Native Agri Update

No. 396 October 2022

www.indianag.on.ca

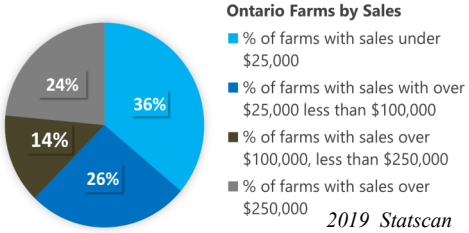
DOES FARM SIZE MATTER?

For some, when it comes to agriculture and farming, bigger is better with success measured in acres farmed, size of the herd or flock etc. While economies of scale certainly do apply, bigger is not always better.

For those considering farming or just starting out in farming, looking at large scale farming can make one think success is far away. While there is no doubt farming is hard work and takes years to build a farm, opportunities are plentiful for smaller farms.

It's important to realize that we all don't share the same goals and what success looks like. For many, profitability might be the primary goal. Aside from the dollars and cents, many might include things like: tradition, care of the land, food security and choice, learning and sharing.

The reality of farming in Ontario is that most of the farms are smaller, whether measured in acres or revenues.



2019 Statscan

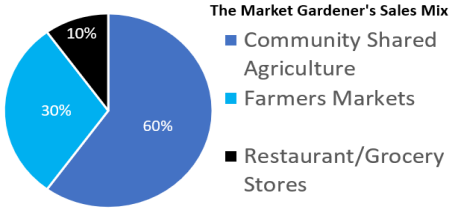
As well, 46% of farmers are part time, working off farm for additional income, to invest in farm growth, or farm as a hobby.

Farming & working off the farm makes sense for many. Farming to supplement income, or working off farm to support the farm, can provide financial stability. In a tight farming year, off farm employment helps with household and farm expenses. In good years, it's great making money doing something you enjoy.

Another factor to consider is how intensive the farm is in terms of production and income potential per acre. For example, consider a high value crop like vegetables, fruit, or maple syrup compared to a grain crop.

Farms have varied market opportunities. Many cash crop and livestock farms market there production as commodities and not directly to the end consumer. Dealing directly with customers can help increase profitability and income.

Jean Martin Fortier's book, The Market Gardener, turned heads with the details of his family's 1.5 acre market garden. Combining a low tech, high output ap-proach, the farm markets directly to consumers leading to almost unbelievable sales & profitability.



sourcee:hpermacultureapprentice.com/how-to-make-a-living-from-a-1-5-acre-market-garden/

Farming is unique with many different sectors and just as many ways to operate in them. For those looking at starting a farm, the challenge is deciding how to realize the opportunity, keeping in mind that the opportunities come in all sizes.

Contact IAPO if you're looking for information about getting your farm started.

JH

Inside

Agribusiness
Page 2

Market Information
Page 3

Calendar of Events
Page 3

Livestock Information
Page 4

Crop Information
Page 5

Other News
Page 6

Contributors

Brian Bell - BB
Farm Advisor
brian@indianag.on.ca

Camden Lawrence - CL
Business Advisor
camden@indianag.on.

Jamie Hall - JH
General Manager
jamie@indianag.on.ca

Samantha Curtis - SC
Crop Consultant
curtiss@myumanitoba.ca

IAPO Box 100
Stirling, ON K0K 3E0
1-800-363-0329
info@indianag.on.ca

Agribusiness

INDIGENOUS AGRICULTURE EDUCATION MANDATORY AT THE U OF SASKATCHWAN

https://www.producer.com/news/indigenous-agriculture-education-now-mandatory/ by: Karen Briere

Students who entered the University of Saskatchewan's agriculture program this fall are taking a new mandatory course in Indigenous agriculture according to a recent article in The Producer.

Professor David Natcher is a cultural anthropologist who has been in the department of Agriculture and Resource Economics since 2007. He also works with Indigenous communities in natural resource management, including agriculture. He previously taught versions of the course to small classes of 20 students but said the College recognized the value of the class to students heading into the agricultural work world and made it mandatory.

He said most people only know about Indigenous agriculture in the context of settlement.

"It was that colonial period, which is a critical period, but it was after the treaties were signed and some of the policies like peasant farm policies that were introduced, that really marginalized and excluded any type of involvement of First Nations," he said. "What I wanted to do was offer a class that…(tells) the more complex story around Indigenous peoples and agricultural systems in Canada."

