

Yukon Agriculture

State of the Industry Report

2013 to 2017



Yukon



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INTRODUCTION

Farms continue to play an important role in Yukon's economy and communities, with at least \$4.3 million in farm income generated annually. There has also been a shift in public awareness that the agriculture sector contributes to the food sovereignty of Yukoners.

The emphasis on local food production was highlighted by the Local Food Strategy released by the Yukon government in 2016. Yukon farmers are taking advantage of demand for local food products that involve less packaging, less distance to transport, and grown close to home.

Yukon agriculture continues to evolve, moving from an industry focused on growing hay to one that is diversified and contributing to the economy from input supply through to processing.

Yukon's farmers are finding ways to adapt to grow more, produce high quality products, and add value. Producers are stewards of their lands and are adopting sustainable farming practices.

Fresh, healthy Yukon products are a common part of the diets of Yukoners, along with harvested country foods. The agriculture industry's \$600,000 growth in the past five years has come from incremental increases in production of meat, eggs, vegetables and fruit. The increase in production along with greater support from retailers has led to more opportunity to purchase local products. Farmers have diversified their sales, accessing and supplying different markets including direct sales, farmers' markets, grocers and restaurants.

Supply is also going beyond fresh, with increasing amounts of stored vegetables, cut meats and value-added products adding to the sector. The development of two egg-grading stations along with a second abattoir demonstrate the increasing maturity and diversity of the agriculture sector.

This report provides a description of agriculture in Yukon from 2013 to 2017. The timing of the report comes on the heels of Statistics Canada's Census of Agriculture conducted in 2016 and published in 2017. The report also covers the \$3.35 million invested in Yukon projects through the Canada-Yukon Growing Forward 2 program funded from April 2013 to March 2018.



INDUSTRY HIGHLIGHTS

2013

- Growing Forward 2 agriculture funding program launched.
- From the Ground Up, a healthy food fundraising program using locally grown food started by Yukon Health & Social Services' Health Promotion Unit.
- Kids on the Farm program developed by Growers of Organic Food Yukon.
- Circumpolar Agriculture Conference in Girdwood, Alaska focused on advancing food security and sustainable agriculture.

2014

- A modernized Animal Health Act came into effect.
- Yukon Food and You: Food Talks hosted by Growers of Organic Food Yukon.
- Site plan developed by Yukon Agricultural Association for their agriculture lease land.
- "Pig Trace" mandatory reporting launched to collect data on movement in Canada.

2015

- Innovation in Cold Climate Greenhouses conference held by Yukon College Research Center.
- Tr'ondëk Hwëch'in opened a Teaching and Working Farm in Dawson City.
- Mobile abattoir added a scalding and dehairer for swine processing.
- Veterinary Service Pilot Program introduced in support of local food or fibre production.
- Revised Grazing Policy released to guide the management of grazing lands in Yukon.

2016

- Local Food Strategy for Yukon released.
- Census of Agriculture in Yukon conducted by Statistics Canada.
- Naturally Northern Meats opened up their licenced red meat abattoir in Grizzly Valley.
- Circumpolar Agricultural Conference in Iceland focused on the Role of Agriculture in Circumpolar Bio-economy.

2017

- 2016 Census of Agriculture released by Statistics Canada.
- Canadian Agricultural Partnership Multilateral Agreement signed by all provinces and territories, including Yukon, to replace Growing Forward 2 in April 2018.
- Yukon Government passed the modernize the Pounds Act.
- Mandalay Farm expanded their layer operation into inspected eggs for retail sales.
- Yukon Gardens built a major expansion with an innovative greenhouse for vegetable production.
- Yukon Grain Farm increased storage for root vegetables.
- A new Livestock Health Technician position was created to support meat inspections and livestock health.
- The mobile abattoir made its first trip to Dawson City, allowing access to retail markets.

Notable trends:

Environmental Health Services recognized a marked increase in activities within Yukon's food sector during this review period. Notably, increases occurred in:

- clients looking for regulatory support to bring local products to retail;
- the number of temporary food permits issued featuring local foods and food products;
- the number of food premises processing and serving local fruits, vegetables and meats;
- new butcheries; and
- the amount of locally inspected meats processed through permitted facilities.

Farmer of the Year:

- 2013 Wayne and Alison Grove, El Dorado Game Farm
- 2014 Mary and Rolland Girouard, Rivendell Farm
- 2015 Kate Mechan and Bart Bounds, Elemental Farm
- 2016 Marie and Brynn Johnson, Naturally Northern Meats
- 2017 Mike and Sylvia Blumenschein



AGRICULTURE METRICS

Production, Receipts, Management and Demographics

In the last five years, there has been a steady increase in Yukon's population with a reported record high in 2017 of 38,641 reported by Yukon Bureau of Statistics. Attitudes around food keep changing with increasing interest from Yukon residents and visitors for more locally grown foods. This has supported the increased growth of a diverse agriculture sector.

There has been a 9.2% increase in the number of farms operating in Yukon, as reported in Statistics Canada 2016 Census of Agriculture. In 2016, 142 farms reported compared to the 130 farms in the 2011 census. This is a change from the downward trend in farm numbers from previous census years.

	2011	2016
Total farms	130	142

The increase in the number of farms correlates to the growth in the livestock, poultry, vegetable and fruit sectors. The 2016 Census of Agriculture data along with internal numbers provides most of the information in this chapter and an overview of the health of Yukon's agriculture sector.

Crop Production

Hay is the biggest driver of Yukon's agriculture industry in terms of the number of farms, area and revenue. According to the census, there is an increase of 63 hectares of hay on fewer farms. This translates into an estimated addition of 300 tons of hay in the territory (based on a calculation of 2 tons per acre). This increase in hay acres was accompanied by a 30% decline in the number of horses identified in the census, which may indicate

that there is less hay imported into the territory and that more hay is going to cattle.

Vegetable production is up, with more farms and an almost 50% increase in area when compared to the previous census.

	2011		2016	
Production	Farms	Area	Farms	Area
Hay	64	1867 ha	62	1930 ha
Vegetables (excluding greenhouse vegetables)	24	13 ha	28	19 ha
Fruits, berries and nuts	13	12 ha	16	24 ha
Greenhouse in use	26	3591 m ²	24	3212 m ²

There has been a doubling of hectares in fruit production. The increase in fruit production is attributed to the investment by producers into haskap production, with over 24 hectares now planted, not all of which is captured in the census data. Haskaps are a new berry to the North American market. Early indications point to haskaps being a good crop choice for Yukon due to its early season flowering and fruiting, and winter hardiness.

There has been a decline in production under glass likely due to an increase in distributors importing out-of-territory stock of bedding plants. Although greenhouse numbers are down, there has been a notable increase in greenhouse vegetables in the retail market, in a large part from Yukon Gardens growing larger volumes of cucumbers and tomatoes.

Livestock and Poultry Production

There has been growth in the cattle, pork, and poultry sectors. Cattle numbers are up, with an increase in the number of farms and animals. The number of farms raising pork and total number of pigs has increase substantially, with an eight-fold

increase in pig production since 2011. The census also indicates a large rise in the number of meat rabbits. The decline in elk is reflective of farmers moving out of the game farming and the regulatory challenges associated with elk and chronic wasting disease.

Livestock	2011		2016	
	Farms	Livestock	Farms	Livestock
Cattle and calves	13	213	14	245
Pigs	7	56	28	482
Sheep and lambs	4	72	4	54
Goats	6	90	11	85
Horses and ponies	50	615	45	429
Llamas and alpacas	6	29	6	34
Rabbits	4	30	11	487
Elk (wapiti)	4	64	4	35

Inspected Red Meat Slaughter

The slaughter of inspected red meat has increased, both in number of animals and facilities offering slaughter. In 2016, Naturally Northern Meats became the second licensed abattoir in the Whitehorse area, providing a fixed location facility that complements the Yukon government mobile abattoir operated by Tum Tum's Black Gilt Meats.

Statistics from the mobile abattoir shows an increase in beef and hogs slaughtered through the unit from 2013 to 2017. Thirty-nine more cattle went through the unit in 2017 compared to 2013. Hog numbers increased from no animals slaughtered in 2013 to 149 in 2017. The increase in hogs through the unit is also due to the quality service provided by the mobile abattoir operators and the addition of a scalding/dehairer unit in 2015

that cleans and dehaired the pigskin. This upgrade results in a finished product that is more appealing to many customers.

Animals slaughtered in the mobile abattoir	2013	2014	2015	2016	2017
Beef	23	45	32	55	62
Elk	2	0	5	5	2
Hogs	0	25	104	128	149
Sheep	0	17	9	0	0

For poultry, farm numbers and total hens have almost doubled since the 2011 census to 6,798 birds from 3,601. Not captured in the census is a new operation, Little Red Hen Eggs, which added to Yukon's production of eggs in late 2017. Little Red Hen is providing inspected eggs, and is the second such operation supplying Yukon's retail market.

The 2017 census numbers show a 20% growth in the number of meat birds raised compared to 2011. The sale of white meat occurs exclusively through farm gate sales as, at this time, there is not a licensed white meat abattoir.

Poultry	2011		2016	
	Farms	Birds	Farms	Birds
Total hens and chickens	28	3601	49	6798
Broilers, roasters & Cornish	13	2221	20	2732
Turkeys	5	190	12	289
Other poultry	6	41	13	166

Changes in production of livestock, poultry, fruit and vegetables demonstrate the increased availability of local food and the diversification of the agriculture

sector. The changes in local food availability is also demonstrated in:

- the increased number of farms advertising in the Yukon Farm Products and Services Guide with 64 farms advertising agriculture products for sale in 2017;
- the increased presence of local products in stores and restaurants, with local products being featured in Whitehorse and Dawson grocery stores, and
- the increased number of farmers markets around the territory.

Receipts and Capital

In 2016, Yukon farms reported \$4.3 million in total gross receipts, showing a growth of over half a million dollars since 2011. For the first time since 2001, reported gross farm receipts exceed operating expenses by \$382,000, showing farms are becoming more profitable.

Capital is another highlight, with an increased value in equipment, land and buildings of 25%. The value of livestock has increased 15% and accounts for \$1.7 million, demonstrating the investment by industry in the meat sector.

Receipts and Capital	2011	2016
Total gross farm receipts	\$3,689,642	\$4,261,133
Total farm business operating expenses	\$3,727,611	\$3,879,482
Total farm capital	\$86,563,618	\$108,425,446
Total value of land and buildings	\$75,365,745	\$97,098,060
Value of all farm machinery and equipment	\$9,749,600	\$9,651,225
Value of livestock and poultry	\$1,448,273	\$1,676,161

Management

How farmers manage production and the use of some inputs is changing. There is a decrease in total area under synthetic fertilizer and irrigation. In contrast, six more farms are using irrigation. This increase in number of farms using irrigation is



likely associated with the increase in vegetable and fruit production. The loss of one or two hay farms using irrigation would account for decrease in acres under irrigation. Herbicide use has fluctuated, with a decrease in the number of farms using herbicides but an increase in total area. There are seven farms under certified organic standards, one less than in 2011.

