000	\$45,000	\$45,000	\$45,000
Technical advisors	\$7,000	\$12,000	\$14,000	\$14,000	\$14,000
Other	\$7,000	\$7,000	\$7,000	\$7,000	\$7,000
Total expenses	\$125,000	\$130,000	\$132,000	\$132,000	\$132,000
Profit/Loss	\$0	\$0	\$0	\$0	\$0

Assumptions

<i>Rental days/year</i>	50	75	100	120	120
<i>Charge rate per day</i>	\$250	\$250	\$250	\$250	\$250

Room rentals

<i>Number per year</i>	25
<i>Charge per day</i>	\$150

Events charges

<i>Number per year</i>	35
<i>Revenue per person</i>	\$25
<i>Number of people at each event</i>	10
<i>Rent</i>	
<i>Sq. Feet</i>	2000
<i>Rent per foot</i>	\$24
<i>Annual rent</i>	\$48,000

To reach the break-even level each year, operating grants will be required each year in a declining fashion as shown in the revenue section. Operating fund grants of over \$90,000 would be required in the first year and are expected to decline to about \$75,000 by year 4 and 5.

For this project, it is assumed that grants from the GF2 program, Community Development Fund, CanNor and funding from the Government of Yukon could be obtained.

While user-pay fees are not substantial to the overall viability of the Centre, we feel that food processors or people attending events or educational sessions should pay some amount to use the facility and its professional services.

The daily rental rate of the processing facility was set at \$250 for purposes of forecasting revenue. We feel this is a reasonable rate set to encourage initial use and generate activity. Innovation centres in other locations, such as Toronto, charge about \$200 a day or a four-hour minimum for use of their processing equipment. However, these centres are heavily subsidized by the City of Toronto and charge rates are set fairly low until the centre becomes established. They also reduce the rental cost for evening and overnight booking times. YAA can set this per diem rate at a different level if they wish.

Capital Costs

The following statement identifies the expected capital costs associated with developing the Food Innovation Centre. In some cases, good quality used processing equipment can be purchased to save start-up costs. The following costs reflect new equipment purchase costs.

Food plant conversion

Class C Panels	\$10,800
Installation	\$10,000
Freezer floors, partitions	\$8,000
Doors	\$7,500
Plumbing, drains	\$15,000
Contingency	\$7,500
Design/Layout	\$5,000
Office equipment	\$7,500
 Total	 \$71,300

The \$71,300 is the expected cost to convert a space into a food processing facility. Any rented facility not already a food plant will require significant upgrading for items such as drains, floor, ceiling and wall panels and other physical upgrades required to allow the site to operate as a food plant.

Although this plant would not require a CFIA inspection, we recommend building the plant to CFIA plant construction standards.

Equipment List

We feel the facility could serve both as a product development centre and a production plant for individuals to use for actual production for market, for a fee.

General comments

- 2,000 sq. ft. of space for processing plant (1,700 sq./ft. actual space, 300 storage and other uses).
- Build to CFIA approved food safe standards with impervious easy-to-clean surfaces such as tile, concrete, stainless steel, etc.
- Adequate drainage with proper fat and waste collection to prevent sewer contamination.
- Both heating and cooling capacity (for when running meat products).
- Good ventilation to counter humidity.
- Rooms set up for varied and multiple processes. Equipment mostly portable/moveable so it can be either stored against walls out of the way or in a separate storage room.
- Require a dry store for ingredients (vermin and insect proof).
- Require a commercial refrigerator and freezer. Preferably a walk in size.
- Need hot and cold water, maybe propane or natural gas for some equipment.

Equipment

It is not possible to determine all of the equipment requirements without knowing the type or quantity of products to be developed or processed. The following list would be basic for the production of meat (red or poultry), fruit, vegetable, bakery or sauce/jam products. As more specific products are developed, more equipment will be required. Prices below vary by the size of each item and by supplier. One could expect a discount when buying all of the equipment.

The table on the following page lists two equipment selections:

- Basic (low cost) would suffice as the most basic list adequate for a test/development kitchen
- Extensive (higher cost) would allow for producing small commercial runs of product. In this option, equipment is either scaled up from basic or other equipment is added.

There are two classes of coolers and freezers in both scenarios: small units or larger walk in units. The walk in units would be required for small commercial runs.

Many of the pieces of equipment could be shared over a range of products and other equipment is specific to certain classes of product as shown.

The prices shown are indicative of this type of equipment when purchased individually. If YAA were to buy all of their equipment from a single supplier, it would likely receive a discount on the total cost.

Exhibit V-2
Estimated Equipment Costing List

<u>Shared equipment</u>	<u>Basic</u>	<u>Extensive</u>
Commercial stove/oven	\$1,200	\$4,000
Ice machine	\$4,000	\$4,000
Stainless tables 8' 3 x \$1,200	\$3,600	\$3,600
Vacuum sealer	\$2,000	\$2,000
Bowl mixer	\$7,000	\$7,000
Steam kettle		\$20,000
Canning retort (small)		\$10,000
 <u>Meat processing</u>		
Grinder	\$800	\$800
Meat mixer (hand)	\$500	\$500
Stuffer	\$900	\$7,000
Smoker	\$3,500	\$3,500
Bowl chopper		\$7,000
 <u>Fruit & Vegetable</u>		
Juicer	\$400	\$3,000
Dehydrator	\$800	\$1,000
 <u>Miscellaneous</u>		
Stainless sinks	\$2,000	\$2,000
Tools and equipment	<u>\$6,000</u>	<u>\$10,000</u>
	Subtotal	\$85,400
	\$32,700	
Small cooler	\$5,000	
Small freezer	<u>\$7,000</u>	
	Sub Total	<u>\$44,700</u>
 (Option for basic)		
Walk in cooler	\$10,000	
Walk in freezer 10x8'	<u>\$10,000</u>	
	TOTAL	<u>\$64,700</u>
 (For extensive)		
Walk in cooler 10'x10'		\$10,000
Walk in freezer 10'x10'		<u>\$12,000</u>
	TOTAL	\$107,400

Source of equipment cost estimates:

1. Webstaurant – a website for new and used processing equipment.
2. Assistance on selecting and purchasing available from equipment dealers.

The total cost of setting up the plant equipment is estimated to be \$64,700 for a basic operation or \$107,400 for an extensive set of equipment.

Regulations

There are two regulations that would apply to this facility whether it is a rented or constructed site.

1. Zoning - City of Whitehorse

This proposed facility is considered by the City of Whitehorse as “light processing/manufacturing” and could be located in the CIM zone (mixed commercial/industrial) or IS zones (service/industrial).

Some of the areas that are possible locations include the Maxwell area, Titanium Way, Taylor area, the Highway zone area and several other areas.

2. Health and Food Regulations

The Yukon government’s Environmental Health Services does not have any regulations specifically governing food processing plants. Our discussions with the department revealed that this type of operation would fall under the Eating and Drinking Place regulations. The usual inspections for health and cleanliness would apply to this operation.

CFIA

The Canadian Food Inspection Agency (CFIA) office located in Kelowna BC is responsible for any food plants in the Yukon. Our discussions with them revealed the following:

1. This proposed plant would not be required to be a federally regulated plant as all products would be sold within the Yukon. This plant could process vegetable, fruit, baked good and process meats such as sausage and other products.
2. Notwithstanding, CFIA could make spot inspections and tests at any time at this centre.
3. All processors would have to develop an processing plan in keeping with GMP practices (Good Manufacturing Processes) and have this plan reviewed by CFIA when requested. (Development of this plan would be one of the services the Food Innovation Centre would work with processors to develop).

This plan would identify such things as:

- source of raw materials and ingredients
- proper handling and storage of products
- records maintained
- process documented

The Centre’s responsibility would be to ensure that the facility is washed down between processes and that any ingredients not under lock and key be removed from the site.

