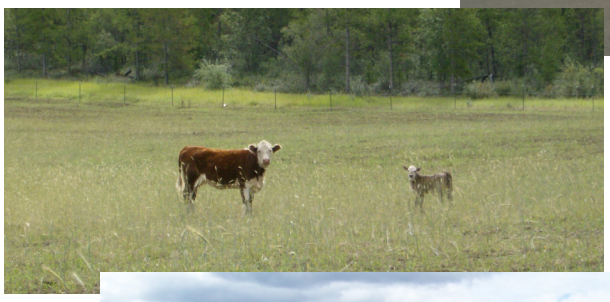
Multi-Year Development Plan for Yukon Agriculture and Agri-Food 2008-2012



Funded by
Advancing Canadian Agriculture and Agri-Food Program

Yukon
Energy, Mines and Resources

Agriculture and Agri-Food Canada

Agriculture et Agroalimentaire Canada

Multi-Year Development Plan for Yukon Agriculture and Agri-Food 2008-2012

Prepared For

Yukon Agriculture and Agri-Food Industry,
Yukon Government Agriculture Branch,
and Agriculture and Agri-Food Canada
Whitehorse, Yukon

Prepared By

Serecon Management Consulting Inc., Edmonton, Alberta
TransNorthern Management Consulting, Whitehorse, Yukon
Research Northwest, Marsh Lake, Yukon

December, 2007

Table Of Contents

EXECUTIVE SUMMARY

This report outlines a five year plan for the development of the Yukon agriculture and agri-food industry. The Multi-Year Development Plan (MYDP) covers the period from 2008 to 2012, and describes the goals and objectives for the industry and for specific sectors. The strategies, resources, and timelines for achieving those goals and objectives are also outlined.

The project was managed by the Agricultural Branch, Energy Mines and Resources with the support of the Yukon Agricultural Association (YAA). The MYDP represents the collaborative work of industry and government. It was prepared after stakeholder consultations with producers, retailers, processors, governments, and First Nations. In addition secondary research has been completed on the markets for Yukon products, and on industry trends.

The Yukon agriculture and agri-food industry has focused primarily on producing food and feed for a local market. This market includes the Yukon and surrounding communities of Atlin BC, as well as Haines and Skagway in Alaska. There are 148 producers in the Yukon that grow and sell a wide variety of products including forage, potatoes and kale, cheese and jam, meats, vegetables, fresh produce, sod, and bedding plants. The products are found in large retail stores, community markets, and in gourmet meals prepared by the Yukon food service industry. There is a desire for the industry to continue to provide these products for its customers.

Specific sectors were highlighted as having a great deal of potential to contribute to the growth of the Yukon agriculture and agri-food industry. Some of the growth opportunities are listed below:

- Hay and feed production which currently represents 50% of the farm income in the Yukon, could be further expanded by 1,500 tonnes per annum, providing feed to more horses, and for a growing livestock sector.
- Red and white meat production, which currently only supplies a very small portion of the meat market could be increased by 200 head of cattle, bison, and elk, as well as over 10,000 chickens and turkeys on an annual basis. An inspected meat processing infrastructure is required to get the meat to more customers and to the food service industry.
- Yukon vegetable production simply cannot meet the local demand. Increased production and distribution channels are desperately needed. These include processed products like salsa, pickles, jams and jellies that will require increased commercial kitchen space.
- Organic production has also been growing rapidly, and further support for certification, education, and supply of certified organic inputs will help this industry develop in the coming years.

The overall goal of the MYDP is "*to increase and sustain production, sales, and profitability in the Yukon agricultural and agri-food industry"*.

The comprehensive MYDP presents strategies for industry-wide issues related to infrastructure, regulations, financing, marketing, information gathering, as well as supporting development in specific sectors, such as meat and vegetable production. Most of the industry-wide strategies reflect issues that will benefit all sectors from hay and meat production, to organic production. Ten key priority areas, selected from a broader list of priorities, are highlighted in the implementation plan. They are as follows:

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.

It is recommended that the implementation of the MYDP be directed by the Yukon Agriculture Industry Advisory Committee (AIAC). The AIAC will review the Plan's progress on a regular basis at their quarterly meetings. Performance measures will be used to monitor the Plan's success. The MYDP has identified the people and resources that are required for the implementation of the programs and strategies contained within it.

It is estimated that $47,500.00 in funding will be required to manage the Plan. Additional costs may include:

- $55, 000.00 for producer surveys
- $200,000.00 for detailed business plans for multi-use facility
- $1.5 to $2.0 million for multi-use facility
- $45,000.00 for marketing
- $20,000.00 for organic certification and labelling programs
- Undetermined Dollars for:
  - Community market infrastructure
  - Research
  - Labour programs

- First Nations/ Community programs
- Risk Management

The majority of the funding is directed at industry wide strategies, including marketing, infrastructure, and research. This industry-wide funding, will be shared between all sectors of Yukon agriculture including different commodities, small and large producers, and specific practices like organic production.

Funding of these costs might be provided through Canada-Yukon agriculture policy programming or the Yukon Advancing Canadian Agriculture and Agri-Food Canada (ACAAF) Program.

In addition, the MYDP will require a significant investment in kind from Yukon producers, their associations, and government.

INTRODUCTION

The Agriculture Branch, Energy, Mines & Resources of the Yukon Government wanted *"to prepare a five year development plan for key stakeholders in the Yukon agriculture and agri-food industry"*. The project was to identify the current state of the industry, goals and targets for the industry for the next five years, and strategies and resources to assist the agriculture and agri-food industry in meeting these goals.

The project had set five key 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 Multi-Year Development Plan (MYDP) was jointly prepared by Serecon Management Consulting Inc. (Serecon) of Edmonton, Alberta and Yukon firms TransNorthern Management Consulting and Research Northwest.

This MYDP is accompanied by background information in the Appendices, including a profile of various agriculture sectors and the opportunities that exist in the Yukon.

The first section discusses the methodology used in completing the MYDP.

The second section describes in more detail the goals, objectives and strategies of the MYDP. First, the overall goals for the industry are described. This is followed by more specific objectives and strategies for industry-wide issues related to infrastructure, regulation, finance, research, marketing and information. A further description of specific objectives and strategies for sectoral issues is also included in this section.

The third section describes the recommendations for managing and implementing the MYDP, and an outline of the required resources and timelines.

The issues in the MYDP have been developed from research and consultation, the results of which are contained within the Appendix of the report. Included in the Appendix are the following:

- A profile of the Yukon;

- A history of Yukon agriculture;
- A current profile of Yukon agriculture;
- A profile of specific sectors of Yukon agriculture;
- A market supply, demand, and price assessment;
- A discussion of an integrated cost of production model
- An assessment of the Strengths, Weaknesses, Opportunities and Constraints facing Yukon agriculture and agri-Food;
- A relative viability assessment of various agricultural sectors; and
- The industry consultation guides.

METHODOLOGY

The MYDP study project consisted of four main phases as identified below.

Phase I: Orientation Meeting: The deliverable for the first phase was an agreed project outline with timelines and deliverables, meeting dates, and an understanding of the expectations of the key stakeholders.

Phase II: Industry Profile: This phase was the creation of a full description of the Yukon agriculture and agri-food industry as it currently exists. An interim report was prepared on the current state of the industry.

Phase III: *Information Gathering:* Data analysis and stakeholder consultations used to develop industry strategies forming the basis of the five year plan. The Steering Committee reviewed the findings and analysis at the completion of Phase III.

Phase IV: *MYDP Preparation:* A five year development plan was prepared that will be utilized by the industry, and the Yukon, and federal government. This report includes all findings, analysis, a five year development plan, and a performance measurement process with indicators.

These Phases follow a logical and progressive approach to develop an industry strategy. This approach answers three basic questions:

1. What do we have?
2. Where do we want to go?; and
3. What do we need to do to get there?

The remainder of this section describes in further detail the steps undertaken to complete the MYDP, and summarizes the remaining steps in the project.

COMPLETED STEPS

The Multi-Year Development Plan is based largely on secondary research and stakeholder consultations that have taken place since July 6th, 2007. The key steps involved in compiling this report are described below.

Step 1: Orientation and Planning

An orientation meeting with the project steering committee was held on July 6th, in Whitehorse. The meeting served a number or purposes including:

- Clarifying the objectives of the project;
- Reviewing the methodology for conducting stakeholder consultations;
- Reviewing the list of potential interviewees for the consultations;

- Identifying a list of relevant past studies completed in the Yukon on the agricultural industry;
- Discussing the strategic planning workshop to be held in Whitehorse; and,
- Briefly discussing some of the key issues anticipated during the course of the project.

Step 2: Secondary Research

Secondary research relied on a variety of sources. Statistics Canada and the 2006 Agriculture Census provided a great deal of data on the Yukon's population, demographics, and industry size. A number of previous studies have also been reviewed, including those conducted for the Yukon Agriculture Branch and the Yukon Agricultural Association (YAA):

- Cost of Agricultural Development Guide (2007) (digital)
- Yukon Agriculture Policy (2006) - Online http://www.emr.gov.yk.ca/pdf/ag_policy_2006.pdf
- YAA Multi-Use Facility Feasibility Study (2006)
- YAA Mobile Abattoir Feasibility Study
- YAA Mobile Abattoir Business Plan
- Agricultural Policy Framework Programming (2004) - Online http://www.emr.gov.yk.ca/agriculture/apf.html
- Strategic Analysis of the Yukon Agriculture Industry (2003)
- Cost of Production Spreadsheets (2003) (digital)
- Yukon MYDP. Serecon Management Consulting inc. Edmonton (2000)
- YAA Marketing Strategy (1998)
- YAA Strategic Plan (2006)
- YAA ACAAF Council Strategic Plan (2006) (digital)
- YAA CARD Project - Whitehorse Area Cold Storage Study (2003)
- YAA CARD Project - Need Assessment Study for Community Kitchen (2003)
- Survey of Yukon's Horse Owners and Horse Boarding Operators, 2003

In addition, spot pricing data was collected from various grocery stores in Whitehorse and Calgary. The pricing data provides some information on the market size and value of the food industry in the Yukon.

Step 3: Stakeholder Consultations

Stakeholder consultations were held with 39 people between July 9th and August 17th. The consultation guides used in these consultations are found

in Appendix G: Government and Other Stakeholders' Survey, Appendix H: Grocers/Restaurant/Processor/Distributor Survey, and Appendix I: Producer Survey. The consultations involved various stakeholders including:

- Animal producers (beef, pork, poultry, sheep/goats, elk, alpacas, and bees)
- Vegetable producers (greenhouse and non greenhouse)
- Hay producers
- Flower, sod, bedding plant ,and ornamental producers
- Fruit producers
- Game farms
- Organic producers (vegetable, meat, and hay)
- Horse owners
- Feed distributors
- Processing sector (bakeries, butchers)
- Retail sector
- Food distributors
- Restaurant owners
- Market garden operators
- Industry associations (YAA, GOOFY, Yukon Food Processors Association)
- Yukon Government Departments, including Agriculture, Environment, and Community Services
- Agriculture and Agri-Food Canada.

The issues raised during the consultations form the basis for the SWOC (Strengths, Weaknesses, Opportunities and Constraints) analysis in Appendix F: SWOC Analysis.

Step 4: Interim Report on the Current State of the Agriculture Industry

A report on the current state of the industry, based on secondary research and stakeholder consultations, was prepared. The interim report included:

- An industry profile, including a description of the various agriculture sectors; and,
- A strengths, weaknesses, opportunity, and constraints analysis.

The contents of the Interim Rreport are included in Appendix A through Appendix E and were used to guide discussions at a Strategic Planning Workshop held on September 4th, 2007 in Whitehorse.

Step 5: Strategic Planning Workshop

At the September 4th Workshop a working group representing the agricultural and agri-food industries, the federal and territorial governments, and the Ta'an Kwach'an and the Tr'Ondek Hwech'In First Nations, discussed the issues facing Yukon agriculture. The key elements were:

- A review the SWOC analysis and the interim report;
- A discussion of goals for Yukon agriculture and agri-food industries; and,
- A discussion of issues and priorities.

Draft Strategic Plan

After the Workshop, draft report of the MYDP was prepared and included:

- goals and objectives;
- strategies;
- performance measures;
- management and oversight;
- resources; and,
- timelines.

The draft report was reviewed by the Steering Committee, and changes were incorporated into the Plan based on their comments.

Presentation and Feedback

This draft report was then posted on a website and circulated to various the agriculture and agri-food industry stakeholders.

The MYDP was presented to industry at the North of 60 Conference on November 3rd in Whitehorse.

In addition to comments expressed by stakeholders at the North of 60 Conference, feedback was collected on the website until November 16th, 2007.

Final Report

Based on the feedback provided by industry, and with the advice of the Steering Committee the MYDP was finalized, hence this report.

Multi-Year Development Plan

MYDP Structure

A *plan* is a purposeful, rational sequence of steps taken to achieve a desired end. The MYDP for the Yukon includes the following key elements:

- Industry goals: the overall goals that set the direction for Yukon agriculture and agri-food.
- Objectives: measurable outcomes for the industry and specific sectors that will result in achieving the overall goals.
- Strategies: the programs, regulations, and infrastructure that needs to be implemented to support the achievement of the objectives.
- Resources: the human and financial resources required to support the strategies.
- Performance measures: the indicators that will measure the success or failure of each strategy.
- Management: the plan will need an oversight body with authority to follow up on the implementation of the strategies; measuring results; and communicating back to stakeholders. In addition, the oversight body should set in place an annual review to ensure the MYDP is still relevant, identify new emerging issues, and adopt those elements into the MYDP.

The MYDP is built on the issues identified in the SWOC analysis, the industry profile, stakeholder consultations, and market assessment which can be found in the Appendices.

Industry Goals

In order to achieve success a plan must have stated realistic goals. The Yukon Multi-Year Development Plan supports the *2006 Yukon Agricultural Policy*. The Policy provides overall goals and policy statements that set direction for the Multi-Year Development Plan.

"The goal of this policy is "to encourage the growth of a Yukon agriculture and agri-food industry that:

- produces high quality products for local consumption;
- is economically viable;
- operates in an environmentally sustainable manner; and
- contributes to community well-being."[1]

Key policy statements are set out that describe how the Yukon Government will pursue the overall goal. These focus on agricultural land

[1] 2006 Yukon Agriculture Policy

development, agricultural land management, the environment, and strengthening the agricultural economy. The Policy provides measurable targets intended to focus efforts and gauge results.

As an accepted policy of the Yukon Government, the Yukon Agricultural Policy is the operating framework for the Agriculture Branch, and thus for the MYDP. The MYDP can derive its goals from the Policy's targets, which are the Yukon Government's stated intentions. The MYDP will provide objectives and a sequence of steps that will help to achieve its selected goals. It is useful to review the complete list of the Policy's targets, which are:

1) Government will make best efforts to reach the following government targets by the year 2016:
    a) The establishment of an information gathering system to monitor industry development and performance in the Yukon.
    b) No significant loss of key wildlife habitat due to new agricultural development.
    c) Agriculture development guidelines to be completed for all areas in the Yukon that have a high demand for new agricultural land.
    d) Government to make 25% of new farm land available through planned development areas.
    e) Annual reporting to be in place regarding environmental scans.
    f) Food safety programs and legislation to be in place that ensure Yukon agricultural food products are safe and of high quality.
2) Government will make best efforts to assist industry to achieve the following industry-related targets by the year 2016:
    a) A 200% increase in the production and sales of Yukon-grown agricultural products.
    b) A 50% increase in improved land utilization on existing agricultural parcels.
    c) The completion of priority infrastructure projects for the industry. Infrastructure projects should be financially self-supporting by the fifth year of operation.
    d) All Yukon farms with minimum gross farm sales of $10,000 to have completed environmental farm plans.
    e) The agriculture industry will make a net positive contribution to the Yukon economy. (Total industry income is greater than total industry expenses.)

Not all of these targets are within the scope of the MYDP, but together they provide its policy context. The "industry-related targets" (sub-section 2) are most directly relevant to fashioning goals for the MYDP. The key concepts are *productivity, sales*, and *profitability*. These are the main purposes of sustainable agricultural development, while land programs, land utilization, infrastructure, good environmental management, extension services, and research are means and supports to

these ends. The MYDP will address these topics as ways of achieving objectives.

MYDP Goal: *To increase and sustain production, sales, and profitability in the Yukon agriculture and agri-food industries*.

Strategy: Build on the willingness of Yukoners to buy and eat locally produced foods. Identify and focus on products that are agronomically feasible, economically profitable, and for which markets exist or could be reasonably created. Areas of concentration will include:

- increasing production of viable commodities;
- increasing value-added processing;
- increasing value of both commodities and products (quality, image, positioning);
- increasing volume and value of sales;
- reducing costs of development, infrastructure; and,
- reducing costs of production, marketing, and distribution.

The MYDP project, with its extensive interviews and a workshop, offered additional insight on *how* growth can be achieved. Some of the views stated what was to be avoided, while others stated what was desired. These statements provide boundaries for the overall MYDP goal:

- Yukon agriculture should foster individually-owned farms, and not encourage large corporate farms or agribusinesses.
- The agricultural sector should encourage a diversity of farm sizes and products in suitable locations across the Territory.
- The agricultural sectors should foster an environment of inclusiveness between all stakeholders of the agriculture and agri-food sectors (inclusive of producers of all types and sizes, processing and retail stakeholders, governments, First Nations, and consumers).
- Yukon agriculture and agri-food should build on its perception as a producer of healthy and safe foods and other agricultural products, and be environmentally responsible.

Industry Wide Objectives, Strategies, and Performance Measures

Infrastructure

Achieving industry goals requires both industry-wide and sector-specific strategies. Industry wide objectives, strategies, and performance measures are discussed here while the sectoral specific strategies are discussed in the following section, *Sectoral Specific Objectives, Strategies and Performance Measures:*

The following is a comprehensive list of strategies. In the implementation of the MYDP the industry may choose to implement only a subset of these strategies over the five year period. A discussion on strategic priorities can be found in the *Management, Implementation, Timelines and Resources* section of this report.

Objective: To improve the meat processing infrastructure in the Yukon

- Strategy 1: Next steps for a multi-use processing facility.

In 2006 the Yukon Agricultural Association commissioned a feasibility study for a multi-use processing facility.[2] The study concluded that a facility including a fee-for service red-meat processing component, a white-meat slaughter and abattoir component, and a professional, rentable community kitchen/food processing component was feasible.

The meat processing infrastructure needs to be made available to all livestock producers in the Yukon including organic producers.

This strategy would take the next steps toward a multi-use facility through the formation of a Working Group. The Group's task would be to further analyze the key elements of the facility, including funding and organizational structure. It is believed the facility will be difficult to fund given restrictions on accessing government funds for infrastructure projects. The red and white meat sectors should describe the marketing strategy, the increase in livestock numbers required, producer commitment, how to achieve uniform product quality, and required investments. The marketing strategy will focus on value added products like jerky and sausages which have been discussed in the feasibility study. The elements of the facility should be more fully analyzed to assess support, probabilities of success and the value that each element will bring to the industry. A more detailed business plan should be developed, including detailed marketing, production and investment strategies described above, as well as very specific infrastructure costs (plant layout, equipment lists, engineering costs, land costs, building costs). In addition the Group should consider how to stage the multi-use facility; what elements could be included in the future; and how to organize the facility to disperse its overhead costs. These might be fertilizer storage and distribution, seed cleaning, and other further processing (e.g. small scale velvet capsule production). The Working Group may also consider how to develop their markets in advance of constructing the multi-use facility, or in order to build support for it. This might be a first step in proving the market for a multi-use facility.