The class includes pre-contact agriculture, plant domestication and production, the colonial period and how First Nations were pushed away from farming. It also includes information on more recent efforts to expand involvement in the sector to recognize traditional foods and farming and move into value-added.

Natcher said he is always surprised at the myths surrounding First Nations farming. "I'm always struck by this perception that Indigenous peoples were not farmers, they were not involved in agriculture, (that) they were hunters, they were gatherers, they were fishers, they were anything but agriculturalists and that's just not the case," he said.

Some research has shown that the early Indigenous farmers were highly productive, particularly with the "Three Sisters" of corn, beans and squash in a multi-cropping system.

During the colonial period, the federal government and the church promoted agriculture as an assimilation tool. The treaties, with their agricultural provisions, followed. Natcher said First Nations farmers were successful when the treaty provisions were actually followed, "so much so that they outperformed their non-Indigenous neighbours and because of that created considerable resentment."

Pressure was put on governments to stop aiding Indigenous farmers. Equipment was confiscated and Indigenous farmers were given only the most basic farm tools. "There was this idea entrenched in the peasant farm policies that if Indigenous peoples are going to really truly benefit and learn how to participate in the agricultural economy, they needed to start from the ground up, so plows were not permitted," Natcher explained.

Policies limited any opportunities for First Nations to meaningfully participate in the sector, and they continue to impact that participation today. Access to credit and capital, leasing arrangements and other obstacles remain. Still, some First Nations are revitalizing traditional food systems, such as the Three Sisters, establishing grain and livestock operations, and moving into value-added industries.

Revitalizing traditional foods is important for cultural reasons, not just economic ones.

"I do really think the Indigenous agricultural economy is fundamentally different than what your typical prairie farmer may think about. We think about bison on a reserve and that may be an economic opportunity but it's also probably more importantly fundamental to culture. So that combination or integration of economy and culture into these industries is something we explore in the class."

Policies today still don't favour First Nations. Competition for land is intense and reserve lands are often unsuitable for large-scale agriculture. Governments haven't removed roadblocks that prevent success on reserve. For example, when BSE affected cattle operations, First Nations ranchers "fell through every crack possible" and could not access the support programs.

Natcher added the students who take the class will be more informed about the constraints upon First Nations farmers, the history behind them and the work needed to remove the roadblocks.

FNBSEP FINANCING & FUNDING

Thinking of starting or expanding your farm?

FNBSEP provides business financing and grants to qualified First Nation farmers & businesses. Financing includes term loans and working capital tailored to meet farm business needs. The program is available to support qualified First Nations farm and agribusinesses across Ontario.

Qualified businesses are eligible for financing of up to $100,000 and grants of up to $10,000. To qualify, applicants must demonstrate economic viability, as well as, the need for FNBSEP funding. Applications for the program will be accepted until December 31, 2022.

For more information including complete eligibility requirements or an application for please contact IAPO,

I-800-363-0329 or info@indianag.on.ca

IEDF Indigenous Economic Development Fund

The views expressed in this publication are the views of IAPO and do not necessarily reflect those of the Province of Ontario.

CL

Market Information

BEEF MARKET WATCH

Prices are courtesy of the Beef Farmers of Ontario Weekly Market Information Report for the week ending Friday, October 14, 2022. Changes in this chart reflect the difference in prices from the week of August 15, 2022 to the week of October 10, 2022. Weekly reports provide prices on a per cwt basis for the week but do not include Friday sale results.

Receipts of fed steers and heifers were light this week at 210 head, down 16 from the previous week and 4 fewer that the same time last year.

Fed steers ranged from $171.58-$187.06 averaging $182.17 up $1.00 from the previous week and $23.96 stronger than year ago prices. Very light receipts of only 80 heifers ranged from $140.38-$182.19 averaging $163.66 down $13.51 from the week before but $13.10 higher than this time last year.

The Ontario rail grade market was very light this week with prices holding steady for the fourth consecutive week at $303.00 dressed for steers and $302.00-$303.00 for heifers, mainly $302.00 on very limited volumes. About steady receipts of 1,726 fed/cull cows sold through auction markets, up 57 from last week. As of this week, year-to-date volumes of cows sold through auction markets is sitting at 3,066 head, down 10.5% from the same time last year and 11.4% fewer than this time in 2020 year-to-date.