4. CFIA could serve as an advisor and work with the Centre manager and individual processors to ensure that a proper GMP plan is developed.

GMP means that each product/process would have written standards and procedures of production and sanitation including appropriate attire (hair nets, clothes coverings) hand washing, clean up, etc. Policing of these practices would be the responsibility of the “manager”. The Centre would be a show place local retailers and restaurant operators could tour to build confidence in the system.

Products produced at the Centre could have an official looking certificate signed by the Manager stating that:

*“The Yukon Agriculture Association certifies that **company name** produced this **product description** at the Yukon Food Centre. This centre is built and maintained to sanitary standards acceptable to the Yukon Health Department. This product was produced using Good Manufacturing Practices including HACCP.”*

None of the above would impact on the Yukon Brand. The brand is a marketing tool denoting made in the Yukon it is not a guarantee of anything else.

Our Recommendation

The Food Innovation Centre would greatly advance the growth of the food processing activity in Whitehorse. While the immediate goal is to supply local grocery stores, “exporting” to BC and Alberta for unique food products is a logical next growth step for any non-meat or egg products. This would open up the volume potential significantly.

The Business Risk

While there is strong evidence that growers and those involved in food processing will use the proposed centre the risk is that utilization may be lower than anticipated. The mitigating steps include creating awareness of the centre and to undertake an effective launch and on-going communication of the program to the agri-food community.

As identified in an earlier section, there are a number of steps this centre can undertake to generate users for the facility including:

- Hold community classes and events such as wine tasting, cooking classes and food processing sessions
- Create a board composed of food processors, growers and retailers, if possible.
- Create linkages with other centres including Leduc that has agreed to help the Yukon Food Centre with technical advice for individual processors
- Create an effective web site
- Work with the Brand Program on cross-selling and awareness initiatives.

Possible transfer to private ownership

Due to the requirement of the Food Innovation Centre to receive government funding to operate, it is not likely that any private sector partner will wish to own or operate this in the future.

Performance Evaluation

To begin this program, we recommend that realistic targets be set in consultation with the manager for such metrics as:

- launch and frequency of awareness programs held
- updates to web site

- creating linkages with other innovation centres in Alberta, Ontario for technical support for members, educational programs
- development of a common GMP plan and adapting for each food processor in advance of using the centre
- number of people using the centre and for what process
- revenue dollars generated through the program

We recommend that a dashboard type of report be provided to the YAA Board every quarter and that an annual review be developed measuring the success of the above items.

Implementation Plan

There are a number of steps that can be taken immediately if the YAA board decides to proceed with this project.

1. Apply for funding for required capital and operating expense grants.

These could include applications to the GF2 program, CanNor, Community Development Fund and applying to the Yukon Government for similar grants.

2. Secure a lease on a building that could house the Food Innovation Centre, the YAA office and the Yukon Branding program under one roof.
3. Begin planning the conversion of the production portion of the building to bring it to food safety standards.
4. Source the processing equipment, both new and used as available in Canada and the U.S.
5. Begin the search process for the Food Centre manager and the Yukon Branding Manager.
6. Begin a marketing and awareness program to generate clients for the Food Innovation Centre and growers and process members for the Yukon Branding program.

Funding Sources

This proposed center could possibly seek financial assistance from four sources:

1. The Community Development Fund (CDF)
2. GF2
3. CanNor
4. Yukon government

The following provides the details of these programs.

Community Development Fund

This program provides funding up to 90% of approved costs for:

- costs for new building construction (and food safety retrofit requirements)
- purchase of production equipment
- soft costs associated with construction and plant equipment (design, engineering, consulting)
- training costs

The program does not provide funding to cover operating costs.

This project would apply under the Tier 3 category for projects costing over \$75,000. There is no maximum limit to the funding assistance.

This is only available for not-for-profit organizations. The total annual funding for this program has for the Yukon for Tier 3 projects is \$1.2 million annually.

GF2 Funding

Growing Forward 2 is a five-year (2013 to 2018) federal/provincial and territorial funding program for the agri-food industry. (It is widely expected that the program will be renewed for another five-year period, albeit it under a different name).

Portions of the GF2 program may be relevant for the proposed YAA projects include the innovation and commercialization envelopes.

Funding is available for a wide variety of purposes including project soft cost, equipment and asset purchases.

Canadian Northern Economic Development Agency (CanNor)

This is a federal government program aimed at assisting growth for northern Canada. This program provides various types of funding for soft costs and some project related and job training but not on-going salary/wage expenses. It also does not provide funding for capital expenses.

Yukon Government

The Yukon government may provide funding for operating expenses and capital costs. We understand that there is some degree of flexibility application of funds that could assist YAA in implementing some of the projects.

The following table identifies the main features of these programs for YAA's purposes.

**Exhibit V-3
Possible Funding Sources Available**

Funding Program	Programs Relevant	Details	Applicable
1. Community Devel. Fund	Community & economic development	Up to 90% of capital & soft costs Tier 3 funding applicable to YAA	Possible funding for equipment, plant retrofit and building costs
2. Growing Forward	Ag Development Program Yukon R & D Market Development Program Food Safety Program	Up to \$100K or 75% of costs up to \$25k, up to \$250k 75%of costs up to 100% of costs	Possible funding for equipment, Food plant retrofit & building Mkt. programs-advertising, web site Food production plans/HACCP plans
3. CanNor	Northern community funding	Soft costs and training No assets	Possible funding for manager training and processor training, educational programs
4. Gov. of Yukon	Possible funding for capital or operating expenses	Discuss with Branch on options	Possible funding for operating funds

2. Yukon Branding Program

This proposed program will provide the missing link that many food growers and processors find in trying to get products listed at Yukon grocery stores – professional representation to the store buyers.

To help support the initiatives for Yukon farmers and food processors is the recognition that effective sales and marketing initiatives will be required. Our discussions with area grocery store managers and owners revealed that they have a strong preference for dealing with one sales person representing several local growers or processors rather than working with each individually.

Why Pursue this Model

- Similar business initiatives have been studied by YAA in the past – none have been implemented.
- Yukon farmers, growers and processors have opportunity to develop a presence in retail, if implemented carefully.
- Retailers want to deal with a safe and reliable supplier set.
- Coordinating and marketing yourself achieves several objectives including the main goal of expanding production to serve the retail market.
- People can opt in or out – this project can still proceed

Logistics and shipping

This program is a branding, marketing and sales representation program to help area producers and processors obtain sales from retail, restaurant, food service and institutional customers.

The program manager would transact a sale on behalf of the program member. Shipping and any additional logistical tasks would be the responsibility of the producer/processor and the program would not hold inventory.

Buy Local campaign

To help achieve this, we recommend that a "Yukon Brand" be created to provide retailers and consumers with the awareness, listing and merchandising programs that will help Yukon suppliers successfully get products on store shelves and generate sales. This can be expanded to the restaurant, food service, catering, and tourism marketplaces as a "buy local" program.

Applicable to the restaurant, food service and catering segments of the industry

This marketing program can be equally applied to obtaining supply agreements with area restaurants, food service and catering.

Whether the products are eggs, meat or processed foods, the following sets of services are being suggested under the "Yukon Brand":

- a unified branded name Yukon suppliers can use to market to grocery retailers, restaurant and food service segments for consistent supply of high quality and certified food safety products.

- in-store merchandising program to ensure that the Yukon Brand is prominently displayed on shelves showcasing Yukon products for consumers.
- a professional sales function that could represent all Yukon Brand suppliers to grocery and specialty food retailers, restaurant and other sectors to negotiate listings and improve sales of Yukon Brand products.
- suppliers could use the Yukon Brand on its own or along with their own farm or food brand as they wish.