[2] YAA Multi-Use Facility Feasibility Study (2006)

- Strategy 2: Expand and improve existing infrastructure

  In this parallel strategy, the Working Group recommended in Strategy 1 could work with local butchers to improve storage and processing options for local meat. A needs assessment for meat storage and processing is required, including the volume of freezer space needed to handle the products. Sales of frozen meat into the farmers market may be achieved through meat producers setting up a marketing group, purchasing inspected freezer space, and hiring a local butcher to produce more burgers, sausage and other processed meat. This approach would also require the white meat abattoir to be an inspected facility.

  - Performance measure for meat processing: Sufficient meat processing infrastructure for storage, cutting, processing, packaging and freezing exists to process all Yukon livestock.

Objective: To improve the further processing of vegetables, and other Yukon products with a commercial kitchen, and potentially increased cold storage space.

- Strategy 1: As part of the multi-use facility discussed above, detailed plans for the use of the commercial kitchen should be developed.
- Strategy 2: As an alternative to the multi-use facility an agreement with another commercial kitchen could be developed, or other options explored, e.g., the conversion of another space into a commercial kitchen.

  - Performance measure for commercial kitchen: Sufficient commercial kitchen space is available to meet the processing demands of the Yukon industry.

Objective: Improve the infrastructure at local community markets.

- Strategy 1: Develop permanent infrastructure facilities at the Fireweed Community Market and other community markets in the Yukon.

The local community markets have been a major success story in developing markets for Yukon agricultural producers, and where possible the infrastructure could be improved to provide more permanent styles of buildings, improved storage space, and freezer space. This would extend the range of products available at the markets, and lengthen the marketing season. This would require funding for infrastructure projects in general, and the development of a plan for the facility needs based on market potential and local support. In addition this infrastructure could be developed in cooperation with local communities. The City of Whitehorse is already engaged in discussions with the industry on permanent facilities for the Fireweed Community Market. This cooperation will be required in the areas of land planning and financing.

- Performance measure for community market infrastructure: The Fireweed Community Market has a permanent facility constructed.

Objective: Improve access of livestock producers to veterinarian resources

- Strategy 1: Hire a livestock veterinarian for the Yukon.

  The Agricultural Branch in currently looking to fill the position of a Territorial Chief Veterinary Officer (CVO). The industry should support this initiative. The industry should work with government to determine the responsibilities as well as the areas where the veterinarian can work with wildlife departments, private veterinarians and other partners.

- Strategy 2: Partner with the University of Calgary's Veterinary Medicine Program, and obtain a Seat in the Program for the Yukon.

  - Performance measure: A livestock veterinarian is hired, and meets with producer on an annual or periodic basis.

Objective: Improve the availability of parts and service for farm machinery in the Yukon.

- Strategy: Work with local mechanics, or other interested people to improve the farm parts supplies and service to industry for equipment such as balers, tractors, combines, irrigation equipment, etc.. Determine the needs assessment for parts and service required by Yukon producers, and. identify the support for a service professional or parts dealer in the Yukon. Identify the training required for an individual(s) to be qualified as a farm machinery mechanic.

  - Performance measure: Feasibility study complete and a mechanic and parts supplier in place.

Objective: Increase the availability of labour and skilled labour.

- Strategy 1: Develop and promote a job posting site for temporary or permanent farm labour. Link the job site to other Yukon job sites. The YAA could host or manage this site, and then promote the program with other communications and advertising. The YAA could also develop a list of available labour with contact information.

- Strategy 2: Financial support for training. Financial support for courses in farm management, or for travelling to learn from producers in other jurisdictions.

- Strategy 3: Develop a training program perhaps in partnership with an interested First Nation or with an existing summer student work program. This might be a government sponsored summer work crew that could be hired by producers for one day or one week to help with farm activities, providing a training crew could also be hired by the Agriculture Branch for research or weed control activities. This would be the agriculture equivalent to the popular Y2C2 summer jobs program within the Department of Environment.

  - Performance measure: Increased availability of skilled and unskilled labour (this will be strongly influenced by

unrelated events in the overall labour market). This could be measured by an annual survey specifically addressing labour.
- Performance measure: Farm job posting site implemented.
- Performance measure: A training program for multiple programs is implemented.

Objective: Increase the land in production by farming land that has been developed but now lies unproductive. This serves to improve the image of agriculture by not wasting land.

➡ Strategy: Develop a plan to utilize some of the previously developed land that is now unproductive. This could be a campaign for rural residential land owners to sublease their acres to active producers. YAA could act as a database for sublease land inventories, and interested producers. The emphasis of this strategy will be on incentives rather than taxes or disincentives.

- Performance measure: 500 acres of land reintroduced into production.

Regulatory

Objective: To maintain or improve on the Yukon's reputation as a clean, minimal disease, minimal pest, low intensive production area.

➡ Strategy 1: Develop strategies for monitoring livestock, wildlife, and pets for diseases. This strategy may need compensation for livestock producers forced to destroy diseased animals in order to monitor farmed animals.

➡ Strategy 2: Investigate the need for animal quarantine measures for farmed animals and for wildlife

➡ Strategy 3: Develop a monitoring program for pests and weeds

➡ Strategy 4: Develop an environmental monitoring program (wildlife, water) as it relates to agriculture

➡ Strategy 5: Monitoring weed seeds in seed, and educating producers on the value of clean seed.

➡ Strategy 6: A strategy for managing the problems that do show up. Weed management (road side, and municipal) control; disease response strategy; compensation for land owners and livestock owners affected by management strategies.

➡ Strategy 7: Encourage native seed industry through mandated use and reclamation requirements (mines, roads, municipals)

➡ Strategy 8: The results of all monitoring activities are communicated with stakeholders.

- Performance measure: The above regulations or guidelines developed and implemented.
- Performance measure: Data on diseases, weeds, and environment is being tracked and communicated annually.
- Performance measure: Diseases and weeds that are found are controlled before entering the Yukon.

Objective Improve the regulatory framework for food exports to Skagway and Haines Alaska.

- Strategy: Identify which products Yukon producers wish to export to these markets, and meet with US and Canadian border services, and CFIA to identify and resolve issues that prevent these products from being exported.
    - Performance measure: Products being exported to Haines and Skagway, Alaska.

Objective: Clearly define Yukon Grown products.

- Strategy: Develop guidelines for what defines Yukon grown products. Use an industry/government committee to establish guidelines for vegetable and meat production, along with organic production. The guidelines should not be too detailed, for example just the top five elements in Yukon grown products and how these elements benefit consumers. (Example: animals raised in Yukon on feed grown in the Yukon, no hormones and minimal antibiotics; vegetables grown in Yukon with minimal herbicide/fungicide/ insecticide; and enriched by Yukon climate and light conditions; organic products grown locally, GMO free, using sustainable organic practices) These guidelines should also include a strategy for monitoring and ensuring the integrity of Yukon grown products.
    - Performance Measure: Guidelines developed, communicated with producers and consumers, and a system of monitoring or verifying production is in place.

Objective: Investigate the advantages and disadvantages that may exist in a Genetically Modified Organism (GMO) free environment.

- Strategy: Complete a study on the benefits, opportunities and risks that would be created if a GMO free area were developed. It is important to find an independent perspective on this, or split the study into two parts showing both the positive and negative consequences of such a decision. The consequences, both positive and negative, should be quantifiable in nature.
    - Performance Measure: Such a study is completed.

Objective: Improve the consistency in water rights recommendations from Yukon Environmental and Socio-Economic Assessment (YESAA).

- Strategy: Develop standards and or regulations that support consistency in water and land recommendations from YESAA. If water rights are granted then the setbacks will be "X" metres. Communicate these standards with stakeholders.
    - Performance measure: Stakeholder satisfaction with YESAA. This could be assessed with an annual survey of those individual producers with water rights.

Financing

Objective: Improve access to financing for Yukon producers.

- ➡ Strategy: Create a financing working group to investigate improving access to capital by the industry and by individual producers. Ideas include:

Industry investment fund that is funded by government and managed by industry – funding research, infrastructure and market development.

Work with banks and Farm Credit Canada (FCC) to participate more in the Yukon Venture Loan Guarantee Program or a similar program

Investigate the possibility of developing an industry infrastructure funding program through ACAAF or the Yukon government.

Work with FCC to develop a small farm lending policy for the Yukon.

Continue to update and develop realistic integrated cost of production (COP) models that support farm loans (see Appendix E).

Collect production and price information that support farm loans.

Develop support for land development through tax incentives and, other incentives. The capital investment required to develop and improve farming operations is a significant hurdle for Yukon producers, and a committee might look at ways to support the investment. This might be from guaranteeing infrastructure loans on farms that meet business plan requirements, or treating the land and investment costs differently for tax purposes.

Continue to work with and promote risk management programs geared for the Yukon.

Investigate the feasibility of developing insurance for items not covered under existing risk management programs.

Increase industry knowledge of all programs, and financing assistance (risk management, fuel rebate, etc.). This is mainly a communications issue.

- Performance measure: Improved access to capital. Develop an industry questionnaire to assess the industry view of access to capital.
- Performance measure: Less long term financial burden on Yukon producers for their land and development costs. (improves scale of production as well)
- Performance measure: The infrastructure value of Yukon farmsis increased, COP's are completed, there is an increased use and awareness of CAIS, and other programs,

Objective: Establish a mechanism for capital infrastructure investment in Yukon agriculture for projects like the multi-use facility.

- Performance measure: Capital is available for projects like the multi-use facility

Research and Development

Objective: Sustain and improve production practices specific to the Yukon.

- Strategy 1: Have producers train and learn from other jurisdictions (Alaska, other areas). Develop a research partnership with Alaska, or possibly some sort of Circumpolar exchange platform.
- Strategy 2: Continue to support the Circumpolar Conference.
- Strategy 3: Continued research, demonstrations, and sharing of results (always need support to move research into farm scale).
- Strategy 4: Continue research into one of the biggest cost constraints to the Yukon: fertilizer, including organic fertilizer, and green manure production systems.
- Strategy 5: Research into best practices for land clearing and development that optimize costs and high quality results.
- Strategy 6: Research into the feasibility of local fertilizer production possibly tied to waste and municipal waste utilization, or large scale composting.
- Strategy 7: Research into irrigation practices in the Yukon to reduce costs, and improve efficiency regarding water run off, and water utilization. This could be partly achieved through studying research and practices in other areas (nozzles, pumps, time and volume of water).
- Strategy 8: Research and demonstrate extending greenhouse production further into the shoulder seasons, including heating and lighting efficiencies. This could be achieved through studying greenhouse production systems in other Circumpolar regions. Also a greenhouse research facility could be established by the Agriculture Branch.
- Strategy 9: Research into optimizing value for hay and livestock producers. This means improving the yields on hay fields, lowering the costs of hay (fertilizer and varietal research), and looking at the feasibility of a two cut system using a bale wrap for the second cut to lower costs of hay to livestock producers while increasing revenue for hay producers.
- Strategy 10: Research into feed alternatives for the organic sector.
- Strategy 11: Encourage and research practices that support the grown/produced in the Yukon image.
- Strategy 12: Communicate research with stakeholders and public where appropriate.
    - Performance measure: Ongoing research and studies into these areas ongoing. Transfer of positive research into production system.

Perception of Agriculture

Objective: To improve the Yukoners' perception of the agriculture industry and increase the inclusiveness of the industry. Regular communications and interaction with all stakeholders of Yukon agriculture and agri-food will serve to increase knowledge, broaden support, help build good will, and increase the public understanding of the role and importance of agriculture.

- Strategy 1: Include interested First Nation governments in all YAA and Agricultural Branch industry communications (emails, annual conference, workshops). Work toward building improved relationships with First Nations, employees and governments.
- Strategy 2: Promote and support local food projects with interested First Nations (could be similar to the Carmacks community greenhouse, develop 4H associations, an expanded community farm, or simply a plan to produce more local product in a community, or on a First Nation). These would involve the participation of local producers and the programs could be promoted locally.
- Strategy 3: Develop a Program of inviting First Nation leaders and Renewable Resource Council members on farm tours.
- Strategy 4: Training or work program for First Nations in agriculture (also discussed in infrastructure).
- Strategy 5: Continue long term land use planning (ongoing) and identify specific geographic areas for agriculture within those plans.
- Strategy 6: Continue to involve vertically integrated stakeholders into industry solution and communications (e.g., butchers, retailers, mechanics).
- Strategy 7: Look at the feasibility of other community based projects in Whitehorse, Dawson City, and other communities. These might be community gardens or greenhouses.
- Strategy 8: School program and outreach, farm tours for students This may be similar to the classroom education for grade four students that was previously in place in the Yukon, or another program built around research facilities or a community greenhouse.
    - Performance Measures: Plan in place for two regions, two projects that involve cooperation of upstream partners (cooler/freezer space),

Objective: To support the value and image of Yukon production through advertising.

- Strategy 1: Increase awareness in general public through semi annual newspaper communication, and especially with stories highlighting the benefits of Yukon agriculture to the public. A good model is What's On Your Plate in Alberta. www.whatsonyourplate.ca

- Strategy 2: Renew and grow the Yukon Grown brand. In this strategy Yukon Grown guidelines are established and implemented (see *Regulatory* section above). Develop a marketing plan for implementing the Yukon Grown brand, which includes renewing the logo, pictures, and tag lines. The logo should be consistent with the guidelines established, and geared toward both the local and potential tourist markets. Advertising dollars should be set aside for the YAA to promote the brand and co-promote the markets. The marketing plan should also consider how Yukon Natural products are defined and fit in with Yukon Grown. Promotional material for various sectors including the vegetable, meat, and organic sectors could be developed and built around the central architecture of a Yukon Grown theme.
    - Performance measure: New logo, tag lines and messages for Yukon Grown
    - Performance measure: Special interest newspaper articles every six months, as well as other advertising.
    - Performance measure: Cross promotion with existing market gardens
    - Performance measure: Record and track the number of products that the Yukon Grown label is used on. Double the number of products that use the label from 2008 to 2012.

Information

Objective: To increase the understanding of Yukon agriculture through periodic surveys of Yukon producers. Because the industry is small, with many farm gate producers, it is difficult to determine the impact from agriculture through current data.

- Strategy 1: Prepare and conduct annual or periodic surveys of agriculture and agri-food producers. The surveys could be prepared by an independent third party with input from the Business and Economic Research Group, Department of Economic Development, Yukon. The surveys may ask producers about production volumes, capital purchases, perception on access to capital, perception on labour, perceptions on YESAA, perceptions on Yukon and Agriculture and Agri-Food Canada agricultural programs (eg. Canada-Yukon APF Programs, Advancing Canadian Agriculture and Agri-Food Program) and other issues. Where there is a limited number of producers it is important to restrict or protect the information. This survey would serve to measure changes in the industry, the impact of strategies, and identify problems. Survey would also be useful for future MYDPs.
- Strategy 2: COP models could be generated and updated every two years. Again this may be voluntary information, but would serve to identify problems with financial viability, and therefore help in finding solutions. The information could also be used to support farmers looking for loans.
- Strategy 3: Develop a database or a central repository of all previous studies on Yukon agriculture that can be accessed by industry stakeholders.
    - Performance measure: Surveys complete, COPs complete.

Sectoral Specific Objectives, Strategies and Performance Measures:

Sectoral objectives are useful in highlighting the specific tasks and outcomes that need to be accomplished in specific sectors. While the industry wide strategies discussed previously will benefit specific sectors, the sector may have additional, specific results they are trying to achieve. To be useful, a goal requires measurable objectives: things to accomplish that are tangible, specific, realistic, and have a time targeted for completion. Sectoral objectives for the MYDP were developed for product sectors identified by the research as showing potential.

Hay and greenfeed

Hay and fodder are well adapted to Yukon growing conditions and can be profitably grown both as dryland and irrigated crops. A ready Yukon market for hay exists, mainly for horses. There is some opportunity to expand, as about 25%[3] of local demand is supplied by imported hay. Increased livestock production may offer increased opportunities for hay production. Alaska may offer an additional opportunity to expand production.

Objective: Increase production by 20% or approximately 1,500 tonnes in five years.

- Strategy 1: Plan to utilize some of the previously developed land that is now unproductive (see returning land to production objective in Infrastructure section above).
- Strategy 2: Continue research into improving yields: production systems including two cut systems for irrigated production, haylage, legume utilization, irrigation efficiencies, crop variety trials, and fertilizer efficiencies This might involve a hay/greenfeed producers research Steering Committee, and the adoption of a plan to uptake the results at the farm level.
    - Performance measure: Increase production by 20% or approximately 1,500 tonnes in five years.

Objective: Develop an increased supply of competitively priced feed and alternative dryland crops for the livestock industry.

- Strategy 1: Reduce costs of fertilizing, irrigation, and fuel. (see Research/ Development and Financial sections in Industry-wide strategies)
- Strategy 2: Decreased costs of land and development expenses, and therefore the overhead expense. This may be achieved through tax incentives or other financial instruments.
- Strategy 3: Undertake research into alternative dryland crops adapted to the Yukon.
- Strategy 4: Continue research in improve yields of hay, greenfeed and alternative dryland crops.
    - Performance Measure: Adequate supply of competitively priced feed is available to livestock producers.

[3] Survey of Yukon's Horse Owners and Horse Boarding Operators, 2003

Feed grains

A local demand for feed grains for poultry, and livestock exists; a Yukon producer has demonstrated that locally grown grain can compete with imported feeds. At this time, however, the supply of Yukon feed grain is generally sufficient to meet demand. The one exception is organic feed grains.

Objective: To meet any increased feed market with increased supply.

- Strategy 1: Assist the producers in forecasting market trends through annual livestock production data.
- Strategy 2: Assist producers in evaluating the best varieties of feed grains to grow in the Yukon.
- Strategy 3: Undertake research into cropping systems that lower the required fertilizer inputs, or the costs of fertilizer.

Objective: Produce 10 to 20 acres of organic feed grain in the Yukon.

- Undertake research into local production of organic fertilizer to support organic production.
    - Performance measure: Markets for both organic and non organic feed are being supplied. This could be measured through an annual/periodic producer survey.

Poultry

Yukon farmers produce only a small fraction of the annual demand for poultry. Consumers have shown a marked willingness to pay a premium for Yukon poultry both at the farmgate and at the store, when inspected fowl were retailed. Demand for organic and conventional poultry exceeds supply. At present, no inspected poultry are marketed, as the territory's only inspectable abattoir is closed.

Objective: Increase farm gate bird production by 100% to an estimated 25,000 birds per year.