Category	Price Range $	Ave Price	Top Price	Change
Rail Steers	303			
Fed steers	172-189	182	210	-.5
Fed heifers	140-182	164	200	-1.2
Cows	80-119	98	168	-2
Bulls	120-151	136	175	0
Stocker steers				
700 – 799	199-248	226	288	-1.3
600 – 699	211-269	241	283	+4.7
500 – 599	200-302	260	327	+3.2
Stocker heifers				
700 – 799	190-215	204	224	+21.4
600 – 699	171-235	209	248	+1
500 – 599	169-242	217	258	+5.9

All prices are on a hundred pound basis (cwt) *BB*

CROP MARKET

Adapted from Market Trends October November2022 by Phillip Shaw GFO www.gfo.ca

Corn The USDA World Agriculture Supply and Demand Estimate report scaled down the US corn crop, and generally speaking, when crops get smaller, they keep getting smaller into January and beyond. As it is, the market has had trouble breaking above $7 and that will likely remain the case until fresh news comes into the corn market.

An unsettling problem has been corn demand. US exports are down, In fact 51% less than last year. Ethanol demand is down too. Is $7 just too expensive for these markets or is it a momentary change.

The December 2022 corn futures contract is currently priced 6 1/2 cents below the March contract which is a neutral indication of commercial demand and indicates that harvest is in full swing. Seasonally, corn prices tend to peak in early June and bottom in early October.

Soybeans Soybeans have drifted lower, but there can be a bullish argument made for beans. If you look at the vegetable oil sector it's been buoyant. Both canola and soybean oil have been resilient when it comes to price and that is likely to continue. In the United States the demand for biodiesel is genuine and will continue to grow.

As it is American farmers can sell $14.00 soybeans off the combine, which historically is a very good price and almost unprecedented. It is similar in Ontario with high basis values on soybeans partly based on the lower Canadian dollar. However, there are issues and one being American exports which have been lagging. Seasonally, soybean prices tend to peak in early July and bottom in early October.

Wheat The wheat market has had the heavyweight of a strong U.S. dollar tempering wheat futures. Ever since we've had the "Putin rally" in wheat after the Russian invasion in February of 2022 wheat prices have tried but failed to get back to those lofty levels. At the present time Russia has a lot of wheat and it wants to sell it even at discount prices. Ukraine's done well too. There is still lots of geopolitical risk here as we are still dealing with a large production area within a war zone. The world waits to see if the Russians will honor a continued transit route out of Ukraine for Ukrainian grain.

As of October 16th, this is continuing, and it will likely result in one of the bigger wheat crops planted over the last several years.

Coming Events

Nov 8	**Wiky Farm Meeting - Council Chambers - 6 pm to 8:30 pm** For more info or to register: info@indianag.on.ca, 1 800 363 0329
Nov 9	**Introduction to Beef Farming On Line Workshop - 7 pm to 8 pm** For more info: workshops@indianag.on.ca, 1 800 363 0329
Dec 8	**FNWE Workshop- In person & on line** For more info or to register: fnwe@indianag.on.ca, 1 800 363 0329
Nov 12-27	**EAFO Regional Meetings** https://efao.ca/events/

Livestock Information

MANAGEMENT TO REDUCE HAY WASTAGE

In the previous article, we looked at feed storage and some suggestions for reducing feed spoilage and waste. In this article, we will look at some tips to help minimize waste while feeding livestock.

Recent cool and snowy weather across many parts of the province has reminded us that winter is well on its way, which means winter hay feeding will begin shortly, if it hasn't already. Feed expenses are a significant cost for livestock producers and can account for as an example, up to 40–60 percent of annual beef cow costs. With this season's dry and in some places very wet conditions, producers may have lower-quality forage and/or lower forage yields. Taking steps to reduce feeding loss can have a big impact for many producers this winter.

Hay loss from feeding can range from less than 2% to as much as 60%. Feeding losses can occur from trampling, physical deterioration, manure contamination, and livestock refusal. The amount of loss will be affected by your feeding method, interval between feedings, the amount fed, weather conditions, the number of animals being fed, method of storage, and overall hay quality.

You wouldn't dream of throwing away 35-50% of your hay! That is what happens, though, when livestock are allowed unlimited access to hay. Livestock trample and waste 25 to 45 percent of the hay when it is fed with no restrictions. This chart shows the difference in feeding without a proper hay feeder.