While the immediate goal will be to increase presence of local products at Whitehorse and area grocery stores, the Yukon Branding program will provide advice and sales representation to food processors that have the products and ability to sell to the Alberta and BC markets and other markets.

There was strong interest from survey participants for this idea. We also found strong interest from managers of the large and independent grocery stores in Whitehorse.

There would be an added benefit to the grocery stores in sourcing from the Yukon Brand program as they would be assured of safe products, packaging and product coding specifications.

There would be significant value provided by growers and processors in using this service as it would smooth the way for them to gain listings and maintain supplier status with grocery stores.

Yukon Branding Program Manager - Job Responsibilities

We see this role as a part-time position. The ideal candidate would have the following experience:

- selling to grocery store customers
- preparing sales sheets, presentations to store buyers
- assisting members in preparing product market plans
- develop the content of the program

Our concept of this model is a combination of a sales agency operation and product branding/buy local program. There are several delivery models of this used in other jurisdictions to varying degrees of scope. OMAFRA has the Ontario Foodland program which is a branding and in-store promotions program.

As mentioned in the Food Innovation portion of this study, ideally the Yukon Brand Manager would also ideally act as the Food Centre manager.

Fees Charged to Program Users

Growers or processors who use the program would be charged an annual membership fee of \$125 and a 15% on all sales facilitated through the program. These fees were set quite low to encourage use of the program. A case could be made to set the percentage fee to 20%.

For these fees, members would receive.

- professional sales representation to the areas grocery retailers as well as restaurant and food service customers.
- guidance and advice on how to price, package and prepare "sell sheets" and other material for sales presentations.
- on-going advice on how to find new markets for their products.

Forecasted Income Statement

The following identifies the expected income statement for the Yukon Branding program.

It is anticipated that the salary cost is one-half the total year salary as this person will also be the Food Innovation manager.

Exhibit V-4 Forecasted Income Statement Yukon Branding Program

Revenues	Yr1	Yr2	Yr 3	Yr 4	Yr 5
Fees on sales	\$15,000	\$26,250	\$30,000	\$30,000	\$30,000
Member Fees	\$3,750	\$5,000	\$5,625	\$5,625	\$5,625
Yukon assistance	\$20,000	\$15,000	\$15,000	\$15,000	\$15,000
GF2 grant	\$30,000	\$20,000	\$15,000	\$15,000	\$15,000
Total Revenues	\$68,750	\$66,250	\$65,625	\$65,625	\$65,625
Expenses					
Manager-Shared	\$35,000	\$35,000	\$35,000	\$35,000	\$35,000
Office space	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000
Travel, Car	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000
Sales design	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000
Advertising	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000
Other	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000
Total Expense	\$65,000	\$65,000	\$65,000	\$65,000	\$65,000
Profit/Loss	\$3,750	\$1,250	\$625	\$625	\$625
Assumptions					
Sales through Program	\$100,000	\$175,000	\$200,000	\$200,000	\$200,000
Percentage to Program	15%	15%	15%	15%	15%
Member Fees					
Number	30	40	45	45	45
Fees each	\$125	\$125	\$125	\$125	\$125

In addition to the expenses noted above, there may be marketing funding for Product Branding Initiative from the Yukon government for up to \$75,000 that the program could apply to cover such items as marketing materials, web sites, promotion and other activities.

Costs

This business has very little upfront or capital costs. Operating costs relate to the manager of the program and development costs such as a web site, sales materials and operating costs.

Profit

Total annual expenses for this project are expected to be \$65,000 per year. Operating costs of the staff and expenses are expected to be offset by a margin taken on products distributed through the program as well as an annual members' fee to participate in the marketing program.

Funding assistance starting at \$50,000 in Year 1 decline down to \$30,000 by year 5. These funds could come from the GF2 program or the Yukon government. Applying to these programs would be one of the important first steps in implementing this program.

Export Sales Assistance

In addition to gaining supplier status in Yukon stores and restaurants, some food processors who have unique products could have the Yukon Branding program help them achieve sales in BC and Alberta and other markets. The sales professional that the program will hire will have the mandate to help program members gain both local and regional sales.

Products that would be allowed to be "exported" to other provinces or countries exclude meat, eggs and poultry as these products would have to be processed in a federally inspected plant- an option that is very costly for a small operation.

Some provinces (Quebec, Ontario and Alberta) and the federal government have export sales and assistance programs for food processors who are seeking foreign sales guidance. In addition, there are specialized management consulting firms, food trade associations and other agencies that can provide both strategy and "ground-level" assistance to food companies on how to gain export sales. Assistance can range from organizing trade shows in foreign markets, outgoing trade missions, in-coming trade missions to counselling companies on how to make contacts with foreign buyers and how to become "export-ready".

For the Yukon Brand program, export sales assistance could be provided by an experience food processing individual and supported by linkages with groups in other jurisdictions (BC and Alberta for example)

Our Recommendation

We feel implementing the Yukon Branding Program together with the Food Innovation Centre will help growers and food processors access the food marketplace in the Yukon.

Similar models of the proposed Yukon Branding Program have been used in several other jurisdictions including Ontario, the Atlantic region and in several states and regions of the United States. For individual growers and processors in the Yukon, an industry-wide marketing and representation model as we are proposing will help them gain access to store shelves considerable easier and quicker than if they attempted this individually.

Performance Evaluation

To begin this program, we recommend that realistic targets be set in consultation with the manager for such metrics as:

- number of members joining the program
- number of retailers, restaurants, food service and institutional customers buying from the program
- delivery of specific in-store promotional, shelf signage and awareness events held
- track the gross sales of products booked through the program.
- advertising programs conducted
- promotional material produced (sell sheets, program awareness packages to retailers and others)
- updates to web site, new information postings
- dollars booked through the program

We recommend that a dashboard type of report be provided to the Board every quarter and that an annual review be developed measuring the success of the above items.

3. Equipment Rental Operation

YAA presently owns a number of pieces of farm equipment that are stored on various farms in the area and are rented out occasionally from these locations.

This operation would become a more organized and promoted business where equipment would be stored, maintained and rented from the YAA property. The rentals could be booked and paid for through the YAA office. Any cleaning and maintenance would be arranged by the newly hired manager of the food centre and branding program. Renters would pick-up the equipment by accessing a lock-box type of system at the storage building that would be constructed for this purpose.

We do not recommend that a caretaker be hired for this operation. The revenues of this revived operation and the time commitment does not warrant a caretaker role.

We tested the interest in renting this equipment in the web-based survey we conducted. The survey indicated that there was some but limited interest from several farmers.

The equipment consists of:

- | | |
|---------------------------------|----------------------------------|
| - Schulte 1500 heavy duty mower | -Kuhn 3 bottom reversible plough |
| - Aerator | -John Deere 1590 No Till Drill |
| - Leon 375 manure spreader | -Bulk Fertilizer Bins |

Capital Costs:

As YAA already owns this equipment, the capital costs relate to the construction of a modest storage building on the YAA land. We estimate the cost to construct a storage building (closed in, gravel floor) for this equipment would be \$55,000 for a 30ft x45ft closed in pole barn.

The only capital cost to operate this business is the storage building. It may not be necessary to have electrical or water connection simply to service this storage building. However, we obtained several cost quotes from Whitehorse area contractors for electrical work and a drilled well.

Electrical connections	\$20,000 Single Phase, \$40,000 for a 3 Phase
Water (drilled well)	\$25,000 For well, pump, treatment system
Total	\$45,000

Cost sources:

1. *Electrical provided by Yukon Electrical Company Ltd.*
2. *Well cost provided by Impact Drilling*

Costs could be reduced further by not drilling a well.

Profit

The survey revealed that there is interest in renting this equipment. However, we estimate the revenue to be modest each year. The incremental cost for YAA to operate this business is minimal. This business should be viewed more as a low cost service to the farming community than a standalone business.