- Strategy 1: Increase the infrastructure to support growth: carry out a feasibility study for moving to an inspected abattoir and then implement this plan, and develop permanent or temporary freezer space at community markets or other locations. (included as part of the industry wide strategies for meat processing infrastructure)
- Strategy 2: Develop plans for the processing infrastructure required for white meat in the multi-use facility. Develop business plans for marketing the product (individually or set up a white meat marketing group). Develop plans to promote product quality (Yukon guidelines) and possibly a system for monitoring or grading meat. It is possible that the multiuse facility could be staged to coincide with farmgate sales one they have a reached a more critical mass. (included as part of the Industry Wide Strategies for Meat Processing Infrastructure)

Objective: Support a commercial broiler operation in the Yukon.

- Strategy: Complete a feasibility study on setting up a commercial broiler poultry operation in Whitehorse area. Share results with stakeholders and if it is feasible, promote the idea to interested producers/stakeholders.

Objective: Increase production of organic poultry. It is difficult to determine the current volume of organic meat, although it is likely under 1,000 birds per year. This could be significantly increased to 25% of farmgate sales.

- Strategy 1: Increase local supply of organic feed grains (see feed grains section).
- Strategy 2: Reduce production costs by reducing costs of organic feed grains (see feed grains section).
- Strategy 3: Communicate plans to producers on how to become organically certified.
- Strategy 4: Educate consumers about what to look for when buying certified organic production.

Objective: Strengthen marketing and distribution channels.

- Strategy 1: Develop marketing plan for Yukon Grown, or Yukon Natural products (see Industry wide strategies, Marketing/Image).
- Strategy 2: Support the advancement of inspected white meat processing equipment, and regulations to ensure frozen meat, and processed meat can be sold in the community markets.

Objective: Improve access to supply of chicks, possibly from local production.

- Strategy: Complete a feasability study on setting up a hatchery for the production of both regular and organic day-old broilers and layers.
  - Performance measure: Begin to collect production data on poultry and track the changes in the production from 2008 to 2012. Target a production increase of 100% from 2008 to 2012.
  - Performance measure: Begin to track markets for organic feed and other feed. Locally produced organic feed is available, and the costs are reduced by 25% from current levels. Feasibility study of commercial broiler operation is complete.

Eggs

Farmgate and farmers' market demand for locally produced eggs exceeds supply, which is constrained by cost of organic feed grain and poor economies of scale as most producers are small-scale. Yukon consumers demonstrate a willingness to pay a premium for local eggs.

Objective: Increase farm gate production by 100%. This again is very difficult to estimate as current production levels are undetermined. We estimate that there might be about 1,500 layers in annual farm gate production, so a doubling may be in order of 3,000 layers.

- Strategy 1: Increased production levels by promoting production practices and knowledge (aided by Agriculture Branch veterinarian)
- Strategy 2: Possibly look at extending the market garden season with a permanent facility, and selling more product this way.
- Strategy 3: Investigate the feasibility of a small egg grading and packaging line at the multi-use facility, possibly expanding the markets to more bakeries, caterers, and commercial kitchen products (if farmgate markets plateau)

Objective: Provide support for a commercial layer operation.

- Strategy: Complete a feasibility study on setting up a commercial layer operation, and attached grading infrastructure in Whitehorse area. Share results with stakeholders and if it is feasible, promote the idea to interested producers/stakeholders

Objective: Increase production of organic eggs. The goal could be to reach 25% of farmgate sales.

- Strategy 1: Increase local supply of organic feed grains (see feed grains section)
- Strategy 2: Reduce production costs by reducing costs of organic feed grains (see feed grains section)
- Strategy 3: Communicate with producers on how to become organically certified.
- Strategy 4: Educate consumers on what to look for when buying certified organic production

Objective: Strengthen marketing and distribution channels.

- Strategy: Develop marketing plan for Yukon Grown or Yukon Natural products (see Industry Wide Strategies, Marketing/Image)

Red meat (beef, bison, elk)

Locally produced red meat is sold mainly at the farmgate; with some being sold to restaurants and special events; but none is sold through retail outlets. Demand is strong and supports the price premium charged to cover high production costs. Livestock producers can be a viable companion product for hay and greenfeed growers, especially those who have grazing leases or large landholdings.

Objective: Increase production by 100%, from an estimated 200 slaughter animals to 400 per year.

- Strategy 1: (included as part of Industry Wide Strategies, Infrastructure). Set up a multi-use facility working group. As it relates to red meat, develop detailed marketing and production plans, as well as industry commitment and investment plans.

Elements of the plan will be to determine the supply of animals to the facility, how to ensure product quality from producers, marketing as individuals or as a red meat group, products sold, marketing labels prices, payments to producers, payments to the facility, producer supply commitment contracts, producer investment and other financing, financial returns, etc.. Detailed engineering plans should also be prepared. In the end a detailed business plan for the red meat sector should be completed. If the plan can be realized the multi-use facility should be constructed.

- Strategy 2: (also discussed in Industry Wide Strategies, Infrastructure) Concurrent with the multi-use facility working group plan, the industry should continue to pursue farm gate sales of red meat into the community markets through frozen products (burgers, sausages, and specific cuts of meat). The farm gate plan could be done by individuals or again by a red meat marketing group. Processing would be done at a local butcher, but investment in cold storage/hanging space may be required, as well as freezer space; one permanent at a location to be determined and/or one temporary at the Fireweed Community Market, or a mobile facility.

Objective: Reduce production costs 25%.

- Strategy 1: Develop an increased supply of competitively priced feed and alternative dryland crops for the livestock industry. (see Hay and Greenfeed)
- Strategy 2: Reduce the cost of land and development (see Financing in Infrastructure)
- Strategy 3: Monitor and research red meat production system globally and communicate findings to industry (circumpolar, support individual producer training and travel initiatives to this end)
- Strategy 4: Undertake cooperative research with producers on nutrition and finishing systems for the Yukon.

Objective: Strengthen marketing and promoting the sector.

- Strategy: Develop marketing plan of Yukon grown products (see Industry Wide Strategies, Marketing/Image)
  - Performance measure: Begin to collect production data on red meat production and track the changes in the production from 2008 to 2012. Target a production increase of 100% from 2008 to 2012.
  - Performance measure: Complete a COP for the red meat sector and benchmark to 2008. Update COP in 2010 and 2012. Decreased cost per unit by 25% from 2008 levels.

Storable vegetables (potatoes, carrots, cabbages)

Strong sales at farmers markets and the retail success of Yukon's commercial potato grower shows market potential for fresh vegetables. Certain of these have better potential because they are well suited to field-scale production in the Yukon and they can be stored. The chief

constraints for any producer are adequate capitalization in land, machinery, and storage facilities.

Objective: Increase production of storable vegetables (potatoes, carrots, cabbages, onions) by 25%

- Strategy 1: Increase storage space. At this time it is understood that cold storage would more likely be implemented at the individual producer level, rather than at a multi-use facility (although this shouldn't be ruled out in the future). Provide support for individual producers in this effort by providing information on potential cold storage structures, costs of construction, and possibly guarantee loans.
- Strategy 2: Support marketing more product into the retail stores by training producers on how to enter these markets.
- Strategy 3: Support equipment purchases to assist producer mechanization (one concept might be coop ownership and pooling of equipment that is too expensive to acquire individually).
- Strategy 4: Support labour initiatives discussed in Industry Wide Strategies, Infrastructure.
- Strategy 5: Support further learning initiatives for producers (travel, education costs), and research and studies on vegetable production innovations globally.
- Strategy 6: Research plant production systems for the Yukon, as it relates to fertilizer, fertilizer substitutes, green manure and organic fertilizer.
- Strategy 7: Support producers with research trials on vegetables variety trials and new species trials.

Objective: Strengthen marketing and promotion.

- Strategy: Develop a marketing plan for Yukon Grown products (see Industry wide strategies, Marketing/Image)
    - Performance measure: Begin to collect production data from vegetable producers. Understand the market size in more detail, as well as COP information. Target an increase in production by 25% from 2008 to 2012.

Non storable vegetables (field and greenhouse)

Demand for local produce is high in that farmers' markets are typically sold out. Production costs for both greenhouse and gardens are also high, with availability and cost of labour both being serious constraints. In addition the short season is a serious constraint and any production techniques to extend this season in the field or in the greenhouse would be beneficial.

Objective: Increase production of field vegetables by 50%.

- Strategy 1: Introducing appropriately-scaled machinery and equipment. This may require assistance for research for producers looking to invest in equipment, as well as financial assistance through loan guarantees or investment funds. (see Financing)

- Strategy 2: Research on improving knowledge and use of pest and weed control techniques, in both organic and normal production systems.
- Strategy 3: Research in vegetable production systems as it relates to improving yields with fertilizer or fertilizer replacements/ and organic fertilizer systems.
- Strategy 4: Research techniques to extend the growing season cost effectively.

Objective: Increase greenhouse production by 200%.

- Strategy 1: Work with further processors in kitchens to market value added products (example: salsas, pickles, jams, jellies, sauces, etc.)
- Strategy 2: Research techniques to extending greenhouse production into the shoulder seasons (alternative heating)

Objective: Develop an inventory of casual farm labour to meet industry's needs.

- Strategy: See Infrastructure/Industry Wide Strategies section for more details

Objective: Support market development

- Strategy 1: Study to evaluate potential value added products that could be produced with fresh vegetables (salsas, pickles, etc.), and infrastructure required to do so)
- Strategy 2: Work with First Nation to market more products to other communities.
- Strategy 3: Support producers trying to access the retail market with more greenhouse products. (Training)
- Strategy 4: Develop Yukon grown marketing program (see Marketing/Image in Industry Wide Strategies)
    - Performance measure: Collect production statistics and COP on greenhouse and field vegetable production. Target an increase in production of field vegetables by 50% from 2008 to 2012. Target an increase in production of greenhouse vegetables by 200% from 2008 to 2012.
    - Performance measure: Number of farms making investment in equipment and greenhouses is two per year.
    - Performance measure: A list of available labour is prepared and accessible and is being used by producers.

Organic

The organic industry in the Yukon represents a strong and growing segment of the industry. Yukon consumers show a willingness to purchase the product at a premium. There is also a strong and growing base of producers that want to supply the industry. Because organic production

represents a subset of other production sectors many of the objectives have already been discussed either in the industry wide strategies or other sectoral strategies. Strategies to assist the organic sector are included in the following areas and funding resources will be applied specifically to help the organic sector within these existing components of the multi-year plan.

- The multi-use facility including meat processing and commercial kitchen needs to be certified organic and accessible by organic producers.
- A provincial CVO will help organic livestock producers.
- A portion of the research program should address organic specific issues like organic feed, and field and greenhouse management practices.
- Improved information on Yukon organic production will be collected in order to identify constraints and opportunities in the sector.
- The marketing initiatives will support all Yukon producers, and a specific component of the marketing should be developed to differentiate Yukon organic products from imported organic products.
- Improved financing for small organic farms.
- Organic production is also included as a sub component within many of the commodity sectors including red meat, white meat, eggs, vegetables, and feed.

Objective: Increased production and sales of organic products

- Organic poultry
- Organic eggs
- Organic livestock and poultry feed
- Organic vegetables

Objective: Increase availability of organic fertilizer/ reduce need for inorganic fertilizer.

- Strategy 1:Look at feasibility of producing organic fertilizer in the Yukon
- Strategy 2: Research fertilizer alternative production systems.

Objective: Increase the number of certified organic producers from four to 12

- Strategy 1: Develop a communications plan to educate producer and consumers on pending labelling requirements, and the certification process. This might begin with producer awareness through emails/flyers, from Growers of Organic Food Yukon (GOOFY), YAA and Yukon Government Agriculture Branch. A second component might be to hold a few producer seminars. Finally a consumer awareness campaign might follow through

traditional advertising channels and be incorporate with the Yukon grown marketing plan.

- Strategy 2:Train a second organic inspector

Objective: Increase knowledge and information on the organic sector

- Strategy: Collect data on organic production volumes and costs to help support the industry
  - Performance measures: Data is being collected on production volumes and costs of organic production. Monitor volume increases in all organic sectors from 2008 to 2012.
  - Performance measures: Research is been undertaken with respect to organic fertilizer.
  - Performance measures: The number of certified producers is increased from four to 12 and there is second organic inspector.

Pork Production

The market for pork in the Yukon shows renewed promised as a result of more affordable local feed production and the interest of one main producer and several smaller farm gate producers.

Objective: Increase pork production in the Yukon by 100% from 2008 to 2012.

- Strategy 1: Revisit the mobile abattoir pricing as it relates to hogs. Although the abbatoir may not be used at current production levels, as the market expands it may become an issue.
- Strategy 2: Assist producers with animal health and production advice through the Agriculture Branch veterinarian.
- Strategy 3: Work with producers to evaluate different pig breeds.
- Strategy 4: Work with producers to evaluate cost savings for over wintering animals.
- Strategy 5: Support producers in training/ education as it relates to hog production, and Circumpolar hog production.
- Strategy 6: Investigate financial assistance for improving animal housing costs and efficiencies.
- Strategy 7: Pork producers should be consulted on developments with the multi-use facility so that the equipment can be modified or used for hogs.
- Strategy 8: Pork producers should maintain a working relationship with any meat marketing group that is set up in the Yukon to further expand the markets into farmers markets and retail outlets.
  - Performance measure: Pork production is increased by 100%.

Elk velvet

The price of elk velvet antler in 2007 has risen into the $30.00 per pound region and has renewed some optimism to the sector. Production however remains financially marginal and requires continued market development of both the velvet and meat markets. Because of institutional and regulatory barriers, this sector is unlikely to expand significantly.

Objective: Decrease market risks

- Strategy 1: Monitor animal health in domestic and wild animal populations.
- Strategy 2: Ensure adequate compensation exists for producers if animal health problems are discovered.
- Strategy 3: Continue to support the development of a disease management plan with Department of Environment and Wildlife.
- Strategy 4: Work with Department of Environment and Wildlife to remove barriers to growth in the industry.

Objective: Support market development for producers

- Strategy 1: Develop Yukon Grown marketing strategy and work with Yukon producers to use the program.
- Strategy 2: Support producers to develop local markets in human and pet population
- Strategy 3: Support producers in developing local brands of elk velvets that can be sold into the local markets
- Strategy 4: Support producers in developing a working relationship with holistic health market in the Yukon. (this may involve individual producer initiatives)

    - Performance measure: Increased profitability for elk producers, possibly measured by COP data.
    - Performance measure: Maintain or modestly grow elk herd numbers.
    - Performance measure: Increase the quantity of elk velvet antler that is sold to local markets.

Sod Production

The sod industry has been a profitable industry over the last decade. Continued growth in population will drive the industry forward. Virtually 100% of the current sod market is supplied by one producer so further expansion will be limited, but meeting the marketing needs will be important

Objective: Meet the local market demand for sod.

- Strategy 1: Support research into production concerns of sod production, including weed control, and fertilizer options.
- Strategy 2: Support land and water applications that will be required to meet a growing market for these products.

- Strategy 3: Support the development of a labour database that can be accessed by producers.
    - Performance measure: Sod production is meeting local market demand.
    - Performance measure: Market supply is not constrained by limits to land development.

Nursery and Bedding Plants

The nursery and bedding plants industry has also been a profitable industry over the last decade, although it faces increased competition from imported products. Continued growth in population and the development or production of new products represent good opportunities.

Objective: Increase the volume of nursery and bedding products by 25%

- Strategy 1: Research potential nursery and bedding plant products that can be grown in the Yukon (agronomic and market)
- Strategy 2: Research improved yields for nursery and bedding plant production.
- Strategy 3: Develop marketing material specific to the nursery and bedding plants industry for Yukon Grown products.
- Strategy 4: Support the development of a labour database that can be accessed by producers.
    - Performance measure: Number of nursery products increases by 25%.
    - Performance measure: Market supply is not constrained by limits to land development.

New/ Emerging Industries

There are a number of other niche industries that continue to contribute to Yukon agriculture. In addition there is potential that other sectors could develop or emerge over the next five year. Objectives and strategies relating to these sectors are discussed here.

Honey Producers: Honey production represents a small sector, and production is limited, but Yukon honey fetches a high premium from consumers.

Objective: Support producers in efforts to grow the industry.

- Strategy 1: Monitor bee health and provide advice through the Agriculture Branch extension services
- Strategy 2: Support marketing with the Yukon Grown program.
- Strategy 3: Monitor and assist producers in locating potential fireweed and other pollinating locations
- Strategy 4: Assist with research in stimulating/cultivating fireweed through scarification.

Cheese: One producer has developed a niche market in producing goat cheese.

Objective: Provide support to this producer, or new entrants as required

- Strategy 1: Animal health support from Agriculture Branch extension services
- Strategy 2: Marketing support through Yukon Grown
- Strategy 3: Support research, and financial assistance for new equipment for cheese production
- Strategy 4: Benefiting from experience: there is a qualified and highly experienced Swiss cheesemaker located at Haines Junction, Yukon.

Birch Syrup: One producer has developed a market for birch syrup, and there are opportunities to further expand this market.

Objective: Support producers in efforts to grow the industry.

- Strategy 1: Monitor tree and tree stand health and provide advice through the Agriculture Branch and Forestry.
- Strategy 2: Support marketing with the Yukon Grown program.
- Strategy 3: Monitor and assist producers in locating potential birch stands.
- Strategy 4: Assist with research in stimulating birch tree germination and cultivation of birch trees.
- Strategy 5: Develop long term land lease agreements for birch syrup producers, and other native harvesters.

Animal fur and fibre: At least one producer raises animals for the fur/fibre products market.

Objective: Provide support to existing producers or new entrants as required

- Strategy 1: Animal health support from Agriculture Branch extension services.
- Strategy 2: Marketing support through the Yukon Grown program.
- Strategy 3: Support research, and financial assistance for new equipment for cheese production.

Seed Production: Including native grass seed, turf seed for sod, cereal seed. This would represent a new market. While the market for these products will be relatively small, there are opportunities with new mines, agriculture inputs, sod seed, as well as highways and municipal projects. At a minimum a small seed cleaning line would be required to enter the market.

Objective 1: Further evaluate and study the feasibility for markets and products

Objective 2: Support producers who wish to enter the markets

- Strategy 1: Provide knowledge or research on equipment
- Strategy 2: Support training and research about plant selection, potential species/varieties to grow, and production techniques
- Strategy 3: Financial assistance and loan guarantees for equipment purchases

Dairy: Milk and other dairy production outside of goat cheese remains unserved.

Objective: Complete a feasibility study on dairy production, including organic dairy production, and the potential end products.

- Strategy 1: Undertake a feasibility study on dairy production.

Specialty Crops like Rhodiola/ Stevia: These represent new markets.

Objectives: Support development of new markets/products

- Strategy 1: Conduct research and plant growth trials to evaluate the economic and agronomic fit of new plants.
- Strategy 2: Undertake feasibility studies to determine markets for new products
- Strategy 3: Financial assistance and loan guarantees for special equipment required for new products.

Management, Implementation, Timelines and Resources

In order to implement the MYDP it will be important to focus on the top priority issues for the industry, rather than working towards completing all tasks. The implementation plan described here discusses an approach to help manage the MYDP.

Management

The first step is to identify the people that will be responsible for ensuring the plan is implemented. In this case we recommend that the Agriculture Industry Advisory Committee (AIAC) oversee the MYDP's implementation. This Committee is composed of representatives from the YAA, GOOFY, Yukon Game Growers Association and an independent member and might be further expanded to include one or two First Nations representatives or observers, as well as processors/retailers. Funding should also be allocated for the management of the MYDP and the standard per diem for industry committee members, or any sub-committee members would be paid as well as travel and food expenses.