Management		2011	2016
Total land in production	Number of farms	94	91
	Hectares	6893	6801
Herbicides	Number of farms	13	11
	Hectares	202	298
Commercial fertilizer	Number of farms	34	30
	Hectares	931	802
Total area of land irrigated	Number of farms	34	40
	Hectares	453	318
Certified organic products for sale	Number of farms	8	7

Demographics

Nationally, one of the concerns highlighted in the census is the decreasing number of farms and the increasing age of farmers. Yukon is bucking the national trend, with an increase in the number of farms, farm operators, and female operators.

Number of farms and operators	2011	2016
Farms	130	142
Operators	195	215
Males	115	125
Females	75	90

The average age for Yukon farmers has decreased, with categories highlighted by the increased number of farmers in both the 35 to 54 age bracket and under 35 years reporting to the Census of Agriculture. The older than 55 years category remains steady.

Age of Farm operators per farm	2011	2016
Average age of farm operators	54.4	53.3
under 35 years	10	15
35 to 54 years	70	100
55 years and over	105	105

Other Census Data

Some of the other census data collected for the first time in 2016 shows trends relevant to the agriculture industry. Technology used for planning and managing farm business, production of renewable energy and some new sources of income are reported in the 2016 census. New to the census is reporting direct sales, which provides insight into how farmers are managing sales in the territory.



Collecting data on succession planning helps understand the transition of farms on to the next generation. With the bulk of farmers in the 55 plus age category, succession planning should climb as retiring farmers slow down farming activities.

Categories	2016
Technologies	
Computers/laptops for farm management	64
Smartphones/tablets for farm management	39
GIS mapping (e.g., soil mapping)	4
Direct sales	
All farms reporting	67
Farms reporting unprocessed agricultural products sold	67
Farms reporting value-added products sold	9
Farms reporting using farm gate sales, stands, kiosks, U-pick	61
Farms reporting using farmers' markets	20
Farms reporting using Community Supported Agriculture (CSA)	4
Farms reporting using other methods	2
Succession planning	
All farms reporting a succession plan	3
Renewable energy producing systems	
All farms reporting	23



PARTICIPATION OF GOVERNMENT IN YUKON AGRICULTURE

The Yukon government, through the Agriculture Branch, along with other federal and territorial agencies supports agriculture. The following chapter outlines the different agencies involved in Yukon's agriculture industry.

Government of Yukon Department of Energy, Mines & Resources Agriculture Branch

The Agriculture Branch celebrated 30 years in 2016. A lot has changed since 1986, when the office consisted of two full-time and one part-time staff. Today, the branch has nine full-time employees and one seasonal assistant to meet the demands of the growing agriculture sector. The increase in consumer support for more local food options, the growing complexity of land programs, and the administration of federal and territorial funding agreements has changed the workflow within the branch.

In the last five years, the branch has undergone a significant change of staff, with long time employees Tony Hill, David Murray, Kevin Bowers, Patricia Smith and Edward Lee retiring from their positions with agriculture. The following are Agriculture Branch staff positions and designates as of 2017.

- Director of Agriculture, Matthew Ball
- Administrative Assistant, Temesha Debler
- Agriculture Lands Team:
 - Manager of Agriculture Land Resources, TBD
 - Agriculture Lands Coordinator, Shannon Gladwin

- Grazing Management Coordinator, Matthew Larsen
- Agriculture Spatial Database Administrator, Kam Davies
- Agriculture Extension and Development Team
 - Agrologist, Randy Lamb
 - Agriculture Development Officer, Jesse Walchuk
 - Agriculture Research Technician, Bradley Barton
 - Agriculture Research Assistant

Government of Yukon Department of Environment Animal Health Unit

- The Animal Health Unit, formed in 2010, has a strong tie to the Agriculture Branch. The Animal Health Unit monitors and responds to concerns about the health of domestic animals and wildlife in Yukon. In 2015, the Animal Protection Program was added to the unit, so staff are now responsible for all aspects of domestic animal welfare, including companion animals. The following Animal Health Unit staff work directly with the agriculture industry:
- Chief Veterinary Officer, Dr. Mary Vanderkop
- Program Veterinarian, Dr. Jane Harms
- Livestock Health Technicians, Bastien Ipas and Michelle Thompson

Government of Canada Agriculture and Agri-Food Canada

Agriculture is a shared jurisdiction in Canada. Agriculture and Agri-Food Canada (AAFC) works closely with provincial and territorial governments in the development and delivery of agriculture policies, programs and services. AAFC's mission is to provide leadership in the growth and development of a competitive, innovative and sustainable Canadian agriculture and agri-food sector. AAFC supports the sector from the farmer to the consumer, through all phases of producing, processing and marketing of farm, food and agri-based products.

Senior Industry Development Officer, Valerie Whelan/Anne Savoie

The Senior Industry Development Officer for AAFC works with the Yukon Agriculture Branch in the delivery of Canada-Yukon cost-shared funding programs. These programs support the development of the Yukon agriculture and agri-food processing industries. The Senior Industry Development Officer also functions as the secretariat for the Bilateral Management Committee that is responsible for the overall management of joint federal-territorial funding programs.

(Note: Valerie Whelan retired early in 2018 and was replaced by Anne Savoie)

Government of Canada Canadian Food Inspection Agency

The Canadian Food Inspection Agency's (CFIA) highest priority is mitigating risks to food safety and the health and safety of Canadians is the driving force behind the design and development of CFIA programs. The CFIA, in collaboration and partnership with industry, consumers, and federal, provincial and municipal organizations,

continues to work towards protecting Canadians from preventable health risks related to food and zoonotic diseases.

The role of CFIA in the Yukon

- Food Safety
- Consumer Products
- Plant Health
- Animal Health
- Fish and Seafood

Inquiries to CFIA are directed to an online point of contact called 'Ask CFIA'.

Government of Yukon Health and Social Services Environmental Health Services Branch

Environmental Health Services promotes care for the environment in the interest of human health. Working in conjunction with the Chief Medical Officer of Health, Environmental Health Officers provide services to individuals, businesses and government.

For the agriculture industry, Environmental Health Services plays a key role in ensuring the safety of all food sold and distributed to Yukoners. Environmental Health Officers provide education and conduct routine and complaint inspections of regulated food premises enforcing requirements to ensure food safety. Any facility or location where food is prepared, stored, served, or sold to the public is considered a food premises. This includes restaurants, grocery stores, bakeries, butcher shops, catering facilities, take-outs, mobile vending vehicles, farmers markets, and temporary food events.

YUKON LEGISLATION AND POLICY

The following legislation and policy provide guidance to the Yukon government in support of agriculture.

- 2006 Yukon Agriculture Policy
- Agricultural Products Act (Meat Inspection and Abattoir Regulations)
- Animal Health Act
- Brands Act
- Lands Act (Grazing Regulations)
- Pounds Act
- Territorial Lands (Yukon) Act

Direction to the Agriculture Branch is largely guided by the Yukon Agriculture Policy and the Local Food Strategy for Yukon. The Yukon government adopted its first agriculture policy in 1982 followed by a subsequent policy in 1991. The next policy, the 2006 Agriculture Policy, provided direction during this state of the industry review period.

In 2016, the launch of the Local Food Strategy for Yukon became another resource to help guide government and industry, along with providing community direction with the consumption of local food.

2006 Yukon Agriculture Policy

The goal of the 2006 Yukon Agriculture Policy encourages the growth of an industry that produces high quality products for local consumption, is economically viable, operates in an environmentally sustainable manner and contributes to community well-being.

The vision for Yukon agriculture is one of an industry that significantly increases its production of healthy locally grown food for local consumption. To support this, the government has prioritized:

- improving utilization of agricultural lands;
- expanding the agricultural land base in a carefully planned manner, and
- developing programs and infrastructure support that facilitate the growth of an economically viable and environmentally sustainable industry.

Since its implementation, the 2006 Yukon Agriculture Policy has helped foster planned agricultural lot development and has been instrumental in implementing the Multi-Year Development Plan for Yukon agriculture. The policy also led to the establishment of an Agriculture Industry Advisory Committee.



Local Food Strategy for Yukon

In 2016, the Local Food Strategy for Yukon was approved as a five-year plan to encourage the production and consumption of Yukon-grown food. The strategy includes 14 initiatives to increase the production and use of locally grown vegetables, meat and food products. The strategy contributes to food sovereignty in Yukon and supports the development of a sustainable localized food system by focussing on the following objectives:

- Enhancing resiliency and responsiveness in the agri-food sector;
- Developing a framework that offers local food producers opportunity and market access;
- Promoting local food so that it is conspicuous and widely available; and
- Informing consumers about the value of supporting a local food system.

The strategy was designed to enhance six components of our local food chain: production, processing, distribution, access and availability, consumption and resource and waste recovery.

Pounds Act

The Pounds Act was updated in 2017. The 2017 amendments focused on updating, simplifying and streamlining the Pounds Act with the *Highways Act* and *Animal Protection Act*. The Pounds Act and regulations provide a legislative framework to manage the issue of stray livestock in the Yukon. The act sets out the responsibilities of livestock owners, offenses the owners can face if animals stray, and processes to be followed when an animal is impounded



AGRICULTURE FUNDING PROGRAMS

In 2013, federal, provincial and territorial governments launched Growing Forward 2 (GF2), a five-year funding commitment for Canada's agricultural and agri-food sector. GF2 is the third consecutive policy framework to support the agriculture sector. GF2 focused on innovation, competitiveness and market development.

The investment under GF2 included \$1.48 million annually for the agriculture and agri-food sector. Yukon government's Agriculture Branch administered this program to support the agriculture industry. During GF2 over \$3.35 million of funding was committed to a wide array of Yukon projects. The following table outlines the number of projects, total projects costs and funding allocated in each of the project areas:



Growing Forward 2 Program area	Number of Projects	Total Project Costs	GF2 Funding
Livestock Health Program	1	\$30,000	\$30,000
Food Safety, Beneficial Management Practices	9	\$96,308	\$40,151
Agri-Environmental Baseline Indicators	3	\$33,250	\$22,625
Reclamation of Yukon Land	2	\$13,040	\$10,250
Underutilized Land Program	17	\$343,007	\$59,518
Wildlife Damage Prevention and Compensation	74	\$487,534	\$312,941
Environmental Farm-Best Management Practices	81	\$903,440	\$347,706
Agriculture Training Program	68	\$656,587	\$263,495
Agriculture Internship	21	\$113,399	\$48,223
Agriculture Education Program	28	\$362,921	\$176,188
Market Development Program	29	\$1,349,627	\$469,421
Agriculture Development Program	58	\$3,732,442	\$1,292,492
Agriculture Business Planning and Advising	19	\$123,316	\$100,152
Innovation Exchange Program	18	\$76,802	\$74,257
Yukon Research and Demonstration Program	17	\$184,407	\$91,746
Business Risk Management Program	1	\$10,712	\$10,712
Grand Total	446	\$8,516,792	\$3,349,877

The 446 projects accounted for \$8.5 million invested into agriculture. Growing Forward 2 contributed \$3.35 million directly to farms and community projects to help build infrastructure, reduce risk, find new markets, and provide training. The objectives of each program helped meet the goals of Growing Forward 2. The following lists some of the highlights and/or accomplishment of the GF2 program.