While it is difficult to accurately forecast the number of days the equipment would be rented, we have estimated below a reasonable expectation based on the input we received from the survey on this equipment rental option.

Annual Equipment Rental Income Forecast

	Daily Rate	Number days	Revenue
-Schulte 1500 heavy duty mower	\$185	10	\$1,850
-Kuhn 3 bottom reversible plough	\$130	6	\$780
-Aerator	\$185	8	\$1,480
-John Deere 1590 No Till Drill	\$300	8	\$2,400
-Leon 375 manure spreader	\$160	6	\$960
-Bulk Fertilizer Bins			
Total			\$7,470

Other than periodic repairs and cleaning, there are not likely to be many expenses associated with storing and renting this equipment. Rentals can be booked using the YAA web site or calling the YAA office and payments can be handled by the YAA office.

The following identifies the expected income and expenses for a five-year period.

Exhibit V-5
Projected Income Statement
Equipment Rental

	Yr1	Yr2	Yr 3	Yr 4	Yr 5
Revenue					
Equipment Rentals	\$7,470	\$7,470	\$7,470	\$7,470	\$7,470
Total revenue	\$7,470	\$7,470	\$7,470	\$7,470	\$7,470
Expenses					
Admin allocation	\$750	\$750	\$750	\$750	\$750
Insurance	\$1,800	\$1,800	\$1,800	\$1,800	\$1,800
Repairs/Maintenance	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000
Total expenses	\$3,550	\$3,550	\$3,550	\$3,550	\$3,550
Profit/Loss	\$3,920	\$3,920	\$3,920	\$3,920	\$3,920

Capital Costs

Storage building	\$54,000
Power washer	\$1,000
Total	\$55,000
Optional	
Electrical	\$20,000
Water	\$25,000
Total	\$100,000
<i>Building</i>	<i>\$54,000</i>
<i>30 X45 X\$40</i>	

The capital costs for this operation would be either \$55,000 or \$100,000 depending on whether electrical and water services are installed. We recommend a stipulation that renters return equipment in a cleaned and washed condition to eliminate the need for this operation to pay the cost to install a well and hydro services.

4. YAA Land Use Business Model

YAA wishes to encourage development of its land. This could include projects it initiates as well as those developed in a joint venture arrangement with community organizations and individuals.

Some of these could include:

1. Direct YAA projects and purposes:
 - a. The Food Innovation Centre either now or in the future as a step 2 to a leased facility option.
 - b. Location for the Yukon Branding program operation
 - c. Location of the equipment rental operation
 - d. Location for the YAA office

2. Joint venture arrangements with outside organizations that help YAA achieve its objective to help the local agri-food industry:
 - a. Yukon Horse and Rider facility
 - b. Storage facilities proposed for such things as fuel, organic feed mill or bulk storage.
 - c. Any other ideas or proposals individuals or organizations may approach YAA with in the future.

To help anticipate and plan for this development, it is important that YAA has a decision making model to help it determine if and how an agreement with any parties should be reached. While YAA encourages use and access to their property, it is important that you review each proposed use to determine if and how YAA could reach a land use agreement.

A YAA Industrial Land Park

Essentially YAA could look at its land as an industrial or commercial park for the Yukon agricultural community and reach out to encourage proposals from individuals, organizations and investors.

We have developed the following checklist to help you determine the best way to proceed with any proposal you may receive.

Screening Process

1. To what degree does this project further YAA's mandate to help facilitate growth of the Yukon agricultural community and industry?
 - a. Degree to which project help advance YAA's mandate
 - b. Degree to which project reaches out to other segments of the agricultural community and general community
 - c. Degree to which project will help raise the awareness of the YAA

2. What is the financial ability of the proponent to complete their obligations of the lease?

3. Permitted Uses
 - a. What are specific uses rights granted to the proponent (permitted uses, exclusions, hours of access, signage, advertising rights and limitations)
4. Reporting
 - a. What are the reporting requirements of proponent to YAA?
(Meeting milestones of development, operational or financial reporting)
5. What is the financial exposure to YAA?
 - a. Will the proponent pay for any buildings or structures?
 - b. Who will retain ownership to buildings and equipment with expiry or cancellation of the lease?
 - c. Who is responsible for the removal costs of buildings or equipment at expiry or cancellation?
 - d. What operating costs, if any, will YAA be responsible for?
 - e. What lease agreement will YAA enter it to? (Payments, lease term, conditions, cancellation clauses)
 - f. What liability will YAA have in approving this? (insurance requirements and other)
 - g. What revenues might YAA receive from the project?
6. What operational/logistical responsibilities for YAA and YAA office
 - a. Administration
 - b. Marketing (including joint marketing, events, sponsorship)
 - c. Site inspections
 - d. Review reporting requirements
7. What are the capital costs required to allow for this proposal and who will pay for these?
 - a. Road construction
 - b. Hydro access
 - c. Water
 - d. Fencing
 - e. Security surveillance

Communicate your interest in developing the land

To help start this process, YAA should communicate to the Yukon agricultural community that it wishes to begin discussion with any parties wishing to locate a community or industry related facility or service on its land.

This could be communicated on the YAA web site as well as specific notification to its members and those in the broader Yukon agriculture community and assisted by the economic development groups within the City of Whitehorse and the Yukon government.

The YAA board would consider each proposal on a case by case basis and determine whether it would be possible to receive fees, rent or other financial compensation for allowing an operation to use the YAA land.

Appendix A

Projects Not Recommended to Proceed to the Business Planning Stage

There are a number of business ideas and projects we reviewed that YAA has decided not to pursue, at least for now.

The following section of this report provides a full discussion of these projects including reasons for not proceeding.

1. Mobile Abattoir

We reviewed the viability of YAA developing a heated storage or a docking station for the mobile abattoir to add capacity and extend the number of months this service could be available.

The proposal was to start this facility as Phase I as a full docking station where a red meat mobile abattoir would operate as a unit within a fully functioning building (heat, water and services) provided on a year-round basis.

While this project was not selected for the business plan development we provide a full discussion of this option as the need may arise in the future.

Discussion

Currently the red meat industry (cattle, hogs, goats, sheep) is serviced by the mobile abattoir when weather permits. The mobile abattoir travels to the farm site where the animal is slaughtered outside the unit by the animals' owner. The blood, specified risk material (SRM), unused viscera and contents are disposed of on the farm. The carcass is processed in the trailer. This service permits the owner of the animal to market the products where the abattoir operator, government or YAA have no ownership of the product.

A new stationary abattoir has been built by a YAA member and is in the final inspection stage. This fixed site will be capable of operating year-round. Also this site will have full meat processing capacity (butcher shop) to break down a carcass into saleable products including sausages and smoked products. As a fixed site with health inspection the "waste" products will be composted off site and the SRMs stored for shipment to an approved destruction facility.

The concept of a heated mobile abattoir was addressed by Klassen 2013. Our discussions with the current operator identified that a heated storage building may slightly extend the useable time that it could operate at end each of the season. This was also Klassen's conclusion. Klassen estimated that this building would cost \$160,000 (2013).

Klassen made reference that there was no elaboration of what constituted a docking station. For the purpose of this discussion we define the docking station as a building into which the mobile abattoir would be parked as part of a complete meat processing operation. In essence, the site would be a stationary processing plant.

The site would require holding pens for livestock, an enclosed slaughter facility, means to move the carcass to the mobile unit (now docked) for processing and then movement of the carcass to a cooler (have to chill the carcass before shipping).

A butchering operation to break the carcass into saleable cuts could also be part of the operation. The building would require heat, refrigeration, potable water, a septic system with fat traps and a cooler.