The AIAC could set the key priorities for the plan and should identify the top five to ten priorities that can realistically be pursued by the industry over the five year period. The following ten areas are seen as the greatest priorities as of 2007, although the AIAC can reassess the priorities at the outset of implementation and annually thereafter.

1. Implement an annual or periodic survey of Yukon agriculture and agri-food industries;
2. Move forward with a multi-use facility (or secondary strategy for meat and 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.

Although the success of the MYDP will rely on reaching objectives set for individual sectors, specific sectoral strategies are not highlighted here. The ten broad, industry-wide priorities will benefit most sectors and help each achieve specific objectives.

The ten priorities are discussed in more detailed in the table below. It outlines the timelines and resources for implementing these specific elements of the MYDP.

Table 1: Implementation Plan for Key Priority Areas in the Yukon Agriculture Multi-Year Development Plan (2008-2012)

Objective	Steps/ Strategies	Performance Measure	Resources	Timelines				
				08	09	10	11	12
MYDP Goal: *To increase and sustain production, sales, and profitability in the Yukon agricultural industry.* **Strategy:** Build on the willingness of Yukoners to buy and eat locally produced foods. Identify and focus on products that are agronomically feasible, economically profitable, and for which markets exist or could be reasonably created. Areas of concentration will include: ➡ increasing production of viable commodities, ➡ increasing value-added processing, ➡ increasing value of both commodities and products (quality, image, positioning) ➡ increasing volume and value of sales; ➡ reducing costs of development, infrastructure, ➡ reducing costs of production, marketing, and distribution.								
Funding received for management of MYDP	Apply for funding related to management of the MYDP	Funding received	YAA to apply for funding: $47,500.00 ($5,000.00 per year for YAA management, estimated $20,500.00 for committee and subcommittee meetings, and estimated travel expenses of $2,000.00,)	■				
Implement a survey of Yukon agriculture	Design a survey questionnaire, hire a third party to administer the survey and prepare a report	Surveys complete, data is being used to support industry (planning, financial resource, identifying problems, measuring results of MYDP)	$5,000.00 to design survey $50,000.00 ($10,000.00 for each annual survey and report)		■	■	■	■
Multi-use facility	Create a multi-use facility working group	Committee identified	Four industry, two government people	■				
	Decide if funding can be accessed or not	Committee has answer on whether funding of $1.5 to $2 million can be accessed	CFIA, Agriculture Branch resources Up to $1,000.00 for meetings	■				

Table 1: Implementation Plan for Key Priority Areas in the Yukon Agriculture Multi-Year Development Plan (2008-2012)

Objective	Steps/ Strategies	Performance Measure	Resources	Timelines				
				08	09	10	11	12
	Complete detailed business plan for multi-use facility.	Business plan complete	Multi-use meat working group Up to $2,000.00 for meetings Estimated $200,000.00 for business plan with engineering (may be lower depending on further engineering requirements)					
	Multi-use facility constructed and operating	Multi-use facility constructed, operating Increased meat sales of 100% from 2008 levels 100% increase in number of products produced in kitchen from 2008 levels.	Undetermined (possibly $1.5 to $2.0 million for facility) engineering, operating personnel hired Up to $2,000.00 per year for a total of $8,000 for meetings					
Community Market Infrastructure	Work with local municipalities and community market associations to plan, finance and construct permanent infrastructure at community markets	Fireweed Community Market has a permanent facility constructed Other municipalities have been engaged in looking at permanent facilities (where a need exists)	Undetermined $ for infrastructure Support form the Agriculture Branch, YAA, Fireweed Community Market, and other stakeholders					
Marketing strategy	Create a marketing plan working group	Committee identified	Four industry, two government people					
	Develop Yukon Grown guidelines	Guidelines developed	Up to $1,000.00 for meetings					

Table 1: Implementation Plan for Key Priority Areas in the Yukon Agriculture Multi-Year Development Plan (2008-2012)									
Objective	**Steps/ Strategies**	**Performance Measure**	**Resources**	**Timelines**				
				08	**09**	**10**	**11**	**12**
	Hire a graphic designer to develop logo, posters	New logo, posters, tag lines	Estimated $25,000.00 for graphic designer		■			
	Undertake selective advertising	Advertising in Whitehorse, Dawson City, Carmacks, Haines Newspapers, farmers markets, event sponsorship, point of sale (stores)	Estimated $20,000.00		■	■	■	■
	Implement news paper special interest agricultural stories every six months	1. Special interest articles every six months	Undetermined, may require a contract with newspapers			■	■	■
Support for Organic certification and labelling	Develop a communication plan for producers and consumers on organic production, certification and labelling	Communication plan developed	GOOFY $15,000.00 in funding for communications material	■	■			
	Train a second organic inspector	The Yukon has two certified organic inspectors	One inspector identified $5,000.00 from	■	■			
Research program	Establish a research committee, headed by Agriculture Branch	Committee identified (Agriculture Industry Advisory Committee)	Four industry, two government people	■				

Table 1: Implementation Plan for Key Priority Areas in the Yukon Agriculture Multi-Year Development Plan (2008-2012)

Objective	Steps/ Strategies	Performance Measure	Resources	Timelines				
				08	09	10	11	12
	Set research priorities (develop list of research priorities; some identified in industry wide strategies and sectoral strategies)	List of research activities generated	$2,500.00					
	Research undertaken	Research results generated and shared with industry, production practices transferred to producers	Uncertain (to be determined by Agriculture Branch)					
Improve access to finance and cost of land development	Establish a finance working group	Committee identified	Four industry, two government people FCC, bank, territorial and federal finance contacts may be required					
	Brainstorm ways to improve access to capital, and lower costs of land development (some identified in industry wide strategies)	Identify top three ideas to improve access to capital	Up to $2,000 .00for meetings					
	Develop the programs to improve access to capital	Loan, tax, and investment programs developed	Up to $4,000.00 for meetings ($2,000.00 for each year) Assistance from FCC, banks, Agriculture Branch, Yukon finance, Revenue Canada					
Develop programs to broaden the base of support for Yukon agriculture.	Maintain regular two way communication with First Nations through Yukon Agriculture Industry Associations and Agriculture Branch	All First Nations engaged, one contact person identified	Yukon Agriculture Industry Associations Agriculture Branch					
	Maintain communication with retailers, butchers, suppliers	Stakeholders receive regular communication with YAA and Agriculture Branch	Yukon Agriculture Industry Associations Agriculture Branch					

Table 1: Implementation Plan for Key Priority Areas in the Yukon Agriculture Multi-Year Development Plan (2008-2012)

Objective	Steps/ Strategies	Performance Measure	Resources	Timelines				
				08	09	10	11	12
	Develop programs to involve First Nations and communities in agriculture (some identified in industry wide strategies)	Programs developed and implemented	Director of Agriculture Branch First Nations representatives Community Services Undetermined dollars (Agriculture and Agri-food Canada, Human Resources Canada, First Nations)					
Improve labour availability	Advertise and develop a list of available labour	A list of available farm labour is developed	Yukon Agriculture Industry Associations Undetermined dollars for advertising / database / website					
	Develop programs for summer/casual labour	Labour programs implemented Availability and access to labour improves for producers	Yukon Agriculture Industry Associations Undetermined dollars for labour programs					
Strategies to manage risks including disease and pest	Develop strategies or guidelines for pests (weeds, weed seeds, insects, rodents) and reporting protocol	Strategies developed	Agriculture Branch					
	Undertake monitoring, reporting for diseases, pests	Monitoring and reporting	Agriculture Branch					
	Develop and implement disease and pest management programs	Management plans developed Pest and disease events controlled and public confidence maintained	Agriculture Branch					
	Complete Emergency Response Plans, and hold simulations	Emergency Plan developed and simulations completed	Agriculture Branch Producers in simulations Undetermined dollars to hold simulation					

General Oversight

The AIAC will review progress with the MYDP at their quarterly meetings. The Committee can review the appropriateness of the programs and make changes if required. Also if emerging issues are more pressing to industry, the Committee might decide to reallocate resources to manage the emerging problems.

The AIAC will rely on reports from people tasked with responsibilities of specific programs and strategies, and reports from the Agriculture Branch and agriculture industry associations. In addition it is recommended that an annual report card be prepared by an independent third party based on a survey (discussed in Table 1). Where there are a limited number of producers it is important to protect the information.

The MYDP roles and responsibilities for the Committee could include:

- Identify and communicate with the people or organizations responsible for managing the programs or strategies;
- Review reports from project managers;
- Review the annual report cards;
- Recommend adjustments/changes to programs that are not delivering the expected results;
- Identify any additional resources (human and financial) that are required to meet goals (the Committee could identify specific people as well as potential source of funding that may be accessed);
- Identify emerging issues and recommend actions for critical issues; and
- Communicate back to industry with an annual update message to stakeholders.

The costs for the AIAC are covered by the Yukon Government Agriculture Branch and include a per diem for Industry Committee Members for attendance at meetings

Summary of Resources

The main costs for the MYDP are list below. At this time many of the items are estimates only.

- $47,500.00 for management of the MYDP
- $55, 000.00 for producer surveys over the five year planning period
- $200,000.00 for detailed business plans and engineering study for a multi-use facility
- $1.5 to $2.0 million for multi-use facility
- $45,000.00 for marketing Yukon Grown Products
- $20,000.00 for organic certification and labelling programs
- Undetermined dollars for:
    - Community market infrastructure
    - Research
    - Labour programs
    - First Nations/ Community programs
    - Risk Management

The majority of the funding is directed at industry wide strategies, including marketing, infrastructure, and research. This industry wide funding, will be

shared between all sectors of Yukon agriculture including different commodities, small and large producers, and specific practices like organic production.

Funding of these costs might be provided through Canada-Yukon agriculture policy programming or the Yukon Advancing Canadian Agriculture and Agri-Food Canada Program.

APPENDIX

APPENDIX A: PROFILE OF YUKON

The Yukon had a population of 31,608 in 2006, 70% of which is located in Whitehorse

The Yukon Territory has been shaped by its climate, geography and people. Canada's most northwest territory is a thinly populated region with a population of 31,608[4] (2006) in a territory 483,450[5] km^2 in size. This is approximately 75% of the size of Alberta, with only 1% of the population. The population is largely urban based, with 70% of Yukon's population living in Whitehorse.

The Yukon's geography is dominated by mountains and forests, and a high elevation plane called the Yukon plateau. The territory has an abundant number of glacial fed rivers and lakes, with many of the rivers cutting a line through the Yukon plateau. In the far north of the Yukon the geography turns to arctic tundra. The territory is dominated by a boreal forest (57%), and there are many species of wildflowers, shrubs, grasses, moss and lichen that can be found. The rugged geography has blessed the Yukon with beautiful landscapes, and much of it remains undeveloped.

The climate is generally cool and dry. Temperatures in the south and in the valleys are more moderated than higher up in mountains and in the far north. In the south there are four months where temperatures average ten degrees Celsius or higher, with temperatures in July averaging between 13°C and 16°C. By contrast the temperatures in the coldest month of January average between -18°C and -30°C. The average frost-free days during the summer varies between 20 and 90, with lower elevations in the south and west having a longer frost-free period.

The Yukon is also a dry climate, receiving between 250 mm and 400 mm of precipitation per year, with just under half of the precipitation coming as snowfall. Summer rainfall ranges from 125 to 250 mm at various locations. This is lower than all major cities across the Canadian prairies[6]. The Yukon receives abundant sunlight during the summer, when the territory receives nineteen or more hours of daylight in June. In December the territory receives six hours or less of sunlight. The climate has shaped the wide variety of plants and wildlife that have adapted to the Yukon.

Historically the Yukon was a land where First Nations people lived a nomadic subsistence, relying on hunting and fishing. The fur trade began to see the territory open up to new developments, and the Yukon was further impacted by the gold rush of the 1890's. The history of these different settlers has left the Yukon with a unique spirit and culture. The people have a strong appreciation for the land and the climate, and a will to succeed in a challenging environment.

[4] http://www.gov.yk.ca/facts/index.html#population
[5] http://www.gov.yk.ca/yukonglance/geography.html
[6] Compared to Edmonton, Calgary, Regina, Saskatoon, and Winnipeg; http://www40.statcan.ca/l01/cst01/phys08a.htm

The current economy in the Yukon is dominated by the service sector, employing 12,600 of the 15,100[7] strong labour force in the territory in March, 2007. The public administration sector is the largest employer in the Yukon, employing 5,400 people (37.5% of all jobs). Tourism is an increasingly vital sector, employing about 30% of the workforce in accommodation, food services, retail, transportation, and related activities. Other important service sectors are finance, insurance, and real estate, as well as the other accommodation, food services, retail, and transportation services not related to tourism.

Of the goods producing industries, construction and resources (mining, oil and gas) are the most important sectors. The mining, oil and gas extraction sectors represent about 6%[8] of the GDP and employs around 2.5% of the labour force (2001). The construction industry employs between 6% and 7% of the workforce and accounts for about 10% of the GDP. Hydroelectricity, forestry, fishing, trapping, and agriculture also contribute to the Yukon economy. Agriculture, the focus of this report, would represent under 1% of the GDP.

The Yukon has a tight labour market with unemployment at 4.6%

As of March, 2007, the Yukon had a labour force of 15,100 people and an unemployment rate of 4.6%. The labour market is tighter in 2007 than it has been for much of the last sixteen years, with an average unemployment rate of 9.5%.

[7] http://www.eco.gov.yk.ca/stats/employment/emp032007.pdf
[8] http://www.eco.gov.yk.ca/stats/economic/gdp_2005.pdf

Appendix B: Profile of Yukon Agriculture

A historical Perspective

The planting of small food gardens began in the Yukon with the arrival of the Hudson Bay traders in the 1840s. But the first serious efforts to grow crops appear to have begun with Jack McQuesten's efforts at Fortymile in 1891. It appears that McQuesten was not lacking in creativity in his efforts:

> "Jack McQuesten used a plough, drawn by two moose (named Kate and Susan), to break up the land, but the animals soon broke down and were replaced by Native labourers, six of whom were hooked up to the plough. The work cost McQuesten several hundred dollars and one of his moose was killed by a miner, who mistook it for a wild member of the species."[9]

This anecdote points to how one current constraint on agriculture in the Yukon, the relatively high cost of labour, stretches back to the very beginnings of agricultural efforts. The First Nation men who were willing to work for cash at the time demanded, and got, very high wages. Fifteen dollars a day was often paid, more than six times the standard wage in the south.

Agricultural efforts continued at Fortymile, especially efforts to grow potatoes, a crop that could be stored over the winter when food was especially scarce. But one problem appeared to be that the varieties of potatoes being tried were not well adapted to the conditions. Early frosts were also problematic. In the first official government assessment of the Yukon's agricultural potential, William Saunders wrote:

> "Mr. Ogilvie says that a Mr. Patch tried to grow potatoes on the south side of Forty Mile River, but they were invariably killed by frost before they matured… Mr. Ogilvie mentions several other gardens at Forty Mile in which potatoes have been cultivated but those grown in that locality are watery. He also refers to the experience of Mr. Harper, at Fort Selkirk, on the Yukon, who has grown potatoes of fair quality."[10]

Saunders, the Director of the Central Experimental Farm in Ottawa, was not optimistic about the future of Yukon agriculture. Based on reported temperatures and Ogilvie's reports his summary was: "there

[9] Gates, Michael. 1994. *Gold at Fortymile Creek: Early Days in the Yukon.* UBC Press. p.60

[10] Saunders, William. February, 1898 *Possibilities of Agriculture in the Yukon District: Experimental Farm Notes.* Department of Agriculture, Ottawa. p.4

seems to be no prospect of much being ever done in the way of agriculture in such a climate."[11]

Saunders was very quickly proven wrong. The Yukon's remote location, very high cost of transport to bring in enough to feed the thousands who arrived looking for gold, and the demand for fresh produce provided all the opportunity and impetus needed for farmers to get to work. Again, the current opportunities for Yukon agriculture created by relatively high product prices are mirrored in the history of 100 years ago. And the Dawson City area provided areas — especially on islands in the Yukon and Klondike rivers — well suited to market gardens. In 1908 William Steinberg wrote:

> "On a recent visit to one of the island gardens, on being shown through the cellars, I met a sight long to be remembered. There was bin after bin of the soundest and largest potatoes …bins full of turnips, carrots, parsnips, beets and onions; racks full of cabbage heads, well filled and hard, many of them bringing one dollar each, or from eight to twelve cents a pound; turnips, carrots, parsnips etc., bringing eight cents the pound in winter; onions twelve cents. Blue cabbage, cauliflower, and celery are also grown here… I saw well bleached celery as fresh looking and crisp in March as when first taken out of the ground."[12]

[11] Ibid.
[12] Steinberg, William. September 1908. "Agriculture in the Yukon." *Alaska-Yukon Magazine.* Vol.5. pp. 390-391

Steinberg wrote that hundreds of acres were under production, with hundreds of tons of vegetables produced.

> "The potato crop alone last year was over two hundred tons and the farmers and gardeners expect to double their potato acreage this year. As much as eight tons have been grown on a single acre… Ninety sacks of potatoes, weighting a total of five tons, are the splendid result secured from two hundred and seventy five pounds of seed potatoes by the McCluskey brothers, from their farm at the head of Clear Creek, a few miles below Dawson."[13]

The problem of watery potatoes had been solved in part by farmers experimenting with crossing and re-crossing varieties resulting in what Steinberg described as a very fine, hardy, and marketable variety that he suggested be called the Yukoner. Potatoes sold for 5 to 8 cents a pound during the harvest but by spring they fetched 15 cents a pound.

Steinberg also observed hay, oats, and barley production in the Dawson area. He wrote:

> "The timothy and clover hay raised here compares very favourably with the outside hay, bringing the same price, which fluctuates from eighty to one hundred dollars a ton…Oats of an excellent quality have been grown, weighting as much as forty-two pounds to the bushel and often six feet high. They are usually sown about May 1st and are fully matured by August 24th, having plenty of good weather for harvesting… Barley has also been very successfully grown in the Yukon, taking readily to the climate and being a very heavy producer."[14]

With gold at approximately $20 per ounce in 1908, a ton of hay was worth 5 ounces of gold. At today's gold price that would have hay

[13] Ibid. p.389
[14] Ibid. p.394

selling at about $3,250 per ton, an attractive price by today's standards. (Using a more standard means of measuring inflation would likely see that $100 per ton price in 1908 being closer to $1,500 today rather than over $3,000).