- 18 different farms or organizations initiated farm business planning through the Agriculture Business Planning and Advisory Services Program.
- Community infrastructure under the Agriculture Development Program supported 12 different community garden projects and four community garden gatherings.
- Funding through the Agriculture Development Program supported the purchase of equipment and infrastructure, including a root crop harvester, a berry harvester, bulk root vegetable storages, egg grading and production equipment, mobile processing equipment for meat birds, handling systems for large livestock, and the expansion of greenhouse vegetable production.
- The Agriculture Education and Marketing Programs supported the From the Ground-Up Healthy Food School Fundraiser, Kids on the Farm Program, 4-H projects, and Yukon Horse and Riders.
- The Agriculture Training Program supported over 20 workshops and presentations in the territory along with sending different individuals out to agriculture related conferences.
- Under the Environmental Farm Plan Program, over 80 projects, equaling over \$900,000 of on-farm spending (\$348,000 in funding) to adapt best management practices aimed at stewardship of the environment.

- Funding made available to 16 participants to attend the Circumpolar Agricultural Association Conferences held in Alaska in 2013 and Iceland in 2016.
- The Market Development Program funded the Fireweed Community Market, Yukon Products Guide, Yukon Culinary Festival and smaller community markets in Tagish and Dawson.
- 46 projects were implemented to protect livestock and high value crops through installed electric fences, game fences or purchased livestock guardian dogs.



AGRICULTURAL INDUSTRY COMMITTEES AND ASSOCIATIONS

Yukon's agriculture industry is comprised of committees, associations and partners. Although their roles and priorities may differ, they all contribute to building a healthy, diverse agriculture community. These agriculture groups influence the growth of Yukon's agriculture sector through support to farmers, providing input to government and developing access points for sales and purchases. The following are Yukon's agriculture committees, associations and partners.

Agriculture Industry Advisory Committee

The Agriculture Industry Advisory Committee provides input to Yukon government's Agriculture Branch on agricultural policies and programs in support of the development and management of the Yukon agriculture and agri-food industry. This committee is comprised of appointed industry members and meets regularly during the winter months with the director of the Agriculture Branch and staff to discuss agriculture issues. Industry groups that have representation include Yukon Agricultural Association, Growers of Organic Food Yukon, Fireweed Community Market Society, Game Growers' Association and Yukon Young Farmers' Group.

Yukon Agricultural Association

In 1974, the Yukon Agricultural Association (YAA) was incorporated as a non-profit society to foster and promote Yukon's agriculture industry. As an industry association, the YAA works closely with farmers, producers, government agencies and other non-profits to develop policies, programs and events for its members.

YAA members sit on the Agriculture Industry Advisory Committee and contributed to the update of the Yukon's Agriculture Policy and Growing Forward 2. YAA members have farms and acreages in locations throughout Yukon. YAA has worked hard to establish online communication tools to ensure that members throughout the territory stay up to date with the agriculture sector's current news and events.

Highlights of the past five years include the development of an online Farm Products and Services Guide. It includes a listing of contact and business information about Yukon farms and can be easily updated and printed. The online Farm Guide is quickly becoming a key resource for chefs, caterers, event planners as well as food and beverage managers who want to include locally grown food in their menus. In support of the Local Food Strategy for Yukon, the YAA has also completed projects that promote the procurement of locally grown food by government agencies. The YAA also supports the Agriculture Branch by developing topics for as well as promoting the annual North of 60 Agriculture Conference and other events.

As an advocacy group for Yukon agriculture, the YAA board of directors has initiated actions on behalf of the sector on topics such as agriculture-wildlife conflicts, right to farm protection, building codes for farm buildings, and legislation updates.

In addition, through representation on the Agriculture Industry Advisory Committee, the YAA is involved in the update of the Yukon Agriculture Policy.

In its commitment to developing agriculture infrastructure, the YAA is working to clear land it has leased on the North Klondike Highway to build a multi-purpose fairground and gathering place. The YAA is working with 4-H Yukon to ensure that the buildings will be useful for a range

of agricultural events, and will be used by future generations of Yukon farmers.

The Yukon Agricultural Association is also proud to be a supporter and the home base of the Yukon Young Farmers (YYF). The YYF have worked tirelessly over the last five years to advance educational programming and events for the Yukon's agricultural sector. Their work has benefited all YAA members.

Yukon Young Farmers

In 2011, Yukon Young Farmers was formed to bring together a group of young and new Yukon farmers between the ages of 18 and 45. Yukon Young Farmers continues to operate as a chapter of the Canadian Young Farmers Forum (CYFF) and as a committee of the Yukon Agricultural Association. YYF has sent voting delegates and representatives to CYFF's annual national conferences. Attendees have presented virtual farm tours, participated in roundtable discussions, and joined important leadership and planning sessions.

Over the last five years, YYF has coordinated agricultural workshops and events including: equipment demonstration days, networking sessions and educational seminars. In 2017, YYF hosted an educational workshop about the humane handling of livestock with Dr. Temple Grandin. Other presentations included topics such as soil nutrients, small-scale fruit production, equipment demonstrations, and the breeding and care of heritage livestock. YYF looks forward to building an annual four-season approach to its programming that will be supported by a newly developed sponsorship framework.

Growers of Organic Food Yukon

Growers of Organic Food Yukon (GoOFY) promotes organic practices and provides support, education

and advocacy about organic growing and processing.

Growers of Organic Food Yukon has a diverse membership including certified organic producers, non-certified producers, educators and consumers. The membership shares the vision for sustainable, local and organic production, ensuring the protection of the environment and the health of people in this bio-region. GoOFY was formed in 2003 and was a chapter of Canadian Organic Growers (COG) until 2012 when it became a Yukon Society.

Growers of Organic Food Yukon represents Yukon on the board of the Organic Federation of Canada (OFC). Members participate on various industry committees such as the Canadian Agriculture Partnership Project Evaluation Committee, Yukon Agricultural Research Committee, and the Agriculture Industry Advisory Committee. Members of GoOFY are active and share their expertise in Food Secure Canada, Canadian Biotechnology Action Network, Food Network Yukon, Yukon Agricultural Association, Fireweed Community Market Society, Potluck Food Co-op, Farm to Plate Poultry producers, and Yukon Hog Producers Association.

GoOFY engages in projects to promote and educate about organic and local production. GoOFY initiated and manages the highly successful Kids on the Farm program.

Organic certification has federally legislated standards to which certified organic farmers adhere. Standards are specified for processes used in livestock husbandry as well as crop production and processing. All certifying bodies use the Canadian Organic Standards as a minimum standard.

GoOFY member farms raise a variety of livestock for breeding, meat and/or fibre as well as poultry

including certified organic chickens, turkeys and eggs. Grass-fed beef, goat, lamb, rabbit and pastured pork are sold at the farm gate and through retail outlets. Several operators grow vegetables, herbs and bedding plants in market gardens and some also raise certified organic alfalfa and grass hay. Several members produce value added products from local ingredients in addition to their farming activities. Products from these farms are available at local stores, at local farmer's markets, through community supported agriculture, and at the farm gate.

Fireweed Community Market Society

Since 2005, the Fireweed Community Market Society is a diverse group that has worked collaboratively to build community and provide seasonal opportunities for consumers to purchase and enjoy locally grown, raised, and hand-crafted products in Whitehorse. Flagship markets include the Thursday Outdoor Fireweed Community Market in Shipyards Park from mid-May to mid-September and the 12 Days of Christmas Fireweed Community Market in the Kwanlin Dun Cultural Centre in December. A Saturday market was delivered for three years in order to accommodate local vendors who were unable to sell at the Thursday markets and create a new customer base.

Strong community support has allowed the Society to grow to over 150 members most of whom sell high quality art and craft items, prepared foods, and farm products. The markets are a draw for consumers to purchase farm products including fresh organic and non-organic produce, craft and food products made from farmed animals, heirloom seeds, organic eggs, wild collected/cultivated teas, jams, and jellies, and pickled and dried preserves. The market has also provided a venue for government and non-profit organizations to reach out to the public with information on programs and community causes.



In addition to supporting small local business development in farm-gate style retail, the society offers novice vendors the option to use its market tents to help their start-ups. The Genesis R&D software and Primera printer are available to help food producers create and print customized nutrition labels. The outdoor market also hosts free public agricultural workshops and demonstrations to support food literacy in areas ranging from chef demonstrations and backyard gardening techniques to eating healthy foods.

Other highlights have included Yukon Culinary Festival activities in partnership with Tourism Industry Association of Yukon, Royals and Canada Day 150 markets in partnership with Yukon Government and the City of Whitehorse, Whitehorse 4-H Club and Yukon Fish and Game Association activities, art workshops with assistance from the Arts Fund, and a board development workshop in partnership with Volunteer Yukon. In 2017, a reuse and repair fair and waste audit in partnership with Zero Waste Yukon launched the Society's goal of delivering

zero-waste markets and helping vendors and the market community consider reusable, compostable and recyclable alternatives.

4-H Yukon

4-H is a national and international youth organization based in Canada's agricultural roots. 4-H Canada celebrated its 100th Anniversary in 2013. 4-H is focused on developing leadership and citizenship through public speaking, judging, student exchanges; combined with local club projects.

The 4-H Yukon program began in 1981 in Whitehorse with the establishment of the horticultural and beef club. For the past 20 years, 4-H has been predominantly a horse club. 4-H Yukon provides club members an opportunity to learn how to become productive, self-assured adults who can make their community and country a good place in which to live. The objectives of 4-H clubs are knowledge, leadership, citizenship and



personal development. The 4-H mission statement says it all: inspire, educate and develop youth into empowered community leaders.

In the past 4-H Yukon has overseen the activities of several different horse clubs including Dawson City, Haines Junction, Whitehorse and Watson Lake. In 2018, Whitehorse has the only club, Whitehorse Spirit Riders, who are structured around “The Horse Project”. This initiative centres on learning about public speaking, horse husbandry, feed, training, financials, health and veterinary care, maintaining records and learning to handle and ride horses to a high level of competency. 4-H also focuses on youth health and nutrition.

The 4-H Yukon Horse Club promotes the development of strong relationships with their community and territory, with 4-H's roots in agriculture, the club strives to connect our members in a meaningful way with the local agricultural community.

The 4-H program has provided Yukon youth with the opportunity to “learn to do by doing.” Guided by dedicated volunteer leaders, the program's basic principles remain same today as they did over 100 years ago. 4-H members develop self-confidence and learn a wide variety of skills through their hands-on project work.