A major concern will be the disposal of waste from the slaughter facility including blood, hides, viscera and, in the case of cattle, Specified Risk Material (SRM). SRM disposal is regulated by federal regulations to detect and prevent Bovine Spongiform Encephalopathy (mad cow disease). This was discussed in the 2013 Klassen report and the situation has not changed. When an animal is slaughtered on farm the disposal of waste is the responsibility of the farmer; however, at the proposed docking station it would become the responsibility of the YAA. Acceptable disposal methods for regular animal waste are incineration, burial or composting. Appropriate permits would have to be obtained from the Yukon government if YAA was going to develop this project.

Currently the mobile abattoir receives the carcass on site from the farmer and has no responsibility for slaughter or disposal of the waste. In a fixed situation owned by the YAA this responsibility would revert to the YAA as it would be their land and facility along with the concerns of waste disposal.

If a fixed slaughter facility was attached to the site for housing the mobile abattoir there are a number of concerns to be addressed:

- Where would animals for slaughter be held after transport and prior to slaughter?
- Who would conduct the slaughter?
- How and where would the waste products, including SRM, be disposed off?
- After processing the carcass is a butchering operation required to break the carcass into products?
- Is this strictly a custom kill operation or will YAA own the carcass?

Considering all of these concerns and the fact that a new inspected fixed abattoir and butcher plant has been built by a YAA member, we do not believe that the YAA should consider building another fixed slaughter operation (docking station) in competition with this new facility for a very limited resource.

An enclosed heated storage facility for the current mobile abattoir may have some value as it will better protect this unit and may extend its useful season by a few weeks. However, the cost of more than \$160,000 may not be justified for a very limited extension of the season

Capital Costs

The following identifies the process for the docking station/fixed abattoir operation:

1. **Holding corral** (pens): required to hold livestock after transport.
2. **Slaughter**: currently done on farm outside of mobile. If doing this at the docking station would require an enclosed space, maybe 10 by 8 ft. with concrete floor and drain for the blood or the blood could be collected into stainless containers. High ceiling to allow for lifting

carcass for blood drain.

3. **Butchering:** this step would be done in the mobile same as on farm except that specified risk material SRM (head and spinal column) would have to be removed and probably stored frozen for shipment to an approved facility in British Columbia (unless the Health authorities permitted composting).
4. **Waste:** the blood and unused visceral material would have to be collected and disposed of, probably by way of composting at another site.
5. **Carcass chilling:** the carcass should be chilled prior to either being taken back by the farmer/owner or disposed of by sale to another butcher or cut up for retail sale.

2. Chicken Processing

The following is provided for the reader to understand the current local chicken production.

It is important to separate the discussion of chicken produced for meat purposes (termed broiler chicken) and those raised for egg production (termed laying hens). These are totally separate types of birds.

The information in the surveys of YAA members was unclear as to which birds were being produced. According to the information respondents currently had 90 chicken and 518 hens while having annual sales of 2,972 chicken and 185 hens. Considering this conflicting information, it is difficult to conclude the current state of the Yukon poultry industry.

Broiler Chicken

Approximately 80% of retail food sales in the Yukon are through grocery stores. In the case of chicken, they are supplied with their regular food orders from Alberta, including chicken. Whole chickens are a small part of the chicken sales as most products are delivered as tray packs of fresh parts such as boneless or bone-in breasts, legs, thighs, drums or wings. These parts are usually not sold in proportion to the whole bird as consumer preferences may skew toward specific parts.

Consistency of size of birds and the parts is important. Broiler chicken production is very efficient and it is very unlikely that chicken could be produced in the Yukon at the same price as it can be delivered from Alberta. Chain fast food restaurants are even more difficult to serve as they require very precise portion control and specific parts.

The 700,000-person market in Alaska may seem like a potential target; however, the same requirements for specific parts will exist there. Commercial chickens require a very specific and carefully controlled diet which would have to be imported from Alberta so the Yukon has no comparative advantage to supply Alaska. Due to subsidies, low corn and soybean prices and efficiencies of production, Canadian chicken cannot compete for price point with that of the United States. Moreover, a federally inspected plant would be required to export to the USA.

As noted from the survey, the numbers of broiler chicken produced in the Yukon are not conclusive. The survey suggests that 3,000 broiler chickens are produced annually in the Yukon.

This number is insufficient to supply an automated processing plant. The slowest automated chicken processing equipment is designed for 1,500 birds per hour. The new red meat abattoir and processing plant indicated that they may in the future install automated equipment to process

chicken if there is sufficient supply.

It appears that any chicken sold from Yukon farms are slaughtered, eviscerated and processed on the farm. Our interviews indicate that local farmed chicken may be grown to larger sizes compared to the average commercial broiler from Alberta or British Columbia (3kg vs. 2Kg). This larger sized bird may have a small niche market in the Yukon retail market.

Although the current supply of broiler chicken is insufficient to justify a dedicated processing plant this may change if a market for larger birds is developed. A poultry processing plant could also process spent laying hens from the egg production operations.

Laying hens are slaughtered when their egg production declines before their first molt, usually at about one year of age. The consumer market for spent hens is very limited as they are thin and tough, useful mostly for soup. The other use for spent hens may be for dog food although we did not investigate this option.

There are two options for a small poultry processing plant: mobile and fixed. Both broiler chicken and laying hens are produced year round, not seasonally. This makes a mobile unit impractical due to the concern of freezing in the winter. Our experience with mobile poultry processing in British Columbia has shown the impracticality of this approach for year round operation.

The 2004 report by Northwest Research quoted a cost of \$150,000 USD for a mobile unit suitable for Yukon conditions. Factoring in inflation and the current exchange rate would likely put the cost of a mobile poultry abattoir at closer to \$200 – 250,000. This report by Taggart also concluded that there was insufficient broiler chicken in the Yukon to justify a mobile white meat abattoir.

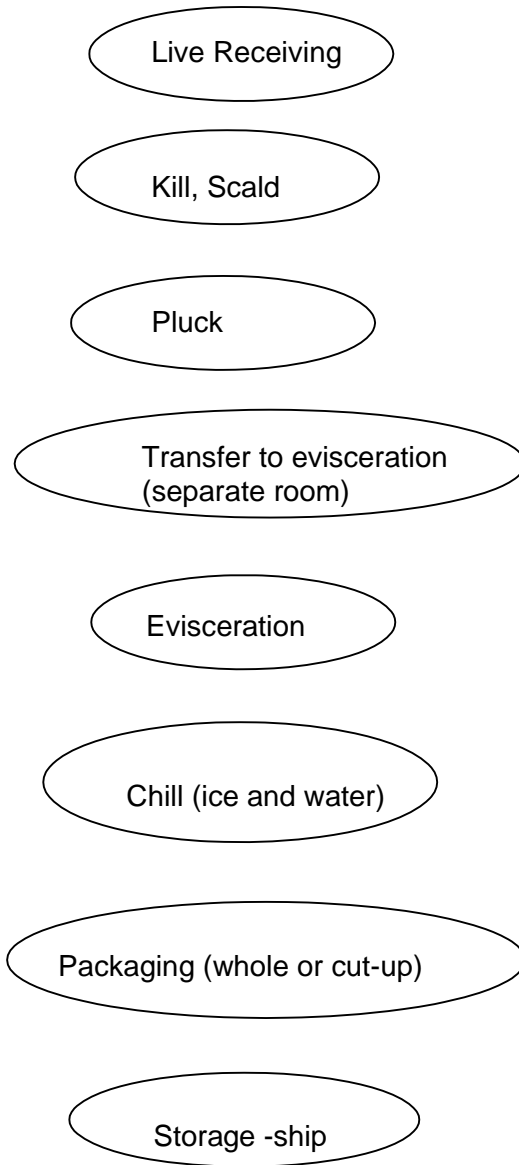
When there are sufficient broilers and spent hens available then a small fixed abattoir and processing plant could be built to process 30 to 50 birds per hour in a batch system. The transportation of chicken to a fixed plant should not be a problem even in winter as this is done across Canada regularly.