The Yukon's population declined steadily through the early decades of the 20th century, and agriculture declined with it. Following the building of the Alaska Highway during WWII, the federal government established an agricultural research station near Haines Junction in the south west Yukon. Decades of work were done at the station to experiment with different crops and growing techniques, although the area, in the shadow of the Kluane Range, does not boast the most favourable agricultural climate in the Yukon. The reports from the station provide clear evidence that some fundamental opportunities and constraints remained, and remain, the same — with transportation and labour costs heading the list. A 1956 report includes the following:

> "While local agricultural production is not as yet a very profitable endeavour because of such things as high transportation and labour costs and a small local market… It is visualized that the main stay of Yukon agriculture might well be in the form of beef cattle production… Because of high transportation costs the importation of livestock feeds and their components must be kept to a minimum if northern agriculture is to be financially sound… Because of the fact that much of the poultry feed must be imported from British Columbia at a high freight cost, egg production is not a financially sound venture at present."[15]

In 1960, Hugh Bradley of the Pelly River Ranch prepared a brief on the possibilities of farming in the Yukon. In it he wrote that, although the territory would never become primarily an agricultural area, farming should be seen and encouraged as a basic industry and advised Yukon farmers to always aim at the production of high quality produce, quality always finds markets. A specific recommendation put forward by Bradley was:

> "Another way in which the government could aid farmers is in freight subsidies. For example, the cost of freight on fertilizer amounts to about $130.00 per ton… Freight nearly doubles the price of farm machinery in the Yukon. Such a situation does not encourage agricultural enterprise."[16]

Again, transportation costs are front and center.

Since the 1970s, the availability of agricultural land has been an ongoing issue for the Yukon's agricultural industry. Prior to the

[15] Research Hi-Lites 1955-56: Whitehorse Experimental Farm. Mile 1019, Alaska Highway.
[16] Bradley, R. Hugh. Pelly River Ranch, Yukon. February 1960 *A Brief on the Possibilities of Mixed Farming in the Yukon*. p.3

launching of the comprehensive First Nation land claim process in 1973, and the increasing reluctance of governments to release land to the public on an ad hoc basis, applying for agricultural leases was easier but also led to problems. A 1979 article on agricultural land issues in the Yukon states:

> "Before 1975, people would come in and ask for leases to large parcels of land for agricultural use without knowing exactly how suitable the land in question was for farming. They'd clear the land to meet the terms of the lease and then find it was not good for farming. They let it go back to scrub growth. Others who applied for leases really only wanted 10 or 15 acres in the country and had no interest in farming, but they would have to take a larger parcel and clear it anyway, just to get the lease. The result, he says, was a great deal of land clearing for nothing, damaging wildlife habitats and increasing the dangers of water and wind erosion."[17]

Any public land now applied for as agricultural land is now tested to ensure that it is suitable for agriculture, but land disposition remains an often thorny issue.

[17] Harrowsmith Magazine October 1979 "All This Land, And Nowhere to Grow". No.23 Vol. IV:3. p.48

A Current Perspective

In 2007 agriculture represents a niche industry in the Yukon. The total farm receipts were just over four million dollars in 2005[18]. While not a large economic industry, it does provide some food security to the Yukon, promote rural development, and add diversity to the economy. In total, only about 2%[19] of the land in the Yukon is deemed to have agriculture potential and this land is generally located along the major river valleys in the south of the territory. Because of the need for water and climate conditions the land suitable for agriculture is really far less than this 2%. Of the 483,450 km^2 in the Yukon a little over 100 km^2 are used for agriculture, and less than 40 km^2 are used for hay and crop production.

There were 148 farms reported in the 2006 census[20].The industry largely serves the local territorial markets for food and feed, and is led by hay and forage producers, animal production and vegetable farming. In total, there is over 25,000 acres classified as agricultural production (although over 16,000 of this is natural land used for pasture, woodlands, or wetlands). Table 1 provides a detailed profile of farming activity in the Yukon in 2006 (note: many farms operate mixed farms with multiple farming activities).

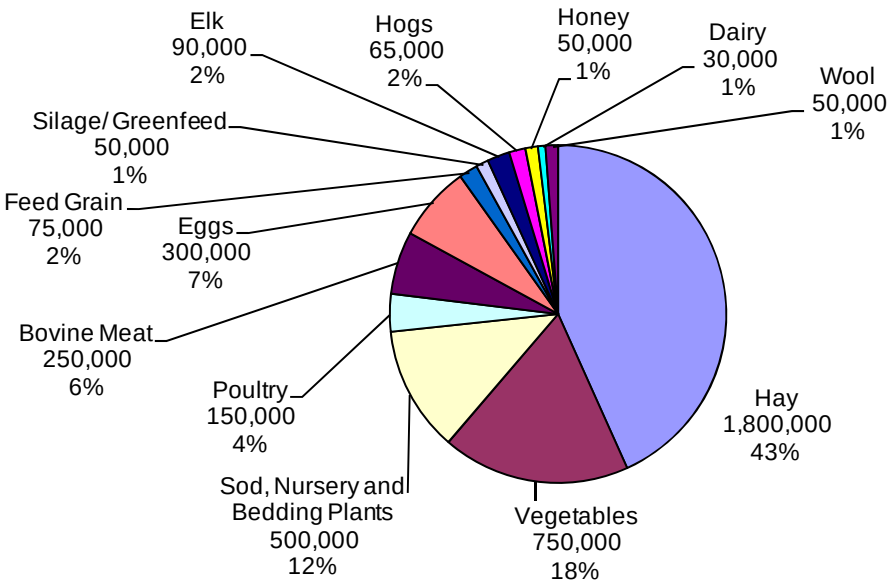
[18] 2006 census of agriculture: http://www.statcan.ca/english/freepub/95-629-XIE/2007000/farmsinterr.htm
[19] Only about 0.02% of the land in the Yukon is currently farmed.
[20]http://www.statcan.ca/english/freepub/95-629-XIE/2007000/farmsinterr.htm

Table 2: Profile of Yukon Farms in 2006

Description		Primary Farming Activity	Total Farms Reporting	Other Production Notes
Cattle and Ranching		2	10	220 cattle and calves
Pork Production		2	7	160 pigs
Sheep and Goats		1	7	113 goats
Poultry and Egg Production		10	29	Produce 11,500 kgs of chicken and turkey meat 6,301 total birds (3,886 are layers)
Other Animal Production	Llamas & Alpacas	44	5	21 llamas and alpacas
	Elk		4	74 elk
	Bison		1	150 bison
	Horses		58	629 horses (2006 Census of Agriculture) **1,748 horses noted in 2003 Survey of Yukon's Horse Owners and Horse Boarding Operators**
Greenhouse (vegetables, flowers, nursery)		22	30	2,683 m^2 for flowers, 2,122 m^2 for vegetables, 158 m^2 for other
Vegetable, non green house		12	25	Produce over 20 types of vegetables on 37 acres
Fruit		4	10	24 acres Saskatoon, raspberries and strawberries, and cranberries
Grain		5	25+	Mainly Oats, on 1,372 acres
Other Production	Bees	46	3	
	Maple		1	
	Hay		50+	Over 4,500 acres
	Potatoes		12	59 acres
	Nursery		7	12 acres
	Sod		1	
	Christmas Tree		2	
Certified Organic			2 (4 in 2007)	Produce Vegetables, Fruit and Hay
Transitional to Certified Organic			2 (1 in 2007)	Produce Vegetables, Fruit, Hay, and Animals
Uncertified Organic			22	Produce Vegetables, Fruit, Hay, and Animals
Source: 2006 Agriculture Census of Canada				

The following figure displays the relative importance of various agriculture sectors in the Yukon. It is only an estimate, as the exact breakdown is not available.

Figure 1: Distribution of Farm Receipts by Sector (Estimated Value, % Share)



Yukon agriculture is dominated by hay and pasture

As Figure 1 shows, the Yukon agriculture industry is dominated by hay and pasture. This accounts for an estimated 45% of the total farm income. The vegetable industry is playing an increasingly important role in agriculture. Livestock production (red meat, poultry, eggs, dairy, and other animal products), as well as sod and horticultural products also play significant roles.

The industry has a number of associations that represent various agricultural stakeholders including the Yukon Agricultural Association (YAA), the Yukon Food Processors Association, the Growers of Organic Food Yukon (GOOFY)), the Fireweed Community Market (FCM) and the Yukon Food Processors Association..

Organic and Other Farm Production Practices

Farm production practices in the Yukon vary from organic to more traditional intensive input operations. In general the Yukon appears to rely on irrigation, use commercial fertilizer, but use low levels of herbicide, insecticide, fungicide, animal hormones or antibiotics.

In terms of irrigation, 1,851 acres were reported as irrigated in the 2006 census. This might represent about 20% of the cultivated or cropped acres. In addition there were 2,848 acres where commercial

fertilizer was applied. Apart from these two inputs however, herbicides were used on only 19 farms and 888 acres, and only 2 farms reported using insecticides and fungicides. In Table 3 below, a comparison is made between herbicide and fertilizer use in the Yukon to Alberta and Canada. While the Yukon appears to use similar amounts of commercial fertilizer as other jurisdictions, the use of herbicides is much lower (one third or one quarter as many acres have herbicide applied)

Table 3: Fertilizer and Herbicide Use on Farms

	Yukon	Yukon %	Alberta	Alberta %	Canada	Canada %
Total Farms	148		49,431		229,373	
Total Acres	9,000		52,127,857		67,010,491	
Fertilized Farms	30	20%	23,443	47%	118,226	52%
Fertilized Acres	2,848	32%	17,211,462	33%	62,636,313	38%
Herbicide Farms	19	13%	20,482	41%	103,496	45%
Herbicide Acres	888	10%	15,858,085	30%	61,332,083	37%

Source: 2006 Census of Agriculture
Yukon acres were actually 25,020, but have been reduced as 16,000 acres are forested, wetlands, or natural land for pasture

Organic production has grown in the last five years. In 2007, there are four certified organic producers in the Yukon and one other is in transition to become certified. This number has increased from the 2006 census, where two certified producer were reported and two others were in transition. There are however many other producers that report using organic or near organic practices. The availability of organic feed and organic fertilizers are two of the issues that are constraints to growing the organic sector, although organic feed is now being produced in the Yukon. Organic production will also likely increase in the coming years for the following reasons:

- Organic labelling requirements will come into effect in December 2008; and
- Growth in consumer purchases of organic products.

There is an organic inspector in the Yukon, however a second organic inspector will likely be required in the near term, as it is understood that there is a limit to the number of times that the same inspector can visit a farm. In addition due to the impending regulatory change with respect to labelling, the industry has a need for further support for education at the consumer and producer levels.

There is some interest in developing some brands around Yukon agricultural practices that need to be mentioned.

- Yukon Natural: Particularly in the livestock sector, there is interest in supporting a natural production practices label, which would market a hormone and possibly antibiotic free product, raised in the Yukon on mainly a grass diet. The specifics of Yukon Natural have not been developed.
- GMO Free Zone: While support for a GMO (genetically modified organism) free zone is generally mixed, there is strong support for this concept particularly among the organic and market garden participants of the industry. The opportunity may help to distinguish Yukon grown products at the consumer level, and possibly open up opportunities for production and trade with other GMO free areas.

Farm Economics

Farming in the Yukon appears marginal from a financial perspective, with the overall operating expenses of $4.26 million being greater than the total farm receipts of $4.08 million. The spread between operating expenses and farm receipts has decreased compared to 2000, when receipts were valued at $4.19 million and expenses were valued at $4.75 million. There have been a number of studies commissioned on the costs and returns of agricultural production in the Yukon which support the notion that high costs and/or low productivity continue to be major challenges facing the industry. In particular, labour costs are viewed as significant constraints in the current market. The small scale of production and high capital cost are likely two of the more significant causes of marginal financial conditions.

Farm Demographics

In the 2006 Agricultural Census the industry reported that for the 148 farms, there were 215 farm operators (full time and part time). Table 4 below shows demographics and working characteristics for the operators.

Table 4: Farm Operator Demographics

	2006	2001
Number of Farm Operators	215	265
Male	125	160
Female	90	105
Age of Farm Operators		
Average Age	51	50
Under 35	15	15
35 to 54	125	185
Over 55	75	65
Hours Worked on Farm		
Less than 20	100	
More than 20, Less than 40	45	
More than 40	75	
Hours Worked off Farm		
Zero	65	
Less than 20	25	
More than 20, Less than 40	70	
More than 40	60	

The farm population is aging, with fewer producers between 35 and 54.

The statistics in Table 4 indicate that the number of farm operators has decreased from 2001. Also the average farm operator is getting older, with the number of operators between 35 and 55 declining more than other categories. This trend is a common theme in agriculture, and issues of succession planning and training will need to be addressed for any future industry success.

More than half of the operators have full time or part time off farm work. The statistics indicate that farming in the Yukon continues to be a hobby or lifestyle choice for many producers, and also points to the high demand for labour generally in the Yukon.

In addition to the farm operators, the industry reportedly employed 11 full time staff in 2006, and 38 farms reported paying seasonal or temporary staff. There are also unpaid arm length workers that work at some of the Yukon's organic farms. These workers are called WWOOFers. The acronym stands for Willing Workers On Organic Farms, and they represent workers who trade their services for accommodation. The existence of WWOOFers has helped ease the labour shortage and help maintain the costs of some organic farms.

The majority of Yukon farms are small, operating on a hobby or part-time basis. Of 148 farms, only nine reported sales of more than $100,000 and only 32 farms have more than 180 acres. The trend in the industry as far as farm size is concerned, appears to be a bimodal one, where the number of large and small farms is generally increasing, while the number of operations in the middle (130 acres to 560 acres) has decreased. This is also a similar trend to what is occurring in other agricultural jurisdictions in Canada. The farm size is also likely an indicator of the types of farms and the scale of production that are more feasible. Non mechanized vegetable farms, greenhouses, and poultry operations for example may represent the small scale operations, while the large scale may be represented by mechanized crop production, and livestock producers.

Marketing and Value Added

Agriculture products in the Yukon are marketed through a few different channels as follows:

- Farm to Farm: Intermediary products such and hay and feed are marketed direct to other livestock producers as well horse owners and pet owners.
- Farm Gate: Products sold directly to consumers (farm gate sales); this includes meat, eggs, vegetables
- Market Garden: Products sold directly to consumers in community/ farmer's markets (vegetables, jams)
- Agri-food Processing: Products sold to intermediate consumers for further processing (bakeries, caterers, and restaurants); limited at this time to vegetables and berries
- Commercial: Products sold to commercial clients that retail to consumers (commercial potato production)

The majority of the products produced in the Yukon are sold using the Farm to Farm and Farm Gate channels. Approximately 75% of the farm production, or more than $3,000,000 is sold in these channels.

The consumers in the Yukon show a strong desire to buy locally. This can be seen in the support for community markets, and in strong farm gate sales. This has also translated into high premiums for a limited amount of Yukon production. This local premium may be as high as two to four fold over imported production. Marketing local production has also been driven by the 100 mile diet that encourages a diet where food is produced within 100 miles of where it is consumed.

Virtually all of the Yukon agricultural production is sold in the Yukon. While support for local production has helped to encourage local producers, it is not the reason why products are not exported from the territory. The high cost of production and limited quantity have restricted Yukon products to local consumers. Only limited amounts of elk antler velvet, sod, and possibly fish and honey are exported.

The Yukon does have a great image outside the Yukon, and if high quality products were available it is possible that exports markets could open up on a limited scale, at high value. However this is very much secondary to developing local markets. An example of an export success can be found with Yukon Springs. While not actively pursuing exports markets, the company has exported water to Japan due to the perceived high quality of Yukon spring water.

Value added is a term that is often used to describe the processing and further processing industries in agriculture. This describes everything from packaging kale in bags to making sausages, jam, bread, and elk velvet antler capsules. It describes anything that moves a product from a commodity form and adds value to the sales price. The Yukon has many examples of value added products. It is difficult to determine the level of value added activity in dollars, but we have estimated it at between $500,000 and $1,000,000. Elsewhere in Canada we might expect value added to represent a larger number in relation to farm receipts, however with a great deal of farm to farm and farm gate sales there is less opportunity to add value. The dairy industry for example may add $2 or $3 in value added for every $1 in farm production.

Some of this value added is captured by the producers, and by independent retailers, and further processors. For example sales at the community markets add value to a product and this is captured by producers. When meat is sold at the farm gate, and a butcher does the processing, most of the value added is captured by the butcher.

Infrastructure

Value added is often tied to the level of infrastructure, although infrastructure also supports farm inputs and basic production. There is limited agriculture infrastructure in the Yukon, although there has been investment in the last five years. The following is a list of the farm infrastructure in the Yukon.

- There are a few different producers that import fertilizer for resale to local producers;
- There are a few local producers who are producing and selling grain, in addition to one that is importing other feed ration and blending them for customers;
- There is an equipment dealer for irrigation equipment;
- There is a mobile red meat abattoir that began operations in the fall of 2006;
- A group of local producers has also recently purchased small scale equipment for slaughtering poultry;
- Several vegetables producers have on farm cold storage facility;
- There are community and farmer's markets located at several centres including Whitehorse, Dawson City, and Carmacks;
- There are a few local butchers that will cut local meat, and make sausages, but this is mainly done for farm gate customers, purchasing directly from the producer;
- There are a number of local bakeries making value added product mainly for their local markets
- There are a few kitchens where space can be purchased to produce jams and other products; and
- There is an active restaurant and catering business in the Yukon.

There is also some infrastructure that appears to be lacking or in shortage (although opinions vary on what is really required or desired):

- Veterinarian personnel, while available, are not really dedicated to the area or to the agriculture industry, in particular for poultry, hogs, sheep, and goats;
- Heavy duty agriculture mechanic;
- Custom irrigation technician;
- Further processing equipment for red and white meat; and
- Seed cleaning equipment for grain and reclamation seed;

The YAA continues to look at the feasibility of a multi-use agricultural facility. A feasibility study was completed in 2006, and considered many aspects of a multiuse facility including:

- CFIA inspected meat processing facility, (small packing plant, and value added processing facility)

- Cold storage facility for vegetables
- White meat abattoir for poultry
- Professional grade processing kitchen

The feasibility study supported the concept for all but the vegetable cold storage, as adequate demand for the facility was not demonstrated. The recent investment in the white meat abattoir equipment by GOOFY may have also changed the need or desire for poultry processing in the multiuse facility.

The processing industry faces some challenges listed below.

- High costs of local inputs relative to imported;
- Lack of processed or box cuts available from an inspected Yukon facility;
- High cost and limited availability of labour;
- Limited grading for meat products; and
- Lack of scale of production or efficiencies.

Land and Water Rights

Land in the Yukon is mainly crown and First Nation land. It has been said that land in the Yukon is viewed as public land that serves a collective private good. This is contrary to views held in other provinces, where private land serves a collective public good.

Private land can be attained, whether for residential, agricultural or commercial purpose by applying to the Yukon government. The land application for agriculture land includes a Farm Development Plan. Provided the application conforms to policy the application will undergo review by the Yukon Environmental and Socio-Economic Assessment Board (YESAB) under the the Yukon Environmental and Socio-Economic Assessment Act (YESAA). This review and assessment includes:

- In season assessment of the soil and site location
- Review by numerous YG departments including the Department of the Environment and also Federal agencies such as Department of Fisheries and oceans.
- Review and commentary by First Nations who hold the traditional territory where the application occurs;
- Mandated councils such as Renewable resource Councils and Local Advisory Councils
- Public

Neighbours within one kilometre are contacted directly by the Agriculture branch and directed to make input to the YESAA process if they wish.