Highlights from the past five years:

- 2017 - RCMP Musical Ride presentation by 4-H Spirit Riders
- 2017 - Trip to Ottawa to spend time with RCMP and tour Ottawa farming.
- 2017 - two Seniors completed the communications component of 4-H and received Grade 11 High School credit.
- 2017 - Two Seniors Represented Yukon at the BC Agri-Career Quest
- 2016 - 4-H Farm Camp, five days at a Hay Farm learning all about Hay production

- 2016 - Seniors completed the communications component of 4-H and received Grade 11 High School credit.
- 2015 - Dawson Creek Rodeo and Exhibition trip
- 2014, 2015, 2016, 2017 - rode horses and presented 4-H at the Annual July 1st Parade.
- 2013-2017 - attended and presented at the annual North of 60 Agricultural Banquet.
- 2014-2017 - presented Spirit Riders Drill presentation at various venues around Whitehorse.
- 2014-2017 - hosted annual fun gymkhana family event

Yukon Game Growers' Association

The Yukon Game Growers' Association (YGGA) supports and promotes the territory's game farming industry. YGGA members actively participate in supporting the development and diversification of Yukon's agriculture sector. The association holds a seat at the Yukon government's Agriculture Industry Advisory Committee, feeding into priorities of the government in line with game farming interest.

Elk and bison have been the main species for game farming in Yukon and currently only two Yukon game farm operations are actively farming.

Game farming of elk experienced a decline over a ten-year period from about 2003 through to 2013 due to a variety of challenges that affected the industry. The 2003 crash of velvet antler prices following the discovery of chronic wasting disease (CWD) preceded by a 2009 temporary moratorium on all game farm animals has resulted in a much smaller industry.

Yukon government proceeded from a temporary moratorium to a permanent moratorium in 2013 preventing the importation of all cervid products

including game farmed elk in response to concerns of importing Chronic Wasting Disease. The combination of these two events has significantly impeded the elk farming industry. Today the industry's ability to react to favorable prices in the market and increase heard size for velvet and breed stock is restricted by the moratorium.

The two Yukon game farms actively farming elk have weathered the storm by diversifying their operations to include the sale of meat, together with the sale of velvet antler and antler products. The velvet antler prices have rebounded from a low of approximately \$8/lb to approximately \$50/lb in 2017. In light of restricted movement of cervids, the industry has been able to take advantage of Growing Forward 2 funding in support of artificial insemination to assist with herd genetic diversification and management.

In 2015 the Yukon government lifted the moratorium on the import of bison. This has resulted in the reintroduction of bison back into the game farming industry. One of the registered Yukon game farm operations has brought in bison to test the market. This is a positive sign for the game farming industry. The third game farm species allowed within game farming regulations, muskox, is not farmed in Yukon.



FIRST NATION GOVERNMENTS' AGRICULTURE ACTIVITIES

Agriculture activities in First Nation communities have been steadily increasing, as seen by the number of community gardens and the increasing investment in growing food at the local level. For First Nation governments, agriculture addresses concerns around food security in the face of a changing climate. The priority is protecting traditional foods and ensuring their communities have healthy food choices. The end goal in a changing climate is to develop locally based, culturally relevant, long-term, community food security and adaptation strategies. For long-term sustainability and security, communities are developing plans that include being more self-sufficient by:

- increasing local food production;
- building community gardens;
- increasing animal husbandry;
- building micro enterprises;
- returning to ancient methods of sharing; and
- returning to ancient methods of wildlife management and conservation.

(Reference: Indigenous Community Food Security in Yukon Territory, Canada, by N.Kassi, K.Friendship, J. Butler Walker, Arctic Institute of

Community Based Research)

First Nation food security actions contribute to the production of local foods and these efforts are playing a bigger role in Yukon's agriculture industry each year. Many of Yukon's 14 First Nation communities have an established community gardens, or are working to develop a community garden to help feed the community.

Little Salmon Carmacks First Nation has set the standard with many years of continuous growing in their community greenhouse and garden, which was established in 2000. In 2014 Tr'ondëk Hwëch'in took it a step further developing their teaching and working farm. Other First Nation communities continue to build their capacity when it comes to producing food. The level of production varies from year to year, and there has been no analysis to date of what each community has achieved.

In an effort to support community growing the Arctic Institute of Community Based Research has been hosting annual community garden gatherings since 2014. This brings community garden leaders together from across the territory and provides an opportunity for First Nation community gardeners to share stories, knowledge and tips about the production of food.



AGRICULTURAL LAND AVAILABILITY

The purpose of the Agriculture Land Program is to make suitable Yukon land available for agriculture for Yukon farmers. Agriculture land tends to be limited to the valley bottoms, and occurs mostly in the Yukon, Pelly and Stewart River watersheds.

Land is recognized as a critical resource that needs to be managed responsibly in support of this growing industry. One of the tools used in managing the development of land is an assessment through the Yukon Environmental and Socio-Economic Assessment Act (YESAA). Local Area Plans are another tool, giving the planning process a more streamlined approach for future land use in a designated area. Both of these processes encourage consultation with land users and other governments to be involved in the planning process and input into the decisions on land uses.

Obtaining Land for Agriculture

Agriculture land is available through private sales or through the Yukon government agriculture land programs. Since the beginning of the first Agriculture Land Program in 1982, the total amount of titled land for agricultural use is more

than 15,500 hectares spread over more than 300 parcels. This represents 0.03% of Yukon's total land base.

Land dispositions are predominantly around the Whitehorse area, with over 70% of dispositions within 60 kilometres of Whitehorse. This creates an opportunity to diversify income and access customers in Whitehorse. Areas in and around Whitehorse are, for the most part, held under many types of land reserves and dispositions including title, environmental reserves, First Nation settlement lands, agriculture, and more.

Private land prices vary depending on the proximity of the property to Whitehorse. In 2018, titled agricultural land within 30 minutes of Whitehorse is valued at over \$3,000 per acre for larger areas, and over \$10,000 per acre for small areas. Based on estimates from the Multiple Listing Service, the prices throughout the rest of the territory are lower.

Agriculture Spot Land Applications

One of the ways Yukon government makes agriculture land available is through the agriculture spot land application process. The Agriculture Branch reviews eligible applications to acquire agriculture lands by way of a seven year agreement

Summary of agricultural land applications, approvals and titles:

	2013		2014		2015		2016		2017	
	#	ha	#	ha	#	ha	#	ha	#	ha
Ag Land Applications*	11		9		9		10		6	
Approved Applications	6	193	2	66	2	72	8	241	5	172
Agricultural Titles Issued	8	291	7	183	12	216	10	297	8	285

*Agricultural land applications refer to spot land and successful APLAR applications. Grazing applications are not included in this table.

for sale. A successful applicant obtains title to the land upon completion of the committed development.

An application will be accepted in areas of interest not encumbered by any other use and contain 80% arable soils, as the production must be soil-based (i.e. hay crop, market garden). The application site can range in size between six and 65 hectares.

An eligible applicant is a Canadian citizen or has permanent resident status; has resided in Yukon for one year prior to application; and is at least 19 years of age. In addition, an eligible applicant must not hold an agriculture agreement for sale with the Yukon government at the time of application. Companies where Yukon residents have the majority of shares are also eligible.

As part of the application process, an assessment is completed for the application and the proposed activities. This assessment is done through the Yukon Environmental and Socio-economic Assessment Act. The Act lays out a comprehensive arms-length-from-government environmental assessment process.

Agriculture Planned Land Application Review (APLAR)

In order to meet the land needs of Yukon agriculture, Yukon government will also make land available through planned agriculture areas. These areas are typically agriculture subdivisions, or sometimes individual lots that are held in inventory. When possible, planned lots will be part of an agricultural development area. Development areas optimize infrastructure use and planning of future services.

Planned agriculture lots are parcels of land ready for immediate development by the successful applicant. These surveyed lots have road access

and usually power in proximity to the lot.

The Agriculture Planned Land Application Review (APLAR) is an evaluative/competitive approach to planned agricultural land sales. In this process, Yukon government advertises that an agriculture parcel is available. An eligible applicant reviews the application package prepared by the Agriculture Branch and submits an application to the branch by the appointed time. The application includes a detailed Farm Development Business Plan (FDBP), which is prepared according to listed criteria that are assigned points. The submitted FDBP is reviewed by an independent consultant and rated according to the specific FDBP evaluation criteria and against other plans for the same parcel. Agriculture Branch staff will approve the FDBP that best meets the specifications set out in the application package. The successful FDBP will form part of the agreement for sale, whereby these committed developments must be completed within the seven-year timeframe to obtain fee simple title to the lands.

Previous APLAR parcels have been released in the Marshall Creek area of Haines Junction, Takhini Hot Springs Road, and Gentian Lane areas.

APLAR parcels that are presently being planned for future release are in Ibex Valley, Mayo and Sunnysdale areas. Research on additional planned areas is underway.

Between 2013 and 2017, six parcels were disposed under the evaluative planned land application process. This application process resulted in very detailed and well prepared farm development business plans.

Subdivision of Titled Agricultural Properties

In 2007, the Subdivision Act was amended to provide statutory authorization for an agriculture subdivision process. This, along with Agriculture Branch policies, provide for controlled subdivision of agricultural land as a means to deliver orderly transition to a new phase of farmers. This process also allows for the opportunity for retired farmers to remain on their home site parcel while being able to sell the fields to a new owner. In addition, subdivision opportunities can benefit the farmer as a means of generating capital that can be reinvested into the farm operation.

Summary of Agriculture Subdivisions between 2013 -2017:

	2013	2014	2015	2016	2017
Number of Subdivisions	6	3	2	3	5

There were 25 applications for agricultural subdivision during the last five years and led to 19 new lots. Agriculture Branch analysed information from 66 past subdivided parcels near Whitehorse and determined approximately 60% of large parcels and 40% of small parcels have some form of active agriculture production.

Land Use on Agriculture Properties

From 2011 to 2016 the number of farms has increased to 142 farms. The total farmed area and land in production has declined slightly, with 300 fewer hectares farmed, and almost 100 fewer hectares in production. Land in production in 2016 has also decreased compared to the previous 2011 census, which is surprising, given the increases seen in farms reporting crop and livestock production. The other story that does not correlate to the land program is over 1000 hectares of land was titled to agriculture from 2013 to 2017, in contrast to the

census data showing a decline in farming area.

Farms, farm area, production	2016	2011
Number of farms reporting	142	130
Total farm area (ha)	10330	10646
Total land in production, crops & pasture (ha)	6801	6893
Area owned (ha)	6421	7606
Area leased from government (ha)	3517	2688

In 2017, the Agriculture Branch conducted an evaluation of agriculture land use in the Whitehorse area and of 228 titled agriculture properties near Whitehorse. Half of those properties had active field-based agriculture accounting for 2430 ha± of production area. An additional 43 properties had active market gardens/greenhouse or livestock operations. The remaining properties had overgrown field areas.



GRAZING PROGRAM

The agriculture Branch administers a grazing program to provide Yukon livestock owners access to natural graze on Yukon lands. The program grants grazing rights on designated areas of public land to eligible applicants in the form of a grazing agreement.

As of end of 2017 there were 33 grazing agreements active. The area under grazing agreements has remained consistent at 9600 hectares over the past five years. Approximately 50% of current grazing agreements are located within 50 kilometres of Whitehorse. The other 50% are located in other areas throughout Yukon. Traditionally outfitters use grazing agreements for their packhorses, but the increase in beef production in the territory has increased interest in developing additional grazing opportunities for cattle.

Summary of Grazing Program as of December 31, 2017:

Grazing agreements under administration	33
Hectares under grazing agreements	9607
Animal Unit Months* under grazing agreements	2206
Average size of grazing agreements (ha)	291
Smallest grazing agreement area (ha)	7.3
Largest grazing agreement area (ha)	1286

*Animal Unit Month is the amount of forage consumed by an adult cow or horse in one month (approximately 455 kg).