Processing equipment for such a plant will cost approximately \$25,000. The plant could be as small as 400 square feet but it would be more efficient to have more space at 600 square feet. A British Columbia processor even adapted a 40-foot shipping container as a processing plant; however, this would not work in Yukon winter conditions. The slaughter, scalding and plucking area would have a divider from the evisceration area to prevent cross contamination.

The eviscerating area should be cooled and a separate cooler would be required for storing finished product. The plant would have to be built to appropriate sanitary standards approved by health authorities. Feathers, blood and viscera could be sent to an approved site for burial or composting. The plant would require hot and cold potable water and a septic system with traps to catch feathers, blood and organic material.

The schematic below lays out the processing sequence for a small poultry processing plant.

**Flow Chart
Poultry Slaughter and Processing Plant**



3. Egg Grading Station

Another project we examined was a centralized egg grading station in Whitehorse. Due to insufficient volume of egg production, the economics of such a grading station is not strong.

We feel there presently is not enough egg production in the area to justify a centralized egg grading station.

While this project was not selected by the YAA board to be included in our development of a business plan, we do provide the following discussion of the local egg marketplace for the reader for clarification and for when the market increases to a viable level.

Discussion of the local egg marketplace

Egg laying hens are a different bird to a broiler chicken. It is unclear how many hens are in the Yukon. A commercial hen produces approximately 25 dozen eggs per year or 5.7 eggs per week. Currently it appears that most eggs produced in the Yukon are sold ungraded at the farm gate. Discussion with major retail grocers in Whitehorse suggested that they would welcome fresh eggs from local producers if the quality and reliability matched their current suppliers. Recently a small retail store in Whitehorse installed a semi-automated washing and packaging operation that could do custom processing for other egg producers.

As for chicken, if egg producers intend to sell their eggs through the major grocery retail markets those eggs would have to be washed, candled and graded. These requirements are regulated by the Canadian Food Inspection Agency (CFIA) to protect the public from health risks and to ensure proper grading.

Our research did not reveal any egg production operations large enough to warrant their own egg washing/grading operation. However, if there was sufficient production in the future there may be an opportunity to establish a YAA community egg grading station that would open up the opportunity to supply the local grocery stores with eggs.

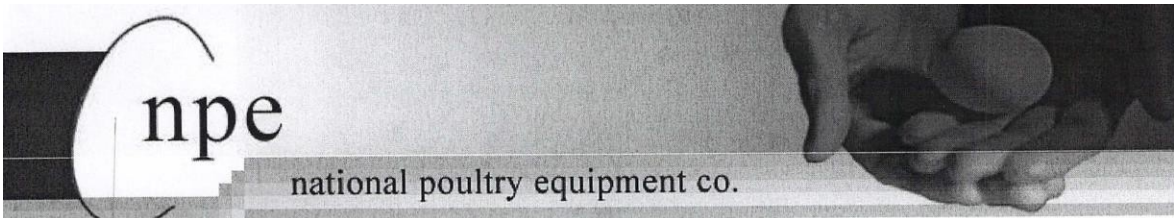
Egg grading is very simple. The eggs are received (maybe held in a cooler), washed, candled (to check for cracks or internal defects), weighed and packaged then stored in a cooler for shipping. If this was to be a community or shared operation among several egg producers, there could be two approaches:

1. An operator (YAA) would operate the grading station by receiving and processing the eggs which could go back to the individual suppliers or marketed under one label. YAA might buy and sell the eggs and split the returns with the suppliers.
2. Each producer would process their own eggs and YAA would simply charge a small fee for use of the machinery, cleaning and maintenance.

Small batch washing units are available which could be used on farm although eggs should still be candled for cracks and defects.

As egg production in the Yukon increases a small self-contained grading operation could be justified. A small continuous egg washing, candling unit capable of handling 1,800 – 2,400 eggs per hour will cost about \$36,000 USD. It would require a cooled space with potable water and drains and a separate cooler to hold the graded eggs.

An example of a complete unit is shown in the exhibit below:

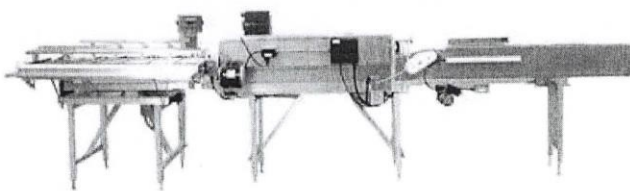


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model 5 csg

\$ 36,000 USD
with loading conveyor



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Features	<ul style="list-style-type: none"> Candles, sanitizes and grades 1800-2520 eggs per hour No recycled water Custom designed feed and take off (left and right hand models) Belt feed loading Spool spinning candling Washable drive motors 44 in. brushes
Options	<ul style="list-style-type: none"> High/low temperature alarm Direct injection system for sanitizing solution 56 in. brushes Cross loader <ul style="list-style-type: none"> -180 eggs (half case) -360 eggs (full case)
Dimensions	<ul style="list-style-type: none"> Max overall length 17 ft. 4 in. Max overall width 56 in. Max overall height 56 in. Max height to grader 37 in. Max height to loader 42 in.
General Data	<ul style="list-style-type: none"> Factory tested before shipment Electrical <ul style="list-style-type: none"> -110/220 VAC/60Hz -220 VAC/50Hz Shipping weight 1200 pounds

A unit such as the one illustrated has a footprint of 18 by 6 feet and may be placed against a wall. For ease of operation, product handling and cleanup, a refrigerated room of 25 by 15 feet should be adequate.

The YAA board requires some guidelines on how it should allow development of its land. There are a number of options you are considering.

4. Organic Feed Mill and Storage

This business could be implemented by offering the land to interested parties who would provide their own storage equipment. Again, we found little interest in this facility based on the survey results; however, this service could be provided by farmers and private interests on their own.

Reasons for not proceeding

Again, while this business may provide value to the community, it was decided that this facility would best be initiated, paid for and operated by private investors rather than an operation owned and managed by YAA.

With the implementation of the YAA Land Use Business Model, the organic feed mill and the storage barn could proceed with non-YAA investment.

5. Equipment Storage

A storage facility would offer storage for feed, fertilizer and perhaps equipment stored on the YAA property.

There was little interest shown for this idea based on the survey responses. A few people could see using it; however, the demand is very low.

That said, the storage facility could possibly be included in the storage area for the farm equipment and we have costed this below.

We estimate the cost to construct this storage building at about \$40,000. Constructing the driveway and perhaps electricity would be required for this facility to operate.

6. Horse and Rider Facility

Although not specifically a project we reviewed in detail, we did develop and complete a survey for the Yukon Horse and Rider Association. This proposed riding facility could be integrated into the YAA property development.

Proposed Project:

The Yukon Horse and Rider Association is interested in locating their ride facility on the YAA land. Based on the interest shown in the survey, the Yukon Horse and Rider Association is interested in pursuing the following development.

Phase I

1. Clear the land for the site
2. Build a road and parking
3. Build an outdoor riding arena (125' x 250')

Although they are just starting the planning stages of this, they felt the cost to build the above to be about \$150,000. (\$50,000 for the arena and \$100,000 for clearing, road and parking lot).

They also have a Phase II plan which would include building a second horse area (a warm-up arena (100' x 200') at an estimated cost of about \$45,000.

Their intended next steps are to negotiate an agreement with YAA for the land and a governance agreement for the use of the land. The operation and management of this proposed facility will be the responsibility of the Yukon Horse and Rider Association as will the funding for Phase I and II.