The YESAA process came into full effect in November 2005. The YESAA assessment culminates in an independent recommendation

made to the Yukon government and, for agriculture applications, the Director of Agriculture issues a decision document that accepts, rejects or varies the recommendation from YESAB. The decisiondocument concludes the environmental and socio-economic assessment. An additional 70 farms have been titled land since 2000 through the Yukon government land programs[21], although most of this was done prior to the YESAA process.

If the decision is for the project to proceed, the successful applicant will then have seven years to complete the Farm Development Plan. The parcel may be titled at any time within the seven years as long as the Farm Development is completed. For every one dollar of approved development expenditure the purchaser can be forgiven one dollar from the purchase price.

The environmental and socioeconomic assessment takes a minimum of 65 days. Land disposition after the assessment includes subdivision authorization, execution of the survey followed by registration and the drawing up of the agreement. This part of the disposition typically takes four to six months. If rezoning is required a further year may be consumed.

Producers can also acquire land by purchasing land that has already been titled and developed. These sales are private and not controlled by the Agriculture Branch.

Producers who want to irrigate with more than 300 cubic metres of water per day will need to apply to the Yukon Water Board for approval. This application also goes through the YESAA process, and the application will only be granted with a positive recommendation from YESAA. The successful applicant is granted a license for a specific term with subject conditions. Water licenses must be renewed with the board when the term is finished.

While the frustrations over the land application and water rights processes still exist, it is not the number one concern for the industry as it once was. There is more land available for repurchase, and the application process, while slow, does seem to eventually release land to those who want it. There are mixed feelings over the effectiveness of the YESAA process. On one hand most people are satisfied that it brings more openness to the process, and allows the applicants to directly answer concerns from the First Nations, the public, neighbours. However others are frustrated in the perceived inconsistency in judgments, in terms of issues like setbacks from watersheds.

The cost of land in the Yukon is still a major constraint on agriculture development. The cost for acquiring and developing land can exceed $5,000 per acre. This cost can limit an individual to high value crops, leave a producer without the necessary cash to invest in other required building and equipment, or simply never recover their

[21] From the Request for Proposals, page 9

investment. The small sizes of agriculture plots, often under 70 acres (78 of the 148 producers farm less than 70 acres) also seems to leave the producer with an inefficient scale of production for many crops like hay, feed, and large animal livestock.

Programs and Support

One of the strengths in Yukon agriculture is the support that exists from both territorial and federal governments. There has been financial support for research, staff and infrastructure. The following is a partial list of programs and support for agriculture in the Yukon:

- Agricultural Branch staff positions
- Takhini Valley Demonstration Site
- ACAAF Funding: Agriculture and Agri-Food Canada Advancing Canadian Agriculture and Agri-Food Program
- Risk Management Programs: The Canadian Agriculture Income Stabilization (CAIS) program has been accessed by a number of Yukon producers.
- Fuel rebate: A fuel rebate is available for agricultural producers.
- Seminars to support marketing, market gardens and other topics
- Funding programs under the Canada-Yukon agriculture policy framework.
- Wildlife Damage Prevention Program

Sectoral Profiles

The following sections provide a more detailed description of various agriculture sectors in the Yukon.

Hay Production

Hay is the single largest agricultural product produced in the Yukon, both in terms of acres and value. Over 4,500 acres in hay are produced annually. Although no definitive numbers exists Serecon estimates that approximately 7,500 tonnes of hay are produced annually, representing a little over $2 million in revenue. This would account for about half of the value of agriculture production in the territory.

Hay is produced either as a dry land or an irrigated crop, with yields on dry land typically in the 1 to 1.5 tonnes per acre. Irrigated production typically yields between 3 and 4 tonnes per acre. Hay is marketed to the horse industry, mainly to outfitters, individual owners, and horse boarding operations. In 2003, a survey of the horse industry reported an estimate of 1,748 horses in the territory. Hay is also fed to cattle, elk and bison, although this production normally comes from vertically integrated farms that have both livestock and hay production.

Hay is normally cut in August, as a single cut crop. The hay is mainly 100% bromegrass, with little legume being used. This allows for faster drying time in the swath. Interestingly the Agriculture Branch is currently doing some plot research on the use of alfalfa in mixed grass stands in order to determine if fertilizer costs can be reduced, while maintaining production.

Producers most commonly bale small square bales, weighing 55 to 60 lbs., while some medium and large rounds are also produced.

The quality of the production is generally quite good. Although rain will deteriorate the quality, normally the crop is baled without a great deal of rain.

The value of hay is benchmarked against the value of imported hay, which sells for $300 to $400 per tonne. Larger round bales may be discounted off this value by 10 to 20%. Serecon estimates that $150 to $200 per tonne of the costs of imported hay relates to the costs of shipping.

The costs of production for hay are dictated by the fertilizer and fuel costs, and the overhead investment. However, very few producers are at a large enough scale to fully utilize the investment they have made in land, irrigation and equipment. The cost and returns for a typical hay producer are shown in Table 4 below.

Table 5: Hay Production Cost and Return per Acre

	Dry land	Irrigated
Yield (tonnes per acre)	1	3
Value ($ per tonne)	$ 350.00	$ 350.00
Revenue per acre	**$ 350.00**	**$ 1,050.00**
Input Costs per acre		
Fertilizer	$ -	$ 200.00
Fuel	$ 50.00	$ 150.00
Labour	$ 30.00	$ 50.00
Other	$ 25.00	$ 25.00
Total	**$ 105.00**	**$ 425.00**
Net returns before interest and depreciation	$ 245.00	$ 625.00
Interest and Depreciation	$ 130.00	$ 260.00
Net returns	**$ 115.00**	**$ 365.00**
Total investment	$ 3,600.00	$ 5,600.00
Equity investment (50%)	$ 1,800.00	$ 2,800.00
Return on Investment	**6%**	**13%**
Estimated Minimum Acres to support $60,000 salary	**414**	**145**

From the costs and returns we can see that in general hay production is profitable on a per unit basis. Irrigated production appears to be a great deal more profitable than dryland production. However with many producers harvesting 40 to 60 acres of hay, hay production appears to represent only a fraction of a full time income.

Some of the issues that affect hay producers are listed below:

- Difficulties in getting irrigation permits approved
- Lack of access to a heavy duty mechanic
- Land and capital investment is very high
- Cost of fertilizer is high
- Scale of production is often small and inefficient
- Size of the livestock industry limits production possibilities
- Risk of very poor yields with limited rain on dryland
- Poor weather in the fall, and limited drying conditions at this time of year, put crop at risk, and limit use of alfalfa/legumes.
- Risk of wildlife reducing yields

The profitability of many producers is often improved by boarding horses or by feeding the lower quality hay that they can't sell to the horse owners to owners of beef cattle. Mixed farming reduces risk and contributes to the bottom line.

The opportunities that may exist in the Yukon are:

- to fully replace the imported hay market with Yukon production
- to support the development of the livestock industry, with scale of production, and improved efficiency
- Organic hay production
- Yukon Natural hay production

Vegetable Production

The production of vegetables is an important and growing component of Yukon agriculture. There are over 30 different vegetable producers in the Yukon producing over 20 types of vegetables. The 2006 census of agriculture reports that there are 37 acres in vegetable production, 59 acre in potatoes, and that the area devoted to greenhouse vegetable production is 2,122 m^2. These figures may overestimate the production area as many of producers have less than one acre in production. The actual field acres may be closer to 20-25 acres in vegetables, and 45-50 acres in potatoes.

The industry is mainly composed of market garden growers, although one commercial producer[22] exists. This includes both greenhouse and field production, with many producers having a mix of both production areas. These market garden producers sell the produce in the farmers markets, to farm gate customers and to local stores, restaurants, and caterers. Perhaps as 5 to 10 market garden producers have more than 1 acre in production, while the majority of producers have ½ or ¼ of an acre in production. The total area devoted to market garden production is likely between 35 to 45 acres. The market garden producers all grow a mixture of vegetables, rather than specializing in one crop. Most of the product is sold fresh in July and August, although a few producers have small cold storage facilities, to extend the season of the storable vegetables into the fall and winter months. Many of these producers have mixed farms, often producing some livestock or hay, for the farm gate market.

While there are only four certified organic producers in the Yukon, and one other in the process of becoming certified, it is understood that the majority of the market garden vegetable producers employ organic or near organic practices. All of the organic certified producers produce vegetables, although some also have mixed operations with livestock and hay. Apart from no herbicide or pesticide, producers often use compost to improve soil and add fertility.

The volume and value of market garden vegetable production is very difficult to estimate, as it is marketed by many producers, often in unorganized markets. We can say that the value of the production of market garden vegetables is very high relative to what a large commercial producer may receive. The value may be in the range of $500,000.

The market garden producers employ limited mechanization, and generally have higher per unit production cost than larger commercial producers. Most of the work is done manually, and with the high cost and shortage of labour in the Yukon, this places constraints on the production. Many the producers employ WWOOFers. The acronym stands for Willing Workers On Organic Farms, and they represent workers who trade their services for accommodation. The existence of WWOOFers has helped ease the labour shortage and help maintain the costs of market gardens.

Outside of the market garden producers there is one commercial producer of potatoes that sells product through retail stores. This producer produces 30 acres of potatoes, and has increased his cold storage space to accommodate 500 to 600 tonnes of potatoes. These potatoes are marketed at a value similar to the value of imported potatoes, although the price the producer receives is similar to the wholesale value of potatoes in other provinces, not a producer price.

[22] A commercial producer sells into the commercial retail sector as opposed to community markets and farm gate customers.

The reason for this is the direct sale between farmer and retailer, eliminating the wholesale and distribution level.

Commercial production requires a significant investment in equipment in addition to the storage facility. This includes equipment to plant, hill and harvest the potatoes. While the capital investment is large, the amount of labour is relatively small when compared with the largely unmechanized market gardens. For example the 30 acres of potatoes can be produced with two or three people, although they are employed year round. This is about the same amount of labour as is required for a two to four acre market garden. In the market garden the labour is only seasonal. The commercial production of potatoes employs more conventional production practices, including fertilization, and a limited amount of herbicide, pesticide, and fungicide when required.

All of the vegetable production in the Yukon is believed to be irrigated, whether for market garden or commercial production. Irrigation applications for expanding or new farms remain a concern or frustration for some producers, although in general most producers have adequate irrigation and remain below the quantity limits that require a license.

While there are more than 20 types of vegetables produced in the Yukon, there are certain vegetables that are more or less restricted to greenhouse production. Other vegetables grow well under field conditions, and others can be started in a greenhouse and transplanted to the field.

Greenhouse planting of vegetables can begin in March, although some additional heating is required at this time of year. While all vegetables can be grown in the greenhouse, the following crops are more commonly associated with greenhouses:

- Tomatoes
- Peppers
- Cucumbers
- Zucchini
- Squash
- Corn (limited)

Field planting of vegetables in the Yukon takes place in mid to late May, while transplanting takes place in June. Root vegetable crops are the best adapted to Yukon conditions, with potatoes and carrots making up the bulk of the acres. Other vegetables grown successfully in the field are:

- Beets
- Lettuce
- Kale
- Spinach
- Peas
- Beans
- Onions

- Cabbage
- Cauliflower
- Broccoli
- Sprouts
- Turnips
- Garlic

Vegetable production also appears to be valuable on a per acre value, with most many crops grossing between $10,000 and $20,000 per acre, although the costs many be as high as $5,000 to $10,000 per acre.

The quality of the vegetable production in the Yukon is also quite good, from both market garden and commercial production practices.

The limiting factors to vegetable production have a great deal to do with the limited harvest window and perishability of the product. While potatoes and carrots are currently stored to extend the selling season to 6 or 8 months, the potential only exists to store a few other products. The vegetables that could be stored are cabbages, onions, garlic, and to a limited extent beets and cauliflower.

Extending the length of the season for greenhouse vegetable production, may provide another way to increase production.

Beef Cattle and Wood Bison

The beef cattle and bison industries in the Yukon, while not identical, do have many similarities. In the 2006 Agricultural Census, there were 220 cattle and calves reported, and it is understood that there are approximately 130 wood bison[23]. This represents 10 beef cow producers, two of which have beef as the primary agriculture product, and one bison producer. In all about 70 beef cows and perhaps 40 bison are slaughtered and marketed each year. This might represent about $250,000 to $300,000 in farm revenue per year.

The beef and bison industries currently run cow calf operation, and finish the animals on the farms of origins. Calving generally occurs in April, with beef cows being marketed in the fall of the following year. Cows are raised on pasture in the summer, and a mixture of hay, silage, grain, and pasture in the winter. A high percentage of the current meat production is sold as farm gate product.

The animals are slaughtered on the farm either by an individual producer or by the mobile abattoir, and then brought to a local butcher shop, who then prepares the meat for the customer. Beef cattle normally yield 500 to 600 lbs of meat per animal, while bison yield slightly less.

Beef cattle normally fetch a value of $4.00 per lb, while bison will demand a premium above this price.

[23]The type of bison is wood buffalo, a very unique and valuable genetic selection.

Beef and bison production generally take place with only modest amounts of antibiotic or production supplements. This may be a practice that can be used to market the product.

The farmgate sales of beef are said to be reaching a limit, while only meeting 1% to 2% of the overall red meat market. So while the opportunity to expand appears to exist, there are serious constraints around growing this market. Some of the reasons are as follows:

- Cost of red meat in the Yukon is 2-4 times the costs of imported meat from Alberta and BC, which limits the overall market size.
- Costs of feed impacts heavily of the cost of meat, in particular with hay, although cost of silage and grain have also historically been higher when compared to Alberta and BC.
- Other significant costs are the capital cost to develop land, which can be $5,000 per acre (4 to 8 times the costs in Alberta for hay and pasture)
- There is an opportunity cost of feeding hay/ pasture to beef/bison as opposed to horses as the price of hay sold to horse is deemed to be a premium.
- Lack of infrastructure, in particular an inspected packing facility, limits the market to the farm gate channel as opposed to other retail sectors.
- Lack of uniformity in quality, perceived or real, exists at least to some degree at the consumer level
- Wildlife risk to pasture and feed, as well as disease risk exists
- Opposition to expansion of beef and bison production due to perceived impacts on wildlife and the environment
- Only limited support from available veterinary services
- Scale of production is also very small. Operations of 100 to 150 cows would result in lower costs, more consistent quality and a larger source of income for one producer
- A finishing operation may also help to increase consistent quality and develop markets
- Irrigation may also be required in order to meet feed requirements, in particular finishing requirements

While the list of constraints or issues looks impressive, there exists some strengths about red meat production in the Yukon. Firstly there is a receptive market in Whitehorse, and the Yukon generally for purchasing local production. There are also appears to be niche markets like the tourist industry for high value meat and speciality products like jerky.

Poultry Meat

The poultry meat industry in the Yukon has remained virtually unchanged from 2000. The industry is a farm gate industry. The production is seasonal, with most producers doing one to two cycles per year. In the 2006 Census of Agriculture, there were sales of 9,698 kilograms of chickens and 1,933 kilograms of turkey reported. This equates to approximately 3,750 chickens and 500 turkeys. There were 14 farms reporting chickens and 9 reporting turkeys. Serecon has estimated the value of this poultry production to be between $150,000 and $200,000 annually.

The typical poultry producer has between 50 and 300 birds, which are often raised in a free range style of production. The birds are raised for farm0 gate sales and often employ organic or near organic practices. The production mainly occurs in the spring to fall period. The birds are generally slaughtered on the farm. This can be done with the assistance of some white meat abattoir equipment recently purchased by a group of local producers.

Most of product is marketed at $4.00 per lb although some of the meat, particularly the certified organic production may be sold for as much as $6.00 per lb. This reflects the high value of certified organic feed, which is mostly imported. The quality of the production is generally viewed as quite good, and the Yukon consumers place value in locally grown product.

There would appear to be opportunities to produce more meat than is currently produced in the Yukon. This could be accomplished with more year round production, and possibly with moving some product in the retail/restaurant industry.

The constraints that exist in developing the markets further are:

- High cost of feed, particularly organic feed
- High cost and uncertain efficiency of winter production
- Lack of inspected abattoir and processing
- Lack of veterinary support
- Economy of scale
- Inexpensive imports

Eggs

Egg production in the Yukon has decreased with the exit of Partridge Creek Farms from egg production. The number of layers has decreased from the 2001 census from 6,612 to 3,886. This represents 23 producers. It is not clear how much of the current production is seasonal versus year round, but it is likely that the majority of the production is year round.

Just as with the poultry meat, egg production is often a free range style of production, using organic or near organic production. The 3,886 layers may produce around 75,000 dozen eggs. The eggs are all marketed as a farm gate product, with much of it selling for $4.00 per

dozen. The value of the egg industry may therefore be as high as $300,000 annually.

The industry may only have limited ability to expand, although the current producers believe there may still be room. If it is to expand the expansion may have to come in the retail stores, as opposed to farm gate.

In order to meet this market opportunity the industry may have to address the following issues:

- Cost of feed, particularly organic feed
- Cost of over wintering and heat
- Inspected grading infrastructure

Hogs

Pork production in the Yukon remains a small industry, with only 160 pigs reported in the 2006 census on Census Day. This represents 2 main producers and a total of 7 farms. The current production in 2007 may exceed 200 pigs, because one operator has indicated some expansion. Just as with the other meat production in the Yukon, pork production goes into the farm gate market. Overall the industry may be valued at $65,000. Hog production is therefore currently a part time income, or incorporated as part of a mixed farming operation.

As with other livestock raised in the Yukon, pork production is not an intensive agriculture practice. There is more of a free range, or outdoor practice (when weather permits) as opposed to a confined operation.

The pigs are fed mainly on a grain ration. The grain is produced in the Yukon, and may be mixed with supplements imported from Alberta or BC. The pigs are generally slaughtered on farm by the producer, and then brought to a butcher who will make custom cuts and sausages for the customer. Although the mobile abattoir is available to hog producers, to assist in slaughtering the pigs on farm, the costs are perhaps too prohibitive at this time for hog producers to use the equipment. While the abattoir can process hogs, it appears as though the finished hogs are simply not valuable enough to make it worthwhile to use. The efficiency per pound for this medium sized animal is perhaps lower that for cattle or bison.

The quality of meat is deemed to be quite good, and each pigs yields about 150 lbs of meat. The pork is marketed to farm gate customers at $2.50 t0 $4.00 per lb. The customer may spend an additional $1.50 per lb in custom butchering.

The major issues for hog production are:

- Cost of mobile abattoir for hogs
- Costs of over wintering
- Costs of fuel
- Cost of imported feed supplements for rations

Elk

The elk industry in the Yukon has undergone perhaps more change than any agricultural sector over the last five years. It has transformed itself from raising and selling breeding stock and antler velvet to raising and selling elk meat and antler velvet. The industry has been in a survival mode rather than a growth mode for much of this period. In the 2006 census of agriculture there were 74 elk reported on 4 farms. This is down from 129 elk and 6 producers reported in 2001. The value of the elk production at farm gate is estimated around $60,000 per year, however the producers appear to also to be generating another $30,000 in value added sales.