A new Yukon Grazing Policy came into effect in March 2015. The policy outlines the Agriculture Branch's administrative direction for grazing agreements. The new policy puts in place a process to provide sustainable grazing that is economically viable, compatible with other land and resource uses, and suitable for grazing. This involves ruling out land-use conflicts and evaluating the grazing capacity of application areas.

The new Grazing Policy and Regulations reflect the growth of Yukon's agriculture industry in the past two decades. Changes were required due to updates to local area plans and other government legislation that affect grazing. The new policy improves administration of grazing agreements and helps ensure that suitable lands are available for grazing agreements. The changes to the policy and regulations included:

- A change in the eligibility for grazing agreements from Yukon resident to Canadian citizen to be consistent with the *Wildlife Act* requirements for ownership of a big game outfitting concession.
- An amendment to incorporate grazing fees under regulation instead of just under the policy. Fees increased to \$3.00 from the current \$1.00 per animal unit month. The current fees have not changed since 1988. A typical grazing lease fee rose from \$65.90 to \$197.70 per annum.



EXTENSION AND OUTREACH

The Agriculture Branch provides extension and outreach services to assist Yukon producers. Agriculture Branch staff provide information and advice on a variety of topics including:

- land acquisition,
- farm management,
- production,
- pest and weed identification,
- pesticide use,
- marketing,
- conservation techniques,
- new technologies, and
- farm financing.

Branch outreach and extension activities usually take place on the farm with a field visit, but they can also happen in the office, or by phone, email, or text. The Agriculture Branch extension services relies on agriculture best management practices from industry, other agencies, and research projects to provide advice to farmers. The agrologist leads the outreach and extension program with support

from other branch staff depending on expertise and knowledge.

The branch has a number of other information resources available to farmers. Agricultural publications, books and magazines are accessible through the Energy, Mines and Resources library, located on the third floor of the Elijah Smith Building. Additional documents and resources are available on the publications tab of the Agriculture Branch webpage.

Since 1987, the Agriculture Branch has published the quarterly bulletin, InFARMation, to keep producers up-to-date on industry activities, events and opportunities. A portion of the newsletter is dedicated to extension articles on crops, research, production, services, livestock husbandry and industry trends.

The branch also coordinates soil, feed, forage and water testing services. This is one of the branch's most popular programs, providing an opportunity to engage with producers and discuss production. Commercial farmers can submit samples or request a field visit to get soil or feed tested at no cost.



The department of Environment, Animal Health Unit (AHU) also provides advice and extension services to the livestock industry. The AHU shares information through workshops, release of handbooks and development of information sheets, and direct consultation with industry. The list of workshops and handbooks produced by AHU in partnership with the Agriculture Branch includes: Poultry Health, Swine Health, and Cattle Health.

The AHU has launched the Veterinary Services Program to support raising healthy livestock. The program offsets the costs for veterinary service fees for care of livestock produced for food or fibre.

North of 60° Agriculture Conference

The annual North of 60° Agriculture Conference, held the first weekend of every November, is Yukon's main agricultural education and information sharing event. The Agriculture Branch leads this event, with input from industry (Yukon Agricultural association, Yukon Young Farmers and Growers of Organic Food Yukon) and is co-sponsored by Agriculture and Agri-Food Canada. This seminar provides an opportunity for local producers to learn, share their experiences and hear from experts on a variety of topics. The following is a brief description of conference topics covered:

2013

Topics: business management, Soil Food Web, NWT Local Food in Small Communities, and Yukon food system.

2014

Theme: "Grassroots Management in Yukon's Cold Climate"

Topics: holistic management and basics of horse nutrition. Alternative feed options, species for meat production, land leasing options, the Potluck Co-op and a round table discussion on increasing meat

production in Yukon were also covered as part of the conference.

2015

Theme: "Our Northern Flavour" and investigated the challenges and opportunities that face Yukon producers.

Topics: stories from local farmers mixed with talks from a range of experts. Innovative practices and technologies leading to the sustainability and enhancement of the cattle industry, rangelands and meat production by expert John Church was the keynote presentation.

2016

Topics: working with cattle safely and learning the different food safety related federal and territorial regulatory considerations for farm product sales ranging from farm gate, to farmers market and retail markets. The conference featured experts from BC's AgSafe, Canadian Food Inspection Agency and Yukon's Environmental Health Unit.

2017

Theme: "New to you markets" considerations when expanding beyond farm gate sales

Topics: The changing retail market by Peter Chapman of SKU Foods, and clinical data on the health benefits of Haskap berries by Dr. Rupasinghe from Dalhousie University. MarketSafe™, Canada Gap, Yukon Government procurement of local food, and a half-day trade show with farmers, associations and government offices was included as part of the conference. 20 participants obtain their MarketSafe™ certification through a one day workshop.

DISEASE AND PEST MONITORING

The role of governments in monitoring diseases and pests helps ensure public safety and manage risks to industry. Monitoring helps identify potential hazards, develop prevention strategies, manage risks, and react to concerns affecting crops and livestock.

In Yukon, the Agriculture Branch and Animal Health Unit play lead roles in pest and disease monitoring, with support from the Environmental Health Branch and the Canadian Food Inspection Agency (CFIA). Farmers and the general public are supported by these agencies which creates a strong, safe, resilient food system.

Disease and pest monitoring is divided into two streams:

- livestock monitoring, surveillance, and traceability,
- crop disease, insect and weed monitoring.

Livestock Monitoring and Surveillance

Yukon's Animal Health Unit takes the lead on livestock disease monitoring in partnership with CFIA, Environmental Health Branch and the Agriculture Branch.

In Yukon, the *Animal Health Act* outlines roles and responsibilities around livestock monitoring as well as wildlife. In January, 2014 an updated Act was released to reflect a more comprehensive government response to animal diseases in both livestock and wildlife. The Act helps minimize the negative economic impacts of animal disease outbreaks. Regulations supporting the act are still needed to clarify:

- Which hazards should be reportable,
- what is eligible for compensation, and

- how appeals and compensation will be handled.

In 2015, consultation occurred with interested stakeholders regarding regulations. A summary of "What We Heard, Concepts for regulation to Support the Animal Health Act" was published. This document will inform further work on developing the regulations.

As part of disease monitoring, the Agriculture Branch oversees the national Chronic Wasting Disease (CWD) program for Yukon cervids, such as elk and deer. In 2003, the Yukon Government implemented a Mandatory CWD Surveillance Program and a Voluntary Herd Certification Program. These programs provide a framework for CWD monitoring and provide assurance to national and international markets that Yukon game-farmed cervids are routinely tested for and remain negative for CWD.

Traceability

Traceability is also an important role in controlling outbreaks or food born illnesses. Traceability is a system that enables the industry to follow an agricultural product, such as an animal, from one point in the supply chain to another. These systems help regulatory bodies trace disease outbreaks or food-borne illnesses to the source, so they can be controlled quickly and completely.

Canadian traceability programs require farmers to keep records on three things: premises identification, animal identification and animal movement. The national traceability programs for cattle, pigs and sheep are most applicable in Yukon. The requirements are specified in the federal government's Health of Animals Regulations and enforced by the Canadian Food Inspection Agency (CFIA). These regulations apply to the farmer raising the animal, the person or company

transporting the animal, and the abattoir operator.

In Yukon, compliance with regulations is still being adopted with livestock owners moving forward on animal identification as needed. Two examples of where local farmers have identified a need to adapt to the traceability program include the circumstances when animals are imported from other provinces, and when animals are slaughtered through an inspected process. Farmers importing animals from outside the Yukon are being required to provide more information about their farm which may include a premises identification number.

Since 2011, the Agriculture Branch has been implementing a premise identification registry for locations in Yukon where livestock are held. As of December 2017, 67 premises have entered Yukon's premise identification program. This is part of a national livestock traceability system involving federal, provincial and territorial governments working with Canadian agricultural industry groups. The other elements of the traceability system are animal identification and movement recording.

Crop Disease, Insect and Weed Monitoring

Crop disease, insect and weed monitoring involves a number of parties. This might include the farmer, Agriculture Branch and Environment staff, independent ecologists, and non-government groups such as the Yukon Invasive Species Council (YISC).

The Agriculture Branch agrologist takes the lead on monitoring insects, weeds and plant disease for the agriculture industry, and is a resource for industry if they have questions or issues.

The numbers of disease or pest incidents or outbreaks in Yukon have been limited, and usually they have consisted of naturally occurring pests

that have been experienced cyclical population spikes.

An example of this was the 2017 outbreak of the black army cutworm in the Laberge Lake and Takhini River areas, where a number of hayfields and market gardens were impacted.

Sporadic outbreaks demonstrate the need for ongoing monitoring, as there can be economic impacts and crop losses that may spread. Cyclical pest outbreaks in Yukon include the Saskatoon sawfly, grasshoppers, and turnip beetle.

The main plant related disease issues experienced in Yukon have been potato related, such as common scab (bacterial) and black scurf (fungal). These issues can usually be managed in many ways ranging from crop rotation, planting resistant varieties, planting in acidic soils, and managing soil moisture at tuber set. Tips and related articles are posted in the Agriculture Branch InFARMation newsletter every couple of years on this common issue.

Monitoring is the basis for effective management of potential threats to the industry. With global warming, there is an expectation that disease, insects and weeds commonly found in agriculture areas in the south will try to find a foothold in the Yukon. Careful and continuous monitoring of pest and disease is key to successful management, and can be done through regular scouting of the field by the farmer and with the support of the Agriculture Branch. Early detection can provide time to intervene before the pest, weed and/or disease cause significant damage.

The Yukon Invasive Species Council is a non-government group that plays a role in identifying, preventing the introduction, and managing the spread of invasive species in Yukon that could have a negative effect on economy, environment or health.

AGRICULTURE SOILS AND CLIMATE SUITABILITY

In the land of the midnight sun, farmers are growing a variety of crops and market garden vegetables that are suited to our northern region. Climate and soil can be a limiting factor when growing north of 60°, but knowledge of how to adapt to the challenges continues to evolve. Today's farmers have a better understanding of the climate and soil, and have access to information that allows them to develop best management practices and adopt strategies that help mitigate these challenges.

The best agriculture lands, soils and climate are located in the warmer lower elevations, predominantly in the valleys of the Yukon, Pelly and Stewart rivers. These valleys are warmer and the topography allows for the development and cultivation of fields.

Soils

Yukon lies in the Canada's western rugged mountains known as the cordillera region. The lower or southern half of the territory has lands and soils better suited to growing agriculture crops. The majority of the soils suited to agriculture have formed in deposits of fluvial origin. These soils have surface layers (10-50 cm thick) of a finer texture, often very fine sandy loam to silt loam with a thin organic layer on top. Soils on the floodplains of the major rivers have mixed layers of organic and mineral material throughout the profile. The fine textured soils used for agriculture are typically low in organic matter, along with being deficient in nitrogen and phosphorus. Potassium levels in the soil fluctuate from excess in abundance to deficient, depending on location. The most common micro nutrient deficiencies are boron and magnesium. Agriculture soils are typically neutral to alkaline except for acid soils in the Klondike valley. Some areas have localized salinity issues, because of

concentration of salts migrating to the surface soil.