Appendix B

Results of Survey to YAA Members

Number of submitted surveys: 40 Highlights from the survey:

- Most respondents were YAA members (55%) following by Fireweed and Growers of Organic at 15% each). Some respondents were members of more than one association.
- Pork producers would be the largest meat category user of the abattoir – and 30% of them said they would increase pork production if a new abattoir was developed.
- Only a few egg producers would use the proposed central egg grading system.
- 42% of respondent's process food. Another 30% intend to in the future.
- 52% of respondents who answered this question said they would use a YAA Food Processing.

The most popular uses of the proposed centre are:

- Process food (bottling, freeze, packing)

The top equipment respondents would like to see include:

- cookers
- flash freezer
- bottling
- smoker
- dehydration
- vacuum packaging

Less interest

- mixer
- cookers

Number of days utilized

Respondents reported that they would use 120 days per year.

A Few Comments

I think it's a great idea and who knows maybe our market might grow big enough to supply more than just the Yukon.

At the moment, I enjoy the contact I get from my customers at gate sales, not really interested in going retail at the moment.

Detailed Results

1. First we would like to learn about your farming activities Are

you a member of:

Yukon Agricultural Association	38	55.07%
Fireweed Community Society	10	14.49%
Yukon-Horse and Rider Association	4	5.80%
Growers of Organic Food Yukon	10	14.49%
Other associations	7	10.14%
Total	69	

Others:

Yukon young farmers
 Whitehorse chamber of commerce
 Junction Community Market
 Equine Association of Yukon
 Potluck Food Coop

2. Are you a:

Farmer/grower or also a food processor	35	72.92%
Do not farm now but intend to farm in the future	4	8.33%
Food processor only -do not farm/grow	2	4.17%
Do not farm or process but plan to process food in the future	4	8.33%
Do not farm or process foods nor do you intend to in the future	3	6.25%
Total	48	

3. Field Inventory

<u>Crop</u>	<u>Number of Acres</u>	<u>Number of Farms</u>
Hay	857	13
Other Crops	3.5	4
Pasture	502	15
Vegetables	13.9	12
All Other	440	10
Total	2012	26

4. Raise animals

Do you presently raise any animals (beef, chickens, hens (eggs), pigs or other animals)?

Yes	25	71.43%
No	10	28.57%
Total	35	

Inventory of Farm Production Results

Number of Animals

<u>Crop</u>	<u>Number of Animals</u>	<u>Number of Farms</u>
Beef cattle	92	6
Hens- meat	90	2
Hens- Eggs	508	9
Pigs	36	2
Goat	12	3
Elk	0	0
Other	60	8
Total	798	26

Animals Sold Per Year

<u>Crop</u>	<u>Number of Animals</u>	<u>Number of Farms</u>
Beef cattle	34	3
Hens- meat	2932	9
Hens- Eggs	170	3
Pigs	115	3
Goat	6	3
Elk	0	0
Other	320	6
Total	3577	35

Revenue of Meat

<u>Crop</u>	<u>Revenue</u>	<u>Number of Farms</u>
Beef cattle	15,200	3
Dairy	0	0
Hens- meat	37,000	6
Hens- Eggs	25,500	3
Pigs	40,000	5
Goat	0	0
Elk	0	0
Other	5,000	3
Total	122,700	

How do you kill animals?

DIY on farm	15	60.00%
Mobile	5	20.00%
Fixed abattoir	2	8.00%
No do not use an abattoir at all	3	12.00%

25

Total

How would you best describe your likely use of the proposed YAA Phase I and II abattoir?

Would use it instead of existing abattoir used	5	33.33%
Would use it in addition to existing mobile abattoir in winter only	0	0.00%

Would use it in addition to existing mobile abattoir in all seasons	5	33.33%
Would not use it at all	5	33.33%

Total 15

If a YAA inspected fixed location abattoir (Phase I and II as described above) were established, would you use it for?

Yes for beef	2	10.00%
Yes for chicken	4	20.00%
Yes for pork	8	40.00%
Yes for other meat	6	30.00%

Total 20

As a result of using this inspected abattoir, would you likely expand your farm operation to provide more product to sell to local retailers?

Increase beef herd	4	17.39%
Increase chicken flock- meat	3	13.04%
Increase hen flock (eggs)	3	13.04%
Increase number of hogs	7	30.43%
Increase number of other animals	6	26.09%

Total 23

Where you sell your eggs now?

On farm consumption

Where you sell now	6	85.71%
Intend to sell to	1	14.29%

Total 7

If a YAA egg grading facility were built, would you use it?

Yes	4	36.36%
No (why not?)	7	63.64%

Total 11

As a result of using this new egg grading station, would you:

maintain current egg production level	1	25.00%
Increase egg production level	3	75.00%

Total 4

How do you sell your vegetables now?

on farm consumption	13	29.55%
farm gate	11	25.00%
farmers market	9	20.45%
to other farmers	0	0.00%
To retailers	6	13.64%
To food processors	3	6.82%
Others	2	4.55%

Total	44
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How do you sell your fruit and berries?

on farm consumption	11	52.38%
farm gate	4	19.05%
farmers market	1	4.76%
to other farmers	1	4.76%
To retailers	1	4.76%
To food processors	1	4.76%
Others	2	9.52%
Do not grow fruits or berries	0	0.00%

Total	21
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Food Processing

Do you process any food products now?

Yes	17	41.46%
No and do not intend to in the future	12	29.27%
No but intend to in the future	12	29.27%

Total	41
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YAA Food Processing Centre

Would you use it?

Yes	14	51.85%
No (if not, why not?)	13	48.15%

Total	27
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What services would you likely use in this facility if available? Strong interest

Process food (bottle, freeze, package)

Yes	7	70.00%
No	3	30.00%

Total	10
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Technical assistance (how to process)

Yes	8	80.00%
No	2	20.00%

Total	10
--------------	-----------

Recipe development and formulation

Yes	7	70.00%
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No	3	30.00%
----	---	--------

Total	10
--------------	-----------

Information (labeling, ingredient listings)

Yes	7	70.00%
No	3	30.00%

Total	10	
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Low

Catering/food preparation Yes

2	20.00%
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No	8	80.00%
----	---	--------

Total	10	
--------------	-----------	--

Food safety requirements and practices

Yes	7	70.00%
-----	---	--------

No	3	30.00%
----	---	--------

Total	10	
--------------	-----------	--

How to obtain grocery store listings

Yes	3	30.00%
-----	---	--------

No	7	70.00%
----	---	--------

Total	10	
--------------	-----------	--

How to develop a business plan for your operation

Yes	4	40.00%
-----	---	--------

No	6	60.00%
----	---	--------

Total	10	
--------------	-----------	--

Test Kitchen

Yes	4	40.00%
-----	---	--------

No	6	60.00%
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Total	10	
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As a result of using the YAA food centre you could gain access to retail markets, would you likely increase your production volume?

Yes	8	80.00%
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No	2	20.00%
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Total	10	
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The top equipment respondents would like to see include:

- cookers
- flash freezer
- bottling
- smoker
- dehydration
- vacuum packaging

Less interest

- mixer
- cookers

Number of days utilized

Respondents reported that they would use 120 days per year.

Other business units

Organic Feed Mill and Storage

If an organic feed mill were built, would you use it for?

Milling organic feed

Yes	6	22.22%
No	21	77.78%
Total	27	

Raw feed (poultry)

Yes	7	25.93%
No	20	74.07%
Total	27	

Any other feed

Yes	8	29.63%
No	19	70.37%
Total	27	

Would you buy distributed/branded feed products from this facility if offered?

Yes	19	63.33%
No	11	36.67%
Total	30	

What products would you likely store in this storage facility for?