In the late 1990's the elk industry looked to be a very promising and lucrative market. Producers were selling breeding stock (cows and bulls) for over $10,000 per animal, and elk velvet was valued at over $40 per lb (as high as $100 at one point). The value and market for breeding stock was tied to the strong market outlook for the elk velvet antler. However the elk industry as a whole fell off dramatically with increased production from New Zealand, as well as from Canadian/North American outbreaks and concerns over Chronic Wasting Disease (CWD) and Bovine Spongiform Encephalopathy (BSE). The Korean export market, the largest export market for elk antler was closed when CWD was found in Saskatchewan. These conditions had the impact of lowering value and market size for elk velvet antler. The value of antler velvet was below $10 per lb at times. The industry contracted and the demand for breeding stock decreased sharply.

Many producers began selling their elk for $500 per animal, and those people that remained in the market had to find other markets. The elk meat market was the industry that began to emerge. While not as lucrative it has provided some stability, and the demand for meat is steady.

While the past five years have been hard on producers, there now appears to be some cause for optimism. The elk velvet antler market has risen to $30 per lb, and there appears to be expanding markets for the product all the time. The Yukon itself has a growing holistic medicine market, and there is interest in using elk velvet antler in the pet food market.

There is also growing demand for meat, and perhaps further opportunity to add value in further processing or retailing.

Sod, Nurseries, and Bedding Plant

There is one sod producer in the Yukon market, and this producer has been successful in meeting the market needs in the Yukon. The sod market would appear to be saturated with the current production, although the producer is growing to meet increasing demand.

Sod production has an advantage over imported product, as transportation time puts a limit on the distance that sod can be moved. As a result sod produced in the Yukon can be sold to Alaska, and northern BC, but not from longer distances.

Production of sod in the Yukon appears to have a good agronomic fit. Grass grows well as long as there is sufficient water and fertilizer. It also tends to be an intensive season, requiring seasonal labour to help in cutting and loading sod for transport, which is done almost daily from June to into September.

The nursery and bedding products market is being supplied by a number of local producers, however many of the products are imported. Twenty years ago the industry used to supply 100% of the local market, but have been under substantial cost pressure from new retails that import much of their product. The exact market size for nursery and bedding plants in the Yukon, as well as the percentage of the market that is supplied by Yukon production has not been determined with any certainty. The production is mainly done by a few greenhouse producers. There appears to be a good economic and agronomic fit for certain nursery products. Greenhouse production is profitable for many plant species and the market in the urban centers in the Yukon is growing. Field production of other trees could provide some additional opportunities for non greenhouse producers.

There is a high investment cost in developing the land for sod and nursery production. For sod as much as $15,000 per acre will be spent in preparing the soil for a sod farm. That being said sod is a valuable crop and appears to be one of the most economically viable crops in the Yukon. At present there is a market for 25 acres of sod per year. The investment in field production of nursery products will not as high as for sod, but none the less it is significant investment. Investment in greenhouse infrastructure also brings with it substantial costs, although the economic returns are understood to make the investment viable.

After preparing land for a sod or nursery farm, and installing irrigation equipment, the crop will be seeded. In this case the grass is purchased from Alberta, BC, or Alaska, and planted in the spring. It is mainly a Kentucky bluegrass sod. The sod is fertilized, continually mowed and irrigated, and then harvested the following summer.

The major constraints to this industry are:

- Access to water, and irrigation rights;
- Availability of labour;
- Access to a specific variety of grass seed which has great adaptation to the Yukon; and
- Limited market demand.

Feed Grain/ Silage/ Green feed

Feed grain, silage, and green feed, although different crops, are discussed together. There were 1,372 acres of cereals reported in the 2006 census with oats making up most of this production. This market supports the local horse, and livestock industry, and are basically the same base crops of barley and oats that are harvested differently.

- Feed grain is harvested by combining the cereal when it is mature. There is both organic and non organic production, although the total acres are very limited, it is estimated at 200 to 300 acres. Feed grain is sold to poultry, hog, horse, cattle and other livestock producers.
- Green feed is harvested prior to full maturity, and in the Yukon is often stooked, although sometimes baled. Most of the green feed is oats, and this account for most of the cereal acres in the Yukon. Green feed is mainly sold to outfitters and horse owners.
- Silage is harvested green prior to crop maturity, and placed in a silage pit. This crop provides high value feed to cattle, and may reduce the costs of livestock production relative to hay. There are likely only 100 acres of silage in the Yukon, and they are located on livestock farms.

Whatever end product is made, the economics are similar to hay. There is both dryland and irrigated production, with irrigated production having both higher costs and higher return. The yields under irrigation are excellent in the Yukon, and producers might realize $750 to $1,000 per acre under irrigated conditions.

The major constraints to cereal production in the Yukon are:

- Small size of livestock industry;
- Small scale of production, and over capitalization on equipment;
- Access to, and research, and knowledge of, the best varieties of barley and oats adapted to the Yukon;
- Cost of fertilizer; and
- Access to water.

Other Existing sectors

There are a number of other niche industries that contribute to the Yukon agriculture industry. While not discussed in detail here they are listed below.

- Hair (goat and alpaca)
- Goat cheese
- Honey
- Birch Syrup

Most of these sectors provide diversification for producers. They are generally small markets with the exception of horticulture and bedding plants. These sectors face the same general constraints that exist for all producers in the Yukon, namely high costs and small scale of production. They are however markets that may continue to expand at a moderate pace.

Sectors absent from the Yukon

In addition to the agriculture sectors described previously, there may be potential for some new sectors to develop such as:

- Dairy
  - Dairy production appears to be one the most successful sectors in other circumpolar regions, however in the Yukon the major constraint will be cost of feed, and competition from other milk producing regions (AB and BC) which have excess quota to sell. The industry could proceed on a micro scale, or could develop plans to expand the production commercially.
- Reclamation Seed (grass and legumes)
  - The mining industry in the Yukon is expanding, and this will provide a market for reclamation seed in the coming year. While many grasses, legumes and trees can be produced in the Yukon, there is no infrastructure to support the industry.
- Other Seed (turf, grain)
  - While this would not represent a big market, much of the seed for grain and grass crops is imported from other regions. These products could be grown in the Yukon and sold locally. As with reclamation seed the infrastructure is not currently in place to support the sector.
- High value crops nutraceutical crops like Rhodiola
  - While this is a concept where more assessment is required, given the Yukon's image as a pure environment, a crop that could be produced for the health industry might have good potential for export. Rhodiola rosea is a plant that contains compounds with similar qualities to ginseng. The plant can be found in northern climate and in the Rocky Mountains and the cultivation and processing of the product might represent a potential market for the Yukon to further explore.

Appendix C: Supply and Demand for Yukon Agricultural Products

This section provides short analysis of the supply and demand for agricultural products in the Yukon. While not a complete analysis, it does provide an estimate of the total market size for various foods, and an estimate of current production.

The following tables show the market and demand characteristics, first in terms of volume and value. Following this is a table showing the relative of costs of goods at retail stores in Whitehorse and Calgary. The tables are followed by highlighting some key findings for the market.

Table 6: Estimated Demand and Supply of Various Yukon Products.

	Disappearance Rates (Kgs, litres, dozen per Year)	Estimated Disappearance based on population (31,608)	Estimated Production per animal (kgs or litres)	Production required (# of Animals)	Realistic Market Share	Realistic livestock	Estimate of Current Yukon Production
Beef	30.65	968,785	227	4,272	10%	427	100
Pork	27.74	876,806	68	12,887	10%	1,289	113
Poultry	38.3	1,210,586	3	484,235	25%	121,059	12,000
Milk	83.57	2,641,481	9,000	293	25%	73	-
Cheese	12.83	405,531	900	451	10%	45	Some goat cheese
Butter	2.2	69,538	450	155	10%	15	-
Eggs	15.71	496,562	25	19,862	25%	4,966	1,500
Field Production			Yield per acre	Production required	Realistic Market Share	Realistic acres	Current Yukon Production
White Potatoes	74.06	2,340,888	10,000	234	25%	58.5	50
Carrots	7.59	239,905	7,500	32	25%	8	4
Cabbage	4.26	134,650	5,000	27	15%	4.0	1
Beets	0.36	11,379	4,500	3	10%	0.3	
Garlic	0.36	11,379	1,588	7	15%	1.1	

Table 6: Estimated Demand and Supply of Various Yukon Products.

Field Production			Yield per acre	Production required	Realistic Market Share	Realistic acres	Current Yukon Production
Onions	8.16	257,921	9,750	26	15%	4.0	
Mushrooms	2.06	65,112	48,562	1.34	25%	0.3	
Asparagus	0.36	11,379	500	23	5%	1.1	
Beans	0.8	25,286	1,750	14	2%	0.3	
Broccoli	3.12	98,617	1,500	66	2%	1.3	
Cauliflower	2.21	69,854	2,250	14	5%	0.7	
Cucumbers	4.24	134,018	6,500	21	2%	0.4	
Lettuce	11.05	349,268	5,557	63	2%	1.3	
Spinach	0.84	26,551	5,557	5	2%	0.1	
Peas	0.24	7,586	1,750	4	2%	0.1	
Greenhouse Production			**Yield per acre**	**Production required**	**Realistic Market Share**	**Realistic acres**	**Current Yukon Production**
Peppers	3.23	102,094	80,937	1.261	25%		
Tomatoes	8.3	262,346	202,343	1.297	25%		
Cucumbers	4.24	134,018	145,687	0.920	25%		
Lettuce	11.05	349,268	83,348	4.190	25%		
Spinach	0.84	26,551	83,348	0.319	25%		
Corn	2.86	90,399	250 dozen		5%		
Brocolli	3.12	98,617	22,500	4.383	25%		
Beans	0.8	25,286	26,250	0.963	25%		
Peas	0.24	7,586	26,250	0.289	25%		
Cabbage	4.26	134,650	75,000	1.795	10%		
Cauliflower	2.21	69,854	33,750	2.070	25%		

Table 7: Value of food expenditures from CPI	
	Whitehorse
All-ITEMS	
Food	$110,795,712.30
Food Purchased From Stores	$ 77,330,635.20
Meat	$ 14,377,135.50
Fresh or Frozen Meat (excluding poultry)	$ 5,750,854.20
Fresh or Frozen Beef	$ 4,343,730.30
Fresh or Frozen Pork	$ 1,284,765.30
Other Fresh or Frozen Meat (excluding poultry)	$ 122,358.60
Fresh or Frozen Poultry Meat	$ 4,221,371.70
Fresh or Frozen Chicken	$ 3,976,654.50
Other Fresh or Frozen Poultry Meat	$ 183,537.90
Processed Meat	$ 4,466,088.90
Fish, Seafood and Other Marine Products	$ 2,814,247.80
Fish	$ 1,101,227.40
Seafood and Other Marine Products	$ 1,774,199.70
Dairy Products and Eggs	$ 11,562,887.70
Dairy Products	$ 10,584,018.90
Fresh Milk	$ 3,242,502.90
Butter	$ 672,972.30
Cheese	$ 3,793,116.60
Ice Cream and Related Products	$ 856,510.20
Other Dairy Products	$ 2,080,096.20
Eggs	$ 978,868.80
Bakery and Cereal Products (excluding infant food)	$ 11,807,604.90
Bakery Products	$ 7,463,874.60
Cereal Products (excluding infant food)	$ 4,282,551.00
Fruit, Fruit Preparations and Nuts	$ 8,870,998.50
Fresh Fruit	$ 5,139,061.20
Preserved Fruit and Fruit Preparations	$ 2,691,889.20
Nuts	$ 1,040,048.10
Vegetables and Vegetable Preparations	$ 9,176,895.00
Fresh Vegetables	$ 7,280,336.70
Preserved Vegetables and Vegetable Preparations	$ 1,896,558.30
Other Food Products and Non-Alcoholic Beverages	$ 18,720,865.80
Sugar and Confectionery	$ 3,120,144.30
Fats and Oils	$ 1,101,227.40
Coffee and Tea	$ 1,713,020.40
Condiments, Spices and Vinegars	$ 2,875,427.10
Other Food Preparations	$ 6,852,081.60
Non-Alcoholic Beverages	$ 2,997,785.70
Food Purchased From Restaurants	$ 33,465,077.10
**** Data Provided from Business and Economic Research Group, Department of Economic Development	
Income	$ 45,500.00
Assumed Tax rate	17%
Workforce	16,200
Calculated income from Assumptions	$611,793,000.00

Table 8: Price Comparison Whitehorse / Calgary

	Whitehorse				Calgary		
Food Item	**Super A Porter Creek**	**Super Value**	**Extra Foods**	**Super A Riverdale**	**Superstore**	**SuperStore**	**Safeway**
Carrot Bulk	1.39/lb	4.59/5lb	1.28/lb	1.39/lb	1.59/Bunch	3.98/5lb	2.59/3lb
Spaghetti Squash	1.99/lb	cut 0.99/lb	1.58/lb	1.99/lb	1.48/lb	none	1.59/lb
Butternut Squash	1.59/lb	1.89/lb	1.58/lb	3.51/kg	1.48/lb	0.98/lb	1.59/lb
Lettuce	2.79/ea	1.49/ea	0.98/ea	2.79/ea	1.39/ea	1.99/ea	1.49/ea
Tomatoes on Vine	2.89/lb	2.16/lb	1.48/lb	1.49/lb	0.98/lb	.97/lb	0.99/lb
Tomatoes Home Grown	2.19/lb	2.99/lb	1.98/lb	2.19/lb	1.39/lb	HotHouse 1.98/lb	1.79/lb
Russet Potato	4.49/5lb	4.99/5lb	3.28/10lb	8.49/10lb	3.19/10lb	5.98/10lb	.89/lb
Red Potato	6.99/5lb	6.99/10lb	5.98/10lb	12.79/10lb	None	5.98/10lb	6.99/10lb
Cucumbers	1.79/ea	1.29/ea	1.28/ea	1.39/ea	1.19/ea	1.48/ea	.99/ea
English Cucumber	2.49/ea	2.19/ea	1.78/ml	1.39/ea	1.69/ea	1.16/ea	1.49/ea
Bison T.Bone	31.28/kg			Outside St.18.49/kg	none		
Ribeye Steak	29.52/kg	25.55/kg		19.82/kg	18.50/kg	18.5/kg	31.06/kg
T-Bone	19.82/kg	15.39/kg	15.71/kg	19.82/kg	15.61/kg	15.61/kg	12.02/kg
Pork Rib Roast	11.22/kg	Loin 9.9/kg	4.49/kg	Loin Rib End 8.80/kg	6.98/kg	back rib 9.78/kg	5.49/lb
Pork Sirloin Chops	6.59/kg	9.9/kg, 7.03/end	5.48/kg	Loin Chops 13.87/kg	4.60/kg	8.30/kg	5.49/lb
Frying Chicken	7.25/kg	7.69/kg	7.89/kg	7.25/kg	4.14/kg	6.99/kg	6.59/kg
Chicken Thighs	5.49/kg	17.61/kg skinless	5.48/kg	7.03/kg	4.48/kg	12.98/kg	6.81/kg
Chicken Breast	17.61/kg	15.41/kg	10.98/kg	17.61/kg	9.98/kg	12.98/kg	16.73/kg
Strawberries	3.79/lb	5.99/2lb	3.48/2lb	3.79/1lb	3.27/2lb	3.98/2lb	2.99/lb

The findings from the above analysis are:

- Overall food consumption in the Yukon is about $110 million dollars.
- Retail values of food are similarly priced in Whitehorse and Calgary, indicating that a cost advantage due to freight would not be available to most Yukon production sold locally in retail stores.
- The products that are capturing the highest percentage of local demand are:
  - Potatoes, eggs, and carrots
- The products with the greatest potential for growth appear to be:
  - Poultry meat
  - Cabbage
  - Onion, garlic
  - Greenhouse vegetables
  - Red meat
  - Dairy

Appendix D: Viability Assessment

Based on the industry profile, and analysis of specific sectors, we have developed a viability assessment for the industry. This can be used by the industry to determine where resources could be best served. While it is subjective it does provide a basis for resource allocation. It includes the:

- Economic fit: this is based on the industry size as well as predicted profitability
- Agronomic fit: this is based on the crops adaptability to the Yukon climate and growing condition
- Industry size for expansion is based on the potential market increase that could be realistically captured
- Political fit is based on the which sectors that are likely to have highest level of political or public support.

The sectors were ranked and then sorted to get a subjective ranking of their relative economic viability of various agricultural sectors.

Table 9: Relative Economic Viability Assessment of Yukon Agriculture

	Economic Fit (score 1-10)	Agronomic Fit (score 1-10)	Industry Size (Value in expansion)	Political Fit
Hay Production	9	9	465,000.00	6
Potatoes	9	9	300,000.00	8
Carrots	8	9	100,000.00	8
Cabbage	7	9	50,000.00	8
Beef Production	5	8	206,250.00	5
White Meat Production	5	8	180,000.00	6
Egg Production	5	8	100,000.00	6
Elk Production	5	8	83,750.00	4
Bison Production	5	8	68,750.00	4
Cheese Production	5	8	50,000.00	5
Seed Production: Reclamation	5	6	75,000.00	6
Seed Production: Turf Grass (Sod)	5	6	12,500.00	5
Greenhouse Vegetables	5	5	500,000.00	8
Nutraceuticals (Rhodiola, Stevia)	5	5	100,000.00	5
Seed Production: Grain	5	3	45,000.00	7
Other in season field vegetables	4	7	50,000.00	8
Hog Production	4	6	112,500.00	5
Milk Production	2	3	180,000.00	3

Appendix E: Integrated Cost of Production Modelling

In discussions with industry, the small scale of farm sizes and small mixed farms are a structural reality of Yukon agriculture. One issue that was raised as it relates to this is the difficulty in designing cost of production models that work with various mixed enterprises and various sizes of farms.

This section briefly describes one methodology for how to develop a mixed farm cost of production (COP) model. This methodology builds on the COP models developed for specific sectors.

- The first step is to move the basic assumptions from individual COP models into one integrated workbook. Each basic COP assumption model would fill one worksheet, and may be hidden from the view of users. These basic COP assumption models contain information on the costs and revenue by sector, as well as land and capital costs. This information could be further expanded to include the costs of two sizes of operations (small and large) for each sector, and savings from mixed farm operations. This will be standard information that will be used in absence of specific costs, revenue, and capital purchases of individual operations.
- One worksheet will be used to collect the basic information about the farm operation and capitalization. This "Input Worksheet" will collect information of the following nature.
  - The farm description. A series of drop down boxes will be created to describe the farm operation. This is will include where it is mixed farm or not, and what the sector are if the farm is a mixed farm.
  - Specific farm information will include the number of acres, cost of land and land improvements, costs of equipment, inventory of animals, yearly production in acres (or area) by crop, number of animals, or volume of production.
  - For a mixed operation a drop down box could be used to indicate the volume of production used on farm (feed)
  - A drop down box could be used to indicate whether the operation should use standard industry costs for the capital items or costs specified by the producer.
  - The debt to equity level should also be inputted on this farm operator data worksheet.

- An output worksheet could be created to show the income statement, before depreciation and interest for each sector. These output sheets will be driven by "lookup" formulas that take information from the basic COP assumption models and the "Input Worksheet". When more precise information is available from the "Input Worksheet" (selling price, production per acre or animal) this may override the basic COP assumption models.
- A consolidated income statement will be used to combine the revenue and expense of mixed farm operations (no addition required for non-mixed farms), and factor in saving to the mixed farm operating expense and revenue. For mixed cattle and hay for example the cost of feed may be reduced, as well as the income for the hay acres.
- An output worksheet will also be used to show the balance sheet items. This will be used for both mixed and non-mixed farms, and will factor in capital savings from mixed farm operations.
- A combined consolidated income and balance sheet worksheet will put it all together, including the consolidated revenue and direct expenses, depreciation and interest charges, and balance sheet items.