Agriculture inputs are often required to build soil and increase soil health due to the lack of specific nutrients and organic material in the soil. The Agriculture Branch extension soil-testing program supports the understanding of agriculture soils and developing strategies to increase the fertility of the land.

There are two basic philosophies to modifying soils adapted by Yukon farmers. Both approaches have their merits and allow producers to increase the fertility of their lands. Typically larger scale operations adopt a prescription method of adding conventional or organic fertilizers as per the recommendation developed based on soil tests. The other approach is adding organic inputs, cover cropping, rotating crops and/or intercropping with the intent of creating soil life. The intention is to increase biodiversity in the soil so that plants, insects and soil organisms work in harmony to feed crop production.

It is critical to manage moisture in the soil in a climate with insufficient rainfall. The incorporation of organic material, along with timely working of the land maintains moisture in the soil. The concern with working land in the spring is that it leads to the loss of moisture through evaporation and a lack of rainfall to make up the soil moisture deficit.

Land clearing is required to develop new agriculture lands. Maintaining the organic material during clearing is critical, both increasing soil fertility and soil moisture-holding capacity. In Yukon soils, even after incorporating the duff layer, organic material is usually insufficient. The incorporation of cover crops or green manure can help boost the organic material in the soil.

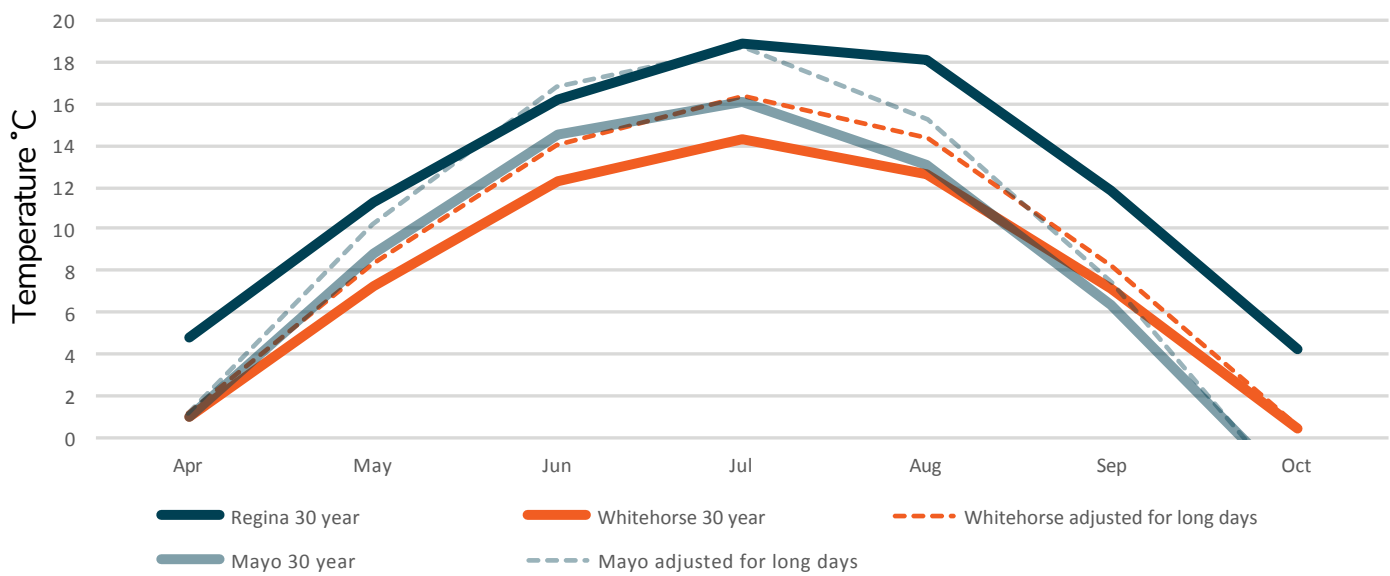
Climate

Yukon’s long summer days, moderate temperatures and limited rainfall provide opportunities and challenges for local farmers. Although summer temperatures can reach as high as 30°C, the average growing season temperature is cool. In comparison to Canada’s breadbasket, the western Canadian prairies*, Yukon’s climate is cooler as

shown on the graph below and indicated by growing degree day (GDD) in the table below. GDD is an accumulation of heat above 5°C.

*(Regina, Saskatchewan was used as an arbitrary central reference point for the Canadian prairies).

Comparison of 30-year norm temperature Whitehorse & Mayo, YT and Regina, SK.



Comparison of climate data from 30 year normals between Yukon and Regina, Saskatchewan.

	Whitehorse 30 year	Mayo 30 year	Regina 30 year
Frost-free days	80	91	115
GDD May to Sept	912	1079	1582
GDD adjusted for long days	1040	1251	1598
Precipitation (mm) May to Sept	156	196	266

Although Yukon’s growing season is cooler, shorter and drier than across the prairies, Yukon farmers are growing many of the same agriculture crops. Longer days provide a boost to plant growth that makes up for lower growing season temperatures. A factor of 12 to 16% is added to the temperature over the season to account for the boost crops receive from the long days or greater photoperiod. This extends the capability of what can be grown.

Yukon’s weather is also diverse. Although Whitehorse is home to 70% of the titled agriculture land in the territory, it is not typically the warmest or coolest agriculture region in the territory. Central Yukon is warmer during the growing season and, upon factoring in the long days, the range of crops that can be grown is greater. Mayo’s weather data demonstrates that when the longer daylight hours are factored in, June and July temperatures rival the prairies. The limiting factor is the short season, which limits the amount of heat/GDD accumulation over the season

Frost-free days and precipitation are limiting factors to the growing season and farmers must manage these restraints by timing seeding and harvest, and providing irrigation.

The territory can be divided into four agriculture

regions to aid in generalizing growing season and temperatures:

- Whitehorse and surrounding area. The majority of the producers and consumers are located in this region. The climate for Whitehorse is influenced by the coastal pacific weather.
- Central Yukon basin is influenced by a warmer continental climate in the summer. This region includes climate data from weather stations in Mayo and Dawson and provides a general description of the central Yukon climate. This region stretches south to Pelly and Carmacks encompassing the lowlands of the Yukon, Pelly and Stewart River valleys.
- Southwest Yukon, Haines Junction, was home to Agriculture Canada’s research station from 1944 to 1968. This research station evaluated agricultural capability for the area and helped defined some of the limits of what can be grown in the territory. The weather in this area is cooler from other regions in Yukon and significantly impacted by the St. Elias Mountains and ice fields of Kluane.
- Southeast Yukon, Watson Lake, is influenced by the warmer continental climate in the summer.

The climate data in the following tables reflect the weather in each of the different agriculture regions in Yukon. The data highlights seasonal variation from 2013 to 2017 in comparison to the 30-year (1981-2010) normals published by Environment Canada.

Whitehorse

Weather data from Environment Canada
Whitehorse Airport

Whitehorse	30 year norm	2013	2014	2015	2016	2017
Frost free days	80	125	108	113	122	98
GDD May to Sept	912	1138	956	1043	1109	1005
Precipitation (mm) May to Sept	156	131	210	152	171	128

Central Yukon

Weather data from Environment Canada Dawson
Airport

Dawson	30 year	2013	2014	2015	2016	2017
Frost free days	70	93	88	75	94	65
GDD May to Sept	1004	1162	1019	1051	1144	1208
Precipitation (mm) May to Sept	195	174	228	228	247	NA

Weather data from Environment Canada Mayo
Airport

Mayo	30 year	2013	2014	2015	2016	2017
Frost free days	91	98	87	112	101	98
GDD May to Sept	1079	1252	1068	1124	1185	1241
Precipitation (mm) May to Sept	196	210	286	266	229	NA

Watson Lake

Weather data from Environment Canada Watson
Lake Airport

Watson Lake	30 year	2013	2014	2015	2016	2017
Frost free days	94	135	80	113	130	98
GDD May to Sept	1000	1211	1022	1108	1203	1084
Precipitation (mm) May to Sept	242	161	225	222	174	193

Haines Junction

Weather data from Environment Canada Haines
Junction Airport

Haines Junction	2013	2014	2015	2016	2017
Frost free days	45	41	21	70	57
GDD May to Sept	967	777	883	930	772
Precipitation (mm) May to Sept	155	151	121	129	210



RESEARCH

Agriculture research in Yukon is guided by the Agriculture Branch in partnership with the Yukon Agriculture Research Committee (YARC). This committee is comprised of Agriculture Branch and industry group representatives from Yukon Agriculture Association, Growers of Organic Food Yukon, and Yukon Young Farmers who are active in Yukon's agriculture and agri-food sector.

YARC is responsible for the direction of research in agriculture as outlined in the 2012-2018 Yukon Agriculture Research Plan, and for reviewing applications submitted under the Yukon Research and Demonstration GF2 Program. The Yukon Agriculture Research Plan is reviewed every five years and sets the direction for the agriculture industry and Agriculture Branch to follow when planning, funding and conducting agricultural research.

The vision of the research plan outlines collaborative northern research to help inform Yukon agri-business. The plan looks to share work with industry in design and implementation of research projects that assist producers with crop management decisions, input alternatives, and adoption of appropriate technologies. The guiding principles of the plan are to conduct research that is:

- Applicable to Yukon environmental and economic conditions;
- Production-oriented and cooperative to increase output and capture producer input;
- Informed and applies local knowledge to solve problems and disseminate and transfer information;
- Supporting proven technological transfer;
- Generating empirical data to inform policy development; and

- Practical and can be scaled from small plot research to farm application.

The Yukon Agriculture Research Plan identifies specific research areas to help inform the industry. These include:

- climate monitoring,
- low input forage production,
- greenhouse technologies,
- alternate energy,
- animal forages and finishing,
- livestock husbandry,
- maturing high protein grains for feed rations,
- alternate commercial crops and management fruit production,
- northern soil amendments,
- northern varieties, and
- value added processing.

Research highlights

The Yukon Agriculture Research Committee helped direct the research projects conducted at the Yukon Government Research Farm and projects funded through the Agriculture Branch using federal/territorial funding.