Feed grains

Yes	2	7.14%
No	26	92.86%
Total	28	

Fertilizers

Yes	2	7.41%
No	25	92.59%

Total **27**

Equipment

Yes	4	13.79%
No	25	86.21%

Total **29**

Would you likely rent any of the following types of equipment?

Schulte 1500 heavy duty mower

Yes	11	33.33%
No	22	66.67%

Total **33**

Kuhn 3 bottom reversible plough

Yes	7	21.21%
No	26	78.79%

Total **33**

John Deere 1590 No Till Drill

Yes	11	33.33%
No	22	66.67%

Total **33**

Leon 375 manure spreader

Yes	11	33.33%
No	22	66.67%

Total **33**

Bulk Fertilizer Bins

Yes	4	12.12%
No	29	87.88%

Total **33**

Yukon Branding

Would you likely use the "Yukon Brand" for any products you produce?

Eggs

Yes	7	21.21%
No	7	21.21%
N/A Do not produce this	19	57.58%

Total **33**

Chicken		
Yes	9	27.27%
No	6	18.18%
N/A Do not produce this	18	54.55%

Beef		
Yes	9	27.27%
No	1	3.03%
N/A Do not produce this	23	69.70%

Total	33	
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Pork		
Yes	8	24.24%
No	3	9.09%
N/A Do not produce this	22	66.67%

Total	33	
--------------	-----------	--

Vegetables		
Yes	13	39.39%
No	10	30.30%
N/A Do not produce this	10	30.30%

Total	33	
--------------	-----------	--

Fruit		
Yes	6	18.18%
No	3	9.09%
N/A Do not produce this	24	72.73%

Total	33	
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Berries		
Yes	10	30.30%
No	6	18.18%
N/A Do not produce this	17	51.52%
Total	33	
Processed Foods		
Yes	9	27.27%
No	6	18.18%
N/A Do not produce this	18	54.55%
Total	33	

Comments:

I think it's a great idea and who knows maybe our market might grow big enough to supply more than just the Yukon.

At the moment, I enjoy the contact I get from my customers at gate sales, not really interested in going retail at the moment.

Appendix C Results of Horse & Rider Survey

Highlights of the Horse & Rider Survey

Hart & Associates conducted a web-based survey that was distributed to members of the YHRA (60 members) and the North Ridge Community Association (40 members).

We received 33 completed surveys from these members which is an excellent return rate.

Thirty-seven percent of the respondents said they would expect to use the facility at least once a week. Another 44% said they would only use it a few times a year.

Most (42%) said they would use the facility for personal riding and training reasons.

Most (64%) said they would only pay \$100 per month to use the facility, another 36% said they would pay between \$100 and \$250 per month. No one said they were willing to pay more than \$250 per month.

Strong support to help raise funds (67%).

Most (67%) said they would donate between 5 to 10 hours of their time for the operations of the centre per year.

Only 18% said they would be willing to manage or coordinate a fundraising activity. When asked what role they see themselves donating their time to - most (43%) said various volunteer tasks followed by 21% to assist in construction and 13% to sit on the board.

Detailed question-by-question results

Are you a member of the Yukon Horse & Rider Association?

Yes	36	90
No	4	10
Total	40	

Not a member of the Yukon Horse & Rider Association but involved in horse riding

Yes	5	100
No, not involved in horse riding	0	0
Total	5	

If a horse riding arena were built on the Yukon Agricultural Association property, how often would you expect to use the facility?

Daily	0	0.00%
Two or three times a week	8	25.00%
Once a week	4	12.50%
One or two times a month	6	18.75%
Once a month	0	0.00%
Only a few times per year	14	43.75%

Total	32
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What would you use the facility for?

Personally ride and train	22	42
Host clinics or events	11	2
Coach or instruct	7	1
Other	12	2

Total	52
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Social with other horses. Trail riding. Attend a clinic.

Teach classes (equine and canine massage / animal reflexology / energy healing etc.).

In answer to the question below: because I would not be a frequent user, I would probably not use it at all if I had to pay \$100.00 per month.

Attend clinics or events as an auditor. Trail riding if facilitated.

Attend Horse Shows.

Participate at horse show or other clinic recommended by my child's instructor.

Attend clinics and shows.

attend clinics or horse shows (similar to past usage at previous grounds). Participate in clinics/events.

4-H meetings/clinics.

There will be costs associated with operating this facility. Based on the services and facilities you suggested in a

Previous question, what would you expect to pay for these facilities?

Less than \$100 per month	18	64.29%
\$100 to \$250 per month	10	35.71%
\$250 to \$400 per month	0	0.00%
Over \$400 per month	0	0.00%

Total	28	100%
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YHRA will need to raise funds to contribute to the Association's share of capital cost when applying for various grants and contributions. Would you be willing to volunteer your time or skills toward these fundraising activities and events?

Yes	22	66.67%
No	11	33.33%

Total	33
--------------	-----------

How many hours would you be willing to contribute annually to the general operations of the horse and rider facility?

5 to 10 hours	20	66.67
Total	30	

Would you be willing to manage or coordinate a fundraising activity?

Yes	6	18.18%
No	27	81.82%
Total	33	

It will be necessary for members to contribute "sweat equity" for the construction, operation and maintenance of the facility. What would be your preferred role in helping establish the Horse & Rider Facility?

Assist in construction/building	1	20
Provide equipment	2	3
Manage/coordinate an event	4	7
Be the Director of Facilities	0	0
Sit on the Board	7	13
Assist in various volunteer needs	2	43
Not willing to help at all	4	7
Other role (please specify)	2	3
Total	5	

Appendix D

Profiles of GFTC and Leduc Research Centres

1. Guelph Food Technology Centre (GFTC), Guelph, Ontario

GFTC is the leading food research centre in Canada in terms of name awareness, reputation and breadth of services. It provides food research, food development and product testing services for food, agriculture and bio-products companies although the vast majority of its revenues comes from the food processing sector.

GFTC started operations with capital and operating financial support from the Ontario Ministry of Agriculture and Food and the University of Guelph. GFTC has since transitioned to a fee-based status. In the last fiscal year, GFTC reported total revenues of \$5.5 million. GFTC claims it is the only independent, not-for-profit, self-sustaining research centre in Canada. It has a board of directors consisting of industry (food processing executives) and government officials (Ontario Ministry of Food and Agriculture).

GFTC provides a full range of research, educational and training services. We learned that only 30% of revenues come from food research and food development fees while the remaining 70% comes from training, education, and safety programs. GFTC has put a major push on selling its educational, training and safety programs as they provide an opportunity to increase its revenues. These services also have high profit margins.

GFTC has 45 full-time equivalent employees and 20 part-time consultants who provide much of the training and educational services. It operates from a 50,000 square foot facility in Guelph. Its pilot plant and labs use up 28,000 sq. ft. of this space. GFTC is not CFIA (Canadian Food Inspection Agency) licensed meaning that it cannot provide commercialization or market-ready products for out-of-province or out-of-Canada sales. Although this restricts its scope, it does allow the centre to perform work on non-food product research such as bio-products in the same facility.

2. Leduc (Leduc, Alberta)

The Leduc Research Centre, located just outside of Edmonton, is owned by the Alberta government and provides a full range of pilot plant and product development services. It recently added a large incubation centre. Leduc is a CFIA licensed facility.

Leduc is a very large operation with modern equipment occupying a 140,000 square foot area including the new incubator space which is not well utilized. Leduc has 30 full-time employees and focuses most of its services on the meat, crop and wet processing line needs of its customers.

About 90% of Leduc's customers are from Alberta. Leduc is presently operating at about a 60% utilization rate and, like GFTC, covers only 30% of its revenues from fees it charges for food development and testing. The balance of its expenses are paid for by the Alberta government. It recognizes that it must search out new ways to bring in more customers.

Leduc has offered to be a resource for the Yukon Food Innovation Centre on a fee basis.