While there may be other ways to build an integrated COP model, this simply describes one possible way to go about it. The model will obviously require some time to design, and will have to be verified by collecting sample data of actual mixed and non-mixed operations

Appendix F: SWOC Analysis

The following SWOC (strengths, weaknesses, opportunities and constraints) analysis summarizes many of the key issues found in this industry update report. It will also form much of the basis for discussion at the strategic planning workshop.

Strengths

- The greatest strength of Yukon agriculture is the people who, despite all of the challenges, continue to find the means to produce food and forage locally for the local market.
- The local Yukon market that values local production (local markets includes the Yukon as well as regions in close proximity to the Yukon such as Atlin BC, and Skagway and Haines, Alaska).
- The Yukon image in Canada and internationally (Germany, Japan) is positive and strong.
- There is a perception of the Yukon as a good clean area in which to produce food.
- The Yukon has a low level disease in its plants and animals.
- There are good yields on many crops especially with irrigation: root crops, hay, barley, oats
- Cost of transport of imported goods provide an advantage to some local production (hay, grains)
- High degree of interest and support from both territorial and federal governments. Yukon agricultural producers and organizations are eligible for a wide range of federal government programs and financial support and the territorial government provides many support services, expertise, and financial support.
- High connectivity of producers and consumers provides the ability to move information quickly (ie. High speed internet)
- There is a high level of education among Yukoners.
- High level of organic sales in the Yukon.
- Relatively large horse population.
- The economy in the Yukon is currently strong.
- Good access to media and to the consumer.
- Current issues of global warming and slow food provide strength to local producers.
- The lack of quotas limits the barriers to entry.
- The Yukon is geographically isolated (both a strength and a weakness), and many communities in the Yukon are geographically isolated.
- The YAA and Harvest Fair played a vital role in developing the Fireweed Community Market Society.

Weaknesses

- Limited availability of land
- High costs of land (acquisition and development)
- Lack of infrastructure: There are no agricultural equipment dealers, no suppliers of bulk fertilizer and no established food production chains to act as a market for producers, only limited cold storage.
- Lack of scale (difficult to consistently supply market year round)
- Scale of production adds costs to operation
- Climate limits the range and productivity of many crops (vegetables, annual crops)
- Limited suppliers of inputs: feed for animals, equipment dealers.
- Costs of imported supplies, especially bulky product such as hay is high
- High cost of hay for livestock industry
- No overall emergency response plan for animal disease/ disaster in livestock and wildlife
- Limited inclusion of very small farms (under $10,000)
- The greatest weakness of Yukon agriculture has been — and continues to be — the combination of a cold and dry climate and generally poor soils. This is especially true in the Whitehorse area, where over 75% of the Yukon's population lives.
- No guidelines on what defines Yukon grown.
- Limited management experience which could provide support to other producers.
- Lack of or at least very limited supplies of organic fertilizer.
- Difficulty in adapting general farm practices from Canada to the Yukon.
- Some extremists may keep groups polarized when there is a desire to work together (ie. First Nations, Wildlife, Organic)
- Unproductive tracks of land moved into rural residential use negatively influence public opinion and limit potential production.

Opportunities

- Produce a greater percentage of local market
- Opportunities exists in many crops

  - Poultry meat, Eggs, Beef, Elk, Bison, Dairy, Commercial vegetables that can be stored (potatoes, carrots, cabbages, beets, onion, garlic), market garden, greenhouse production, organic production

- Add value to Yukon industry and image (produce high quality product, Yukon Grown, or Yukon natural), this may lead to some opportunity to export
- GMO free status may offer some future potential (it may also be a limitation in the future)
- Further education of consumers in all areas (sectors, organic) could support more local consumption.
- In general, the opportunity for the Yukon's agricultural sector to expand production is by the high level of demand shown for locally produced products. Sellers in the farmers' market in Whitehorse tend to quickly sell out and consumers have shown they are willing to pay a premium for local products. The current trend toward eating locally, coupled with an overall high level of environmental awareness in the Yukon, are helping to push up demand.
- Small-scale egg producers in particular appear to be nowhere near meeting the demand for their product. (At the farmer's market in Whitehorse, all the eggs are usually sold within 15 minutes of opening).
- Market gardening, producing a variety of fresh vegetables, is another area where demand for local production clearly appears to exceed supply, at least in Whitehorse.
- Hay production — long a mainstay of the Yukon's agriculture industry — continues to offer opportunities for expanded production given that hay continues to be imported.
- Inclusion of all types of farms and all stakeholders will provide more opportunities and limit the barriers (First Nations, all regions, all types of farms and sizes of farms)
- Learn from Alaska and other circumpolar areas.
- Cooperative concepts with communities and First Nations.
- Develop safeguards to protect the industry (diseases, weeds)

Constraints

- Cost and availability of skilled and unskilled labour
- Land availability, and slow application process
- Irrigation application and restriction on land use (watershed setbacks)
- Limited infrastructure: cold storage, inspected meat processing, grading.
- Restrictions on the use of government funds towards infrastructure projects

- Limited mechanization
- Access to capital
- Need to have motivated people with financial capability
- Availability and costs of feed for livestock
- Uniform finishing of beef/livestock.
- In general, Yukon agriculture faces the constraint of high production costs. And, although many Yukoners will pay a premium for locally grown products, that willingness to pay has limits.
- In order to access specific markets need federally inspected facilities (Haines and Skagway Alaska have border crossing limitations)
- Limited ability to forecast or predict what needs to be done next and act for the benefit of industry (ie: market information, information on new threat, and legislation)
- Extension services are limited

SECTOR OPPORTUNITIES AND CONSTRAINTS

Poultry Meat

- Opportunities
  - Increase sales of poultry meat
  - Further production of farm gate and commercial white meat shows potential
  - Further processing located near Whitehorse
  - Fill the void left by Partridge Creek Farm
- Constraints
  - Consistent supply of local feed at reasonable price
  - Processing and storage infrastructure located on farm or near Whitehorse
  - Ability to market through retailers or directly to consumers
  - High costs of fuel for over wintering (tax rebates?)
  - Ability to obtain chicks from hatcheries

Eggs

- Opportunities
  - Further production of farm gate and commercial eggs shows some potential
- Constraints
  - Consistent supply of local feed at reasonable price
  - Egg grading

- Ability to market through retailers or directly to consumers
- High costs of fuel for over wintering

Cattle, Bison, Elk Meat

- Opportunities
  - Further sales into a value added processed meat or high value market (market 300 animals versus current 100)
- Constraints
  - Consistent supply of local feed at reasonable price (transport subsidy?)
  - Mobile abattoir federally inspected
  - Multi-use facility in Whitehorse for red meat processing (some box cuts, but more for sausages, jerky, burgers, marinated meat cuts)
  - Must overcome quality perception by developing consistent production practices and grading system
  - Ability to market through retailers or directly to consumers

Elk Velvet Antler

- Opportunities
  - Do more value added processing locally, grow local elk velvet antler sales
- Constraints
  - No value added processing locally available
  - More research into benefits of elk velvet antler (human and pet food)
  - Elk currently regulated as wildlife not agriculture, goals are not consistent

Hogs

- Opportunities
  - Continue to grow farm gate sales
- Constraints
  - Consistent supply of local feed at reasonable price
  - Better pricing of mobile abattoir for hog producers
  - High cost of over wintering (fuel rebate)
  - Possible future ability to do further processing
  - Multi-use facility

Sheep and Goats

- Opportunities
  - Continue to grow farm gate sales for dairy, meat and fibre
- Constraints
  - Consistent supply of local feed at reasonable price
  - Better pricing of mobile abattoir for meat producers
  - Veterinary services
  - Processing infrastructure for meat, dairy and fibre

Hay, Green feed, Grain, and Silage

- Opportunities
  - Capture a higher portion of Yukon hay market
  - Grow more feed as livestock industry increases
  - Organic grain and feed production
- Constraints
  - Cost of fertilizer
  - Increased ability to irrigate (especially upland sites)
  - Yields from specific varieties adapted to Yukon are not well known

Vegetable production

- Opportunities
  - Opportunities in further field production of storable vegetables (cabbages, onions, possibly some carrots and potatoes)
  - Frozen or processed vegetables
  - Opportunities to expand greenhouse production in most products
- Constraints
  - Labour
  - Storage (however, this may be best located at individual farms)
  - Cost effectiveness of running a winter greenhouse is uncertain
  - Ability to market fresh vegetables either directly to customers or through retailers

- Possible future ability to do further processing or packaging
- Access to capital (micro loans, and removal of some FCC restrictions)

Organic production

- Opportunities
  - Continue to grow the industry
  - Interest in moving to GMO free status
  - Awareness campaign
- Constraints
  - Knowledge of organic certification process could be improved
  - Market awareness and advertising, in particular of new labelling requirements
  - A second organic inspector may be required
  - Availability and research on organic fertilzer

Dairy

- Opportunities
  - Potential to set up a dairy operation
- Constraints
  - Not part of supply management
  - Need to undertake a feasibility study first
  - Uncertain quality (look at Alaska)
  - Production restriction (cold weather)
  - Consistent supply of local feed at reasonable price
  - Regulation to protect the industry from dumping
  - High cost of over wintering (fuel rebate)
  - May need to have all the processing and packing equipment located on farm or in a multiuse facility (milk, cheese, yogurt)

Seed production (reclamation, grains, turf)

- Opportunities
  - Develop a seed production industry (seed potatoes, reclamation, organic seeds, feed grain seeds)
  - Access to emerging mining industry
- Constraints

- Need seed cleaning plant
- Develop distribution or sales system
- Identify and develop plant selections
- Develop skills and knowledge
- Seed storage
- Small markets

High value nutraceuticals like Rhodiola and Stevia

- Opportunities
  - Develop a new market, possible export, further support the Yukon image, co-promote other products
- Constraints
  - Limited knowledge of crop and of market
  - No processing equipment
  - Regulations on natural health products

Further Opportunities have also been noted for:

- Sod
- Nursery and Bedding plants
- Birch Syrup
- Honey Production
- Cheese Production
- Fir and Fibre
- Natural harvested forestry products and wild plants

Summary of key issues

The key issues for the development of the industry can be summarized into the main industry wide issues, and sectoral issues. In terms of the industry wide issues they have categorized into infrastructure, research, regulatory, financial, information, and image related issues.

Infrastructure

- Meat processing including cutting, further processing, packaging, cool storage, and freezing
- Parts suppliers, heavy duty mechanic
- Veterinary services

Research

- Production systems with reduced requirements for fertilizer
- Increased hay yields, and production of lower costs feed for livestock (particular dryland crops)
- Cost efficient heating systems for hogs and greenhouse
- Efficiencies in irrigations

Regulatory

- Clear decision around water rights and land use
- Investigations of GMO advantages/disadvantages
- Strategies on management of pests, diseases, and
- Guidelines for use of native seed in Yukon reclamation projects including roads and parks
- Regulations or policies to frame Yukon production

Financing

- Financing for infrastructure projects
- Financing for small producers (i.e. irrigation and power)
- Financing for all sectors
- Financing for land purchases and land improvement
- Limited financial support data (COP to support farm financing)

Image

- Limited inclusiveness
- Land that is cleared and then goes unused
- Conflicts with wildlife and environment
- Conflicts with First Nations
- Poor knowledge of what agriculture contributes

Information

- Limited information on which industry has to make decisions and track its progress. For example the Census information is not perfectly adapted to capture information from many farm gate producers and small producers.

Key Sectoral Issues

While there are opportunities in most sectors, the most significant sectoral issues are:

- Inefficient production system for meat industry, specifically high costs of feed and limited processing infrastructure
- Costs of fertilizer for the cropping sectors

- Fuel/heating costs, in particular over wintering hogs and for greenhouses
- Organic sector growth potential supported by organic feed, organic fertilizer, certification of producers, and education of market and producers
- New industries like seed production, rhodiola could be developed

Appendix G: Government and Other Stakeholders' Survey

Serecon Management Consulting Inc., along with TransNorthern Management Consulting and Research Northwest have been commissioned by the Yukon Government to facilitate the development of a multi-year plan for the Yukon agriculture industry. As part of the project we will be conducting interviews with various stakeholders in the agriculture and food industries, in addition to related sectors. Key to the development plan is a clear picture of the current situation, your view of the major impediments to production and growth, and an indication of your expectations or intentions for the next five years. Would you spare some of your time to share your perspectives of the industry with us? Anything you say will be considered confidential and will not be attributed to you.

Name: ..... **Phone:** ( ) .....

Address: .....

1. Describe your agency's role in the Yukon agriculture and food industry?

.....

.....

.....

.....

2. What have been the biggest challenges that the industry has faced over the last five years? (BSE, climate, etc…)

.....

.....

.....

.....

3. What products show the greatest potential for further growth in the Yukon agriculture industry?

.....

.....

.....

.....

4. Where do see Yukon agriculture in five years, ten years?

.....

.....

.....

.....

5. What are the limitations or constraints in reaching five or ten year goals?

.....

.....

.....

.....

6. What areas of support or assistance do you feel are required to help the industry achieve its goals? What does the industry need in order to grow/develop?

	Nature of the Need	**Primary Service Provider & Defined Role**	**Requirement Term** *(immediate/1-5 yr /long term)*
Infrastructure			
Land			
Rural/Community Development			
Business & Farm Management Training			
Research & Development			
Information & Technology			
Financing/Capital			
Marketing			
Government Policy & Regulation			

Appendix H: Grocers/Restaurant/Processor/Distributor Survey

Serecon Management Consulting Inc., along with TransNorthern Management Consulting and Research Northwest have been commissioned by the Yukon Government to facilitate the development of a multi-year plan for the Yukon agriculture industry. As part of the project we will be conducting interviews with various stakeholders in the agriculture and food industries, in addition to related sectors. Key to the development plan is a clear picture of the current situation, your view of the major impediments to production and growth, and an indication of your expectations or intentions for the next five years. Would you spare some of your time to share your perspectives of the industry with us? Anything you say will be considered confidential and will not be attributed to you.

Name: ..... **Phone:** ( ) .....

Name of Business: .....

Address: .....

1. Describe your role in the agricultural products industry?
   - Retailer..... ☐
   - Restaurant ..... ☐
   - Distributor..... ☐
   - Corporate..... ☐
   - Other end user of agriculture products (Describe: Feed, etc..)..... ..... ☐

2. For each of the products categories listed in the table below, can you identify those products that have been supplied by local production, the quantity and quality of local product sold, what % of the total product category sales the local supply represents, and who are your main suppliers? (locally and imported)

Type of Product	Yes/ No	Quantity and Quality	% of total product category sold	Main Suppliers
Vegetables (Describe) …… …… …… …… …… ……				
Poultry Meat				
Eggs				
Beef				
Pork				
Other Meat (Describe) …… …… ……				
Grains				
Hay and other feed (Describe) …… ……				
Honey				
Fruit/ Berries				
Herbs/ Wild Condiments				
Health Products (Describe)				
Plants/Flowers/Trees/Seed				
Other non food or feed or feed products (Describe) ……				

3. Of the local products you have handled, which ones are:

   Easiest to handle .....

   .....

   Most/Least desired by customers .....

   .....

4. What has been your experience with the supply? (quality,quantity, regularity, dependability, etc)

   .....

   .....

   .....

5. In general what is your assessment of the marketability of local agricultural products? (eg. Market acceptability, tourists vs. locals, advantages, disadvantages, etc..)

   .....

   .....

   .....

6. Are there products you would like purchases that are not available?

   .....

   .....

   .....

7. At what price can you sell local products compared with standard imports?

   .....

   .....

   .....

8. What have been the biggest challenges over the last five years in selling or using local product?

   .....

   .....

   .....

9. What opportunities do you see for additional marketing/selling of local products?

.....

.....

10. What are the limitations or constraints in further developing the markets for "grown in Yukon products"?

.....

.....

.....

11. Any other comments or suggestions? (re farmers markets, inspection services, etc…)

.....

.....

.....

Appendix I: Producer Survey

Serecon Management Consulting Inc., along with TransNorthern Management Consulting and Research Northwest have been commissioned by the Yukon Government to facilitate the development of a multi-year plan for the Yukon agriculture industry. As part of the project we will be conducting interviews with various stakeholders in the agriculture and food industries, in addition to related sectors. Key to the development plan is a clear picture of the current situation, your view of the major impediments to production and growth, and an indication of your expectations or intentions for the next five years. Would you spare some of your time to share your perspectives of the industry with us? Anything you say will be considered confidential and will not be attributed to you.

Name: ..... **Phone:** ( ) .....

Address: .....

1. Describe your farm operation.

   .....

   .....

   .....

   .....

2. Do you work off farm? If so what % of your income is off farm income?

   .....

   .....

3. Describe how your production is currently marketed.

   .....

   .....

   .....

   .....

4. How would you describe the quality of your production?

   .....

   .....

   .....

5. What have been the biggest challenges that your farm has faced over the last five years? (BSE, climate, etc…)

.....

.....

.....

.....

6. Are there any agricultural products that could be produced in the Yukon that are currently not being produced? If so what products, and why?

.....

.....

.....

.....

7. Do you expect your gross farm revenue to be up or down this coming season (2007) compared to 2006? UP ρ DOWN ρ _____% In next three to five years? Reasons given for changes in income (e.g.: market price outlook, productivity, market access, etc.):

.....

.....

.....

.....

8. Do you expect your farm expenditure to increase or decrease this coming season (2007) compared to 2006? INCREASE ρ DECREASE ρ _____% In next three to five years? Reasons given for changes in expenditure:

.....

.....

.....

.....

9. How confident are you that your business will survive financially over the next five years? Please explain your answer.

.....

.....

.....

10. Do you feel that a central processing facility for vegetables, berries, etc.. would provide any value to Yukon agriculture? If yes, how?

.....

.....

.....

11. If you are a livestock producer, have you used the mobile abattoir in your operation? If yes why and if no why not?

.....

.....

.....

.....

12. What potential is there for additional branding of products such as Yukon natural, Yukon grown, Yukon organic, etc..?

.....

.....

.....

.....

13. Could the industry be organized differently in order to assist in the marketing of products and to meet the market's need (processing/marketing schedule for mobile abattoir? If yes, could the YAA or other association help in this?

.....

.....

.....

.....

14. What is your view of the future of agriculture in the Yukon? 5 or 10 years

.....

.....

.....

.....

15. What are the three most important issues you feel are currently impacting your farm business?

.....

.....

.....

.....

16. What areas of support or assistance do you feel are required to help obtain your business goals? What does the industry need in order to grow/develop?

	Nature of the Need	**Primary Service Provider & Defined Role**	**Requirement Term** *(immediate/1-5 yr /long term)*
Infrastructure			
Land			
Business & Farm Management Training			
Input Supplier (fertilizer, equipment,…)			
Value Added Processing			
Research & Development			
Information & Technology			
Financing/Capital			
Marketing			
Government Policy & Regulation			