The Agriculture Branch is responsible for the 1.5 ha (3.8 acre) Yukon Government Research Farm established in 1988 just north of Whitehorse in the Gunner Nilsson and Mickey Lammers Research Forest. Trials conducted at this site from 2013 to 2107 include:

- research and demonstration of fruit & berry production in northern soils,
- soil amendments evaluating the effectiveness of amendments in northern soils,

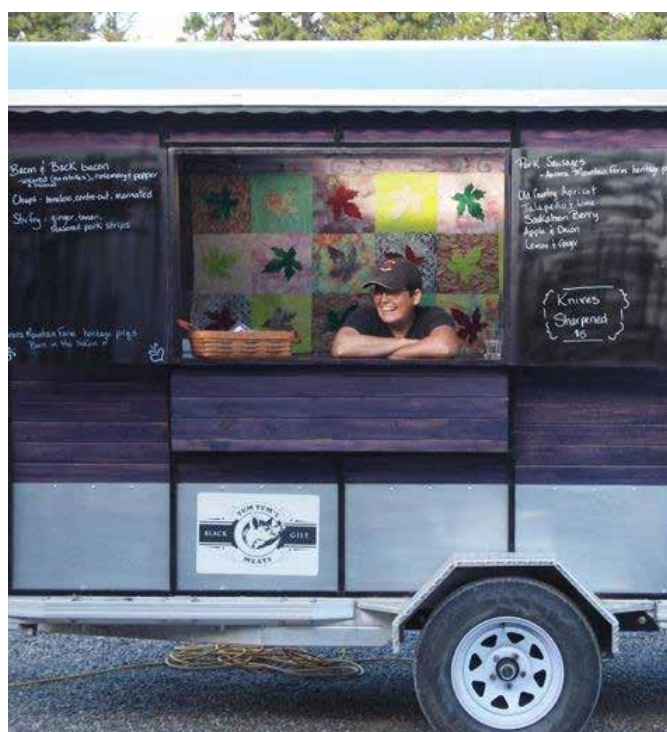
- grains and pulses variety trials and demonstration,
- timing and rate of fertilizer application to brome hay,
- organic amendments in forage trial,
- demonstration of potato varieties, and
- assessment of alternative livestock feed options.

The Yukon's research program has supported independent and guided agriculture research projects in line with the research plan and approved by the research committee. These projects have included:

- Growing Up: A Study of Vertical Gardening in the North - research and development project and community education initiative that explored the viability of vertical gardening techniques in the dry and cool northern climate.
- Land Development Optimization - investigated methods used to improve existing forestlands for improved grazing and forage.
- Solar Greenhouse Design Brochure - outlines practical designs of solar greenhouse for the climate in northern Canada.
- Willow, Fireweed and Aspen Silage - investigation of the use of alternative silage option as a Yukon winter-feed for swine.
- Determining Appropriate Feed Options and Feed Management to Optimize Production of Yukon Livestock - research project to determine appropriate feed options and feed management to optimize production of Yukon livestock.
- Northern Open Source Tractor Feasibility Study - to design and build a prototype of an open source tractor and roto-tiller for cold climate operations.
- Sanfoin Project - to determine viability of

Sanfoin as a possible forage, seed and honey production crop in the Whitehorse area.

- AgriDome Operations and Best Practices - research to enhance operation of AgriDome system to meet productivity objectives and determine best practices.
- Role of Native Bees on Berry Crops in Yukon - to collect information on the role of native bees on berry crops.
- Berry IPM Review and Update - review of berry pest management for all main berry crops produced in Yukon, following an Integrated Pest Management approach.
- Fruit Tree Shelter Project - to establish the transferability of a specific fruit tree shelter design from the Klondike Valley to the southern Yukon.
- Mushroom Cultivation literature review - preliminary market research to assess the potential opportunities for small-scale production of mushrooms in Yukon.
- Literature Review Windrow Woodchips as a Soil Amendment for Newly Cleared Agricultural Land in Yukon



AGRICULTURE AWARENESS

Promoting public awareness of Yukon agriculture, of where our food comes from, and of the potential for economic growth is an important part of developing the sector. Over the last few years, several programs have done great service raising awareness of agriculture amongst Yukoners. These include the Local Food Strategy for Yukon, From the Ground Up, Kids on the Farm and the Yukon Culinary Festival. Programs such as these provide many benefits:

- increased general awareness around agriculture in the territory,
- highlighted the good food Yukon farmers produce, and
- provided insight into the farming practices and stewardship.

These programs challenge misinterpretations that it is too cold or too dry to grow anything in northern climates, or that agriculture land development doesn't help our agriculture industry. These programs demonstrate that Yukon's land can be productive for agriculture purposes, and that agriculture fills important social, economic, health, and cultural roles in Yukon society.

Local Food Strategy for Yukon

In the fall of 2014, Yukon government committed to developing a Yukon-grown food policy. The development of the strategy increased the profile of Yukon agriculture and the process encouraged input from agriculture community and institutions, retailers, and other non-government organizations involved in food-related activities.

The intent of the completed local food strategy and implementation plan is to contribute to food sovereignty for Yukon, encourage Yukoners to make healthy and local food choices, and to support

production, processing, distribution, access, waste recovery, and consumption of local food.

From the Ground Up

From the Ground Up connects Yukon farms to Yukon tables. The program is a healthy-choice fundraiser where students and daycares sell boxes of delicious Yukon vegetables throughout their communities. This program operates as a partnership between the departments of Health and Social Services, Energy Mines and Resources, and Education. From the Ground Up is built on a healthy-choice fundraiser model, but it is more than just a fundraiser. It connects farm to table, supports healthy nutrition, and builds community.

Since 2012, more than 325,920 pounds of fresh Yukon vegetables have been put on Yukon plates, over 43,000 pounds of veggies donated to local organizations and community groups and \$247,544 raised for Yukon schools.

Kids on the Farm

Kids on the Farm facilitates school tours to local farms for Yukon students from Kindergarten to Grade 12. The program increase the knowledge, appreciation and awareness of agriculture among students and teachers, and provides farmers with an opportunity to diversify farm income. The program was developed in 2013 by Growers of Organic Food Yukon (GoOFY), with funding from the Canada-Yukon Growing Forward 2 program. Kids on the Farm provides:

- resources to connect teachers with farmers;
- help farmer's lead high-quality tours; and
- learning opportunities that fit into the curriculum.

In 2017, eight farms hosted 51 tours for 1,132 students from K to 12. Students from

15 Whitehorse and two community schools participated. In 2016, eight farms hosted 36 tours for a total of 727 students, and students from 13 Whitehorse and one community school participated.

The program helps farmers increase their farm and brand recognition and builds relationships within the community. It also provides opportunity to dispel myths about farming and promote agriculture as a career choice.

Yukon Culinary Festival

The Yukon Culinary Festival is an event celebrating local ingredients, culinary experts and culture taking

place in Whitehorse, Dawson City, and surrounding areas. The festival highlights culinary experiences and brings attention to locally grown foods.

The Tourism Industry Association of Yukon established the festival in 2013. Shaped by Yukon chefs, farmers, businesses and organizations, the festival is fueled by their vision and support. Major sponsors such as the Yukon government and Air North have been crucial to the festival's ongoing success, and the connections between food production and the hospitality and tourism business help to raise awareness of the importance of Yukon agriculture across sectors of the Yukon economy.



MARKETING

The 2016 Agriculture Census conducted by Statistics Canada highlighted increases in the number of farms, livestock, vegetable and fruit production. With more production, there were more local products available in the market.

In the 2016 Agriculture Census, data was collected around sales for the first time. The marketing of Yukon agriculture products happens through a number of direct and indirect channels. 67 farms reported direct sales of agriculture products and nine farms reported offering value added products. Most farms are reporting sales at the farm gate, with some using farmers markets, community supported agriculture models, or other methods for sale.

Direct sales

Farms reporting	67
Farms reporting unprocessed agricultural products sold	67
Farms reporting value-added products sold	9
Farms reporting using farm gate sales, stands, kiosks, U-pick	61
Farms reporting using farmers' markets	20
Farms reporting using Community Supported Agriculture	4
Farms reporting using other methods	2

A majority of Yukon's operations market directly to neighbors, friends, and/or through word of mouth. Some producers have created customer lists, and market products through their internal phone and/or email lists.

Another point of direct contact for farmers is the Yukon Farm Products and Service Guide, which is hosted online by the Yukon Agricultural Association. The guide allows potential customers to find farm products for sale.

A scan of online media shows farmers are also advertising through their own websites or Facebook pages, Facebook buy-and-sell pages, Kijiji, and local newspapers. There are also a number of farmer market options across the territory, including Fireweed Community Market Society in Whitehorse, Dawson Saturday Farmer Markets, (Haines) Junction Community Market, Tagish Farmer Markets Society, and Stewart Valley Community Market.

More agriculture products are showing up in Yukon retail outlets. Retail stores such as the General Store in Dawson, and The Fruit Stand and Riverside Grocery in Whitehorse seasonally offer locally grown and produced products. Yukon's large grocery stores are also providing shelf space for farmers, especially those able to supply on a continuous basis.

In December 2014, one of Whitehorse's major grocery stores was renovated and re-branded to Your Independent Grocer. This change brought about a shift in shelf space allocated to local products. Your Independent Grocer features a variety of local products, including potatoes, carrots, beets, tomatoes, and cucumbers along with locally made products such as popcorn, pies, bread, coffee to name a few. In 2015, 2016 and 2017, Your Independent Grocer also featured a Saturday vendor fair promoting local products, with local producers on hand to market and promote their products.

A majority of meat sales are marketed and sold directly at the farm gate, although retail sales are increasing. The addition of Naturally Northern Meats in 2016 provided a second option for inspected red meat slaughter for the retail market. Naturally Northern Meats and Tum Tum Meats, provide the opportunity for producers to market into retail, restaurants or directly to caterers.

Increasingly, catering events are featuring Yukon products. Adding Yukon products to an event helps create a connection with the food and provides a culinary experience that celebrates local and northern options.

The Yukon Grown logo, developed in 2009, brought awareness of Yukon agriculture products. The logo will undergo a renewal as part of the implementation of the Local Food Strategy for Yukon. Initiative 12 of the local food strategy identified the need for the Yukon government to create a marketing campaign for local farm products. Products could include 'common-look' advertising, brochures, banners and storylines for Yukon foods and farms.

The Local Food Strategy also identified an initiative to increase government purchase and use of local foods. Information was developed in 2017 to support farmers selling local farm products to the government. The website helps facilitate sales between Yukon producers and Government of Yukon purchasers. The Government of Yukon purchases goods and services through contracts with vendors. All government purchases are made following the regulations stated in the Yukon Highways and Public Works Contracting and Procurement Directive. Producers selling to the Government of Yukon register their business in the Supplier Directory.



FOOD SAFETY AND FOOD QUALITY

Regulatory oversight for the sale of foods in Yukon is shared by federal and territorial governments.

All foods offered for sale in Canada are subject to the safety and labelling requirements of the federal *Food and Drugs Act* and the *Consumer Packaging and Labelling Act*, and their respective Regulations. The Canadian Food Inspection Agency (CFIA) enforces these statutes.

Territorial legislation also regulates the production and sale of food. The Yukon Agriculture Branch administers the *Agricultural Products Act* and Regulations. The *Agricultural Products Act* defines what types of agriculture products are regulated in Yukon and includes a legislated process for inspectors designated under the act.

The Government of Yukon's Department of Health and Social Services, Environmental Health Services administers the *Public Health and Safety Act* and Regulations. This Act and Regulations define requirements for compliance in food safety, in order to protect the public against illness and disease.

A summary of the regulatory regime covering the sale of local meats, eggs, produce and manufactured foods in Yukon was developed by the Yukon Agricultural Association, in collaboration with the Agriculture Branch, Environmental Health Services, and the Canadian Food Inspection Agency. This document is available on the Agriculture Branch website.



AGRICULTURE WILDLIFE INTERFACE

Farming amongst Yukon's forests and wilderness results in interactions between Yukon farmers and wildlife that requires active management. Between 2013 and 2017, a number of activities have taken place to support the relationship between agriculture and wildlife.

Elk/Agriculture

The grazing, bedding and travel of wild elk continue to impact farmers in the Takhini valley. Elk activity results in damage to fields and fences along with losses to unprotected stored hay. Between 2013 and 2017, the Agriculture Branch dealt with 23 claims in response to elk conflicts. There have been an additional 10 projects funded under the prevention program to build game fence around feed and high value fields. Funding for prevention and compensation has provided over \$190,000 in financial support to agriculture producers impacted by elk.

The Department of Environment and the Agriculture Branch continue to develop and administer a permitted elk agriculture conflict hunt to help prevent damage to agriculture properties and products. The conflict hunt was developed in 2014/2015.

Domestic Sheep and Goats and Thinhorn Sheep

The possibility of transmission of pneumonia-causing pathogens from domestic sheep and goats to Yukon's wild thinhorn sheep herds cause concern. These concerns largely stem from serious disease and mortality that has occurred in bighorn sheep herds in the US and Canada. Sheep and goats are an important livestock option for northern producers and a growing agriculture industry

because of their meat, milk and fleece.

In 2017 the Departments of Energy, Mines and Resources and Environment initiated regulatory action to keep domestic animals separate from wild sheep. Proactive action, through education and direct communication with farm producers and management partners, continues to be developed to keep sheep and goats safe and healthy.

Bears and other Wildlife

The Agriculture Branch recognizes that supporting the growth of the industry, in particular increased production of chickens and pork, will increase attractants that can lead to wildlife/agriculture conflicts. From 2013 to 2017, approximately \$32,000 in funding to support prevention was provided to 32 commercial and small operators to purchase electric fences and guardian dogs that minimize wildlife interactions.

The Agriculture Branch has worked with Yukon conservation officers and a nonprofit organization, WildWise, to mitigate agriculture wildlife conflicts. Promotional campaigns, electric fencing workshops and the production of education material often supported by agriculture funding to develop good neighbour relations between the environment and the agriculture industry.

ENVIRONMENTAL RESPONSIBILITY AND CLIMATE CHANGE

Yukon's landscape is relatively intact and untouched, which heightens the interest around management of lands, protecting the environment and mitigating climate change. The development of agriculture lands and farming practices come under scrutiny by many interest groups that work with the Yukon government. Over the years, Yukon's agriculture industry has taken a proactive approach towards development and management that mitigates the impact of agriculture on the environment.

The agriculture industry has tools and processes that aid in developing an industry that is sustainable and responds to environmental concerns. These include:

- Yukon Environmental and Socio-economic assessment Act (YESAA) and regulatory tools;
- Environmental Farm Plan program; and
- Funding to adopt best management practices that minimize environmental impacts.

YESAA

The Yukon Environmental and Socio-economic Assessment Act is a key process that applies to many types of projects in Yukon. This is a neutral assessment that ensures environmental and socio-economic effects are considered prior to approval of a project. The development of agriculture lands, through the clearing of trees, or the withdrawal of large volumes of water, or building an abattoir, all require an assessment under YESAA.

YESAA assessments help identify environmental concerns and creates a process where farmers can

communicate the adoption of good management practices in-line with mitigating impacts to the environment.

Environmental Farm Plan Program

The Environmental Farm Plan (EFP) is a voluntary, confidential, self-assessment process that helps Yukon farmers identify the agri-environmental assets and risks of their operations and develop an action plan to reduce the identified risks.

By the end of 2017, 73 farms had completed approved Environmental Farm Plans. By conducting a self-assessment of their operation using the EFP workbook, farmers learned to:

- identify existing environmental assets on their farm;
- raise awareness of environmental risks on their farm;
- identify actions to reduce risks;
- improve environmental sustainability; and
- improve production efficiency on the farm.

Once the EFP assessment is completed, an action plan is developed to help farmers adopt beneficial management practices (BMP) for their farm that decrease potential environmental risks.

A broad range of beneficial management practices are available to Yukon farmers in order to address environmental concerns on farm. Yukon's Agriculture Branch administers a federal-territorial funding program to support the development and implementation of BMPs on farms. 80 projects have been funded under the Environmental Farm Plan's best management practices program to help address field management, protect water sources, and improve fuel containment.

Climate Change

The reality of climate change presents opportunities and challenges for northern agriculture. Annual temperature and precipitation trends have been showing measurable change over the last 50 years of data collection. Projections indicate that these trends will continue and change will be greater in the north than in southern Canada. (Streicker, J., 2016. Yukon Climate Change Indicators and Key Findings 2015. Northern Climate ExChange, Yukon Research Centre, Yukon College, 84 p.).

Analysis of climate data points to milder winter temperatures and longer growing seasons. This should create opportunities for agriculture, but is also expected to impact wild foods and the harvest of meat, fish and edible plants. Climate change impacts present a significant risk to food security for local communities and First Nations. Annual research and demonstration trials evaluate new crop varieties and northern soil amendments to provide information and an improved understanding of climate changes and the impact to the agriculture industry.

- The Yukon government's Climate Change Secretariat takes a lead role in ensuring that government actions support a healthy and resilient Yukon in a changing climate. The Yukon government approved its Climate Change Action Plan (CCAP) in 2009. In 2015, the CCAP progress report included a chapter on food security and agriculture, which highlighted:
- Changes in climate affect food production areas and food supply methods.
- The impacts of climate change on food security and agriculture can be both positive (increased length of the growing season) or negative (increased risks to food transportation networks).
- Long-term ecosystem shifts may also affect

access to hunting and fishing, along with the availability of fish and country food.

Climate change study areas have been expanded in Yukon to include research on the impacts of thawing permafrost on agriculture. One related project to note was the Effects of Melting Permafrost on Agriculture Capacity project (2012-2016) which identified and modelled permafrost affected agricultural areas around Dawson City, central Yukon, Haines Junction and Whitehorse/Southern Lakes. The information gathered will help current and future Yukon farmers adapt their agricultural practices to changing permafrost conditions.



ECONOMIC DEVELOPMENT

Yukon's agricultural industry produces at minimum \$4.2 million annually, with \$108 million in capital. Agriculture is slowly becoming a larger part of Yukon's economy. Agriculture for many is still a hobby, or way of life, but for others it is a business. The increasing complexity of some of agriculture businesses are contributing to Yukon's economic landscape through:

- the sale of agriculture products;
- purchasing of services, equipment and inputs;
- ongoing investment in land and buildings;
- creation of income and jobs; and,
- making and keeping dollars in Yukon.

These contributions strengthen Yukon and help to diversify the economy.

The resourcefulness of farmers coupled with increased understanding of growing in the North is creating an industry that adapts to the growing season and creates income for the territory.

The federal-territorial Growing Forward 2 funding program was a major support in the growth of Yukon's agriculture sector. This is not the only funding program contributing to agriculture, as the Yukon government's Department of Economic Development also has a variety of programs and funds targeted at business, industry and communities to help develop and maintain a sustainable and competitive Yukon economy.

Economic Development Funding and Programs

Funding for First Nations, municipalities and other organizations:

- **Community Development Fund**, funding

for projects and events that provide long-term economic and social benefits to Yukon communities.

- **Regional Economic Development Fund**, funding for economic planning, opportunity identification and capacity development at the regional and community level.
- **Strategic Industries Development Fund**, funding for strategic projects that support industry development and have the potential for broad economic benefits.

Programs for businesses and investors:

- **Yukon Small Business Investment Tax Credit**, individual tax credit for Yukoners who invest in small Yukon corporations.
- **Yukon Venture Loan Guarantee Program**, encourages business financing from commercial lenders by guaranteeing a portion of the loan.
- **Business Incentive Program**, provides various rebates to contractors working on eligible government contracts to promote the hiring of Yukon residents and the use of Yukon manufactured goods and services.
- **Enterprise Trade Fund**, funding for businesses, organizations and industry associations to pursue business development, training and market expansion.

MANAGING BUSINESS RISK

Unpredictable weather, crop or animal disease, market volatility, and high input costs are all risks faced by farmers that can impact income and the future success of an agriculture enterprise. Business Risk Management (BRM) programs help farmers minimize the impact of losses and manage risks that threaten the viability of the farm. BRM provides protection against different types of losses. Yukon is involved in two BRM programs:

- AgriStability - provides support when producers experience a large margin decline.
- AgriInvest - provides cash flow to help producers manage income declines.

The BRM programs were available through the lifetime of GF2. Yukon had six producers enrolled into AgriInvest and two farmers in the AgriStability program. It is important to note that producers must first be enrolled in these programs in order to make a claim.

Yukon farmers also manage business risk through diversified farm incomes, business planning, environmental planning, and following food safety guidelines.

CONTACTS AND USEFUL REFERENCES

Government of Yukon Department of Energy Mines and Resources Agriculture Branch

www.agriculture.gov.yk.ca
agriculture@gov.yk.ca
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F: (867) 393-6222
Toll free: 1-800-661-0408, ext. 5838

Physical Address: Room 320, Elijah Smith Building, 300 Main Street, Whitehorse, YT

Government of Canada Agriculture and Agri-Food Canada Northwestern Departmental Regional Office

www.Canada.ca
Contact: Anne Savoie, Senior Industry Development Officer
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P: (867) 667-5272
Physical Address: Room 320, Elijah Smith Building, 300 Main Street, Whitehorse, YT

Government of Yukon Department of Environment Animal Health Unit

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Physical Address: 10 Burns Road, Whitehorse, YT, Y1A 4Y9

Government of Yukon Department of Health and Social Services Environmental Health Services

www.hss.gov.yk.ca/environmental
P: (867) 667-8391
F: (867) 667-8322

Physical Address: #2 Hospital Road, Whitehorse, YT, Y1A 3H8

Government of Canada, Canadian Food Inspection Agency (CFIA)

www.Canada.ca
Direct inquiries to: Ask CFIA

CFIA Import and Manufactured Food Senior Compliance Officers (Food)

P: (250) 470-4884
F: (250) 470-4899

1853 Bredin Road, Kelowna, BC V1Y 7S9

CFIA Fair Labelling Practices

Floor 4, Room 400
4321 Still Creek Drive, Burnaby, BC, V5C 6S7
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Government of Yukon Economic Development

www.economicdevelopment.gov.yk.ca
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Growers of Organic Food Yukon (GoOFY)

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Fireweed Community Market Society

www.fireweedmarket.ca
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Physical Address: 220- 2237 2nd Avenue
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Yukon Young Farmers (YYF)

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Kids on the Farm Program

www.kidsonthefarm.yukonfood.com
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From the Ground Up

www.yukonfromthegroundup.ca
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Kim.hickman@gov.yk.ca
P: (867) 456-6160

Government of Yukon Dept of Highways and Public Works Procurement Support Centre

www.hpw.gov.yk.ca/csb/procurement.html
contracts@gov.yk.ca
P: (867) 667-5385
F: (867) 393-6245

Physical Address: Suite 101 - 104 Elliott Street,
Whitehorse, YT

Statistics Canada Census of Agriculture

www.statcan.gc.ca/eng/ca2016