BALE TYPE	PERCENT WASTED
Square bale in a rack	7
Large round bale in rack	9
Large round bale without rack	45

Types of Feeders

In a study undertaken at Michigan State University, the four most commonly used round-bale feeders were evaluated: the cone feeder, the ring feeder, the trailer feeder, and the cradle feeder. The trailer and cradle feeder generated the most waste. In these feeders, cows commonly pull their heads out to push another cow out of the way, dropping hay on the ground and trampling it. With the ring and cone feeders, cows were more content to stay where they were and didn't push other cows around as much, resulting in less hay on the ground. The cone feeder (reduced hay waste by 43% compared to a ring feeder with metal skirting) generated the least waste of the four. The metal sheeting on the bottom of feeders reduces waste significantly by preventing hay from falling out the bottom of the feeder to be trampled. See the pictures below. Cone feeders (1) resulted in the least amount of hay wasted, at 3.5 percent. Ring feeders (2) were next, with a waste of 6.1 percent. Trailer feeders (3) resulted in 11.4 percent waste. Cradle feeders (4) resulted in the greatest amount of waste among the four, measuring 14.6 percent.

(1) *Cone Feeder - 3.5% wastage*

(2) Ring Feeder - 6.1% wastage

(3) Trailer Feeder - 11.4% wastage

3)

(4) Cradle Feeder - 14.6%

For horses, a study at the University of Minnesota found that when hay was fed in small square bale feeders (such as basket, slat, and bunk feeders), less hay wastage occurred (1-5% wastage) compared to when horses were fed hay on the ground (13%). Because hay (and money) was saved with the use of any type of small square bale feeder, the feeders paid for themselves between 9-12 months.

For sheep fed round bales, high feed waste occurs even when round-bale feeders are used. Many unique designs of round-bale feeders have been developed and some claim to reduce or even eliminate feed wastage. Although feeder design did have a small effect on sheep feed wastage, the quality and amount of roughage delivered into the round bale feeders had the largest effect on how much feed was wasted. Low-quality forage fed in whole round bales resulted in the most waste, but sheep tend to consume the higher-protein portions of poor-quality bales before wasting the remainder of the bale they will waste much less hay fed in round bales if it is of better quality. The same is true with feeding sheep square bales.

FEED BASED ON HAY QUALTIY

To get the most out of your hay, it's a good idea to have it sampled for its nutrient content and feed it based on your livestock's nutrient needs. Using this method, the quality of hay can be matched to the nutrient demands of the animal. For example, your highest quality hay should be fed to the animals with the highest nutritional requirements, such as young calves, growing heifers, or when your cows are nursing calves.

IAPO offers hay testing and will provide ration balancing to help you make the best use of your hay. Ration balancing will also help make sure you are feeding the right mineral.

For more information conact us at 1800 363 0329,

or info@indianag.on.ca **BB**

INITIAL FINDINGS
HEALTHY SOILS DEMONSTRATION PROJECT

IAPO staff were busy in the field this spring and summer collecting different soil samples to include in our first ever Soil Health Demonstration Project. Five different soil health tests were taken over the course of the project, including: the Cotton Test, Earthworm Counts, Soil Infiltration Tests, Soil Aggregate Stability Tests (Slake Test) and an Active Carbon Test. Additional soil samples were also sent to A & L Laboratories where nutrient and soil health analyses were done. See the previous newsletter for more information on these tests.

The following is a report of our initial findings from this project. A full report will be available soon.

Farms & Farm Types Included in the Study:

Farm	Farm Type	Crop Type	Tillage	Soil Type
1	Conventional	Cash Crops	Conventional	Clay
2	Organic	Market Garden	Reduced Tillage	Loam
3	Organic	Community Garden	Reduced Tillage	Silty Clay Loam
4a	Conventional	Cash Crop	No-Till	Silty Clay Loam
4b				

*4a has been no-till for more than 5 years while 4b was recently converted to no-till. Both 4a and 4b are managed the same and are adjacent to one another.

Soil Health Test/Active Carbon Test

The table below lists some of the results from the soil tests and soil health tests analyzed by A & L Labs. The Soil Health Index of all farms ranged from low to good and active carbon ranged from medium to high. Farm 3 had the lowest Soil Health Index, active carbon and soil organic matter of all farms. This is not overly surprising as the land on Farm 3 had previously been used for hay and very little management had taken place prior to when it was included in the community garden last year.

Soil analysis results from 4 farms in Ontario.

Farm	Soil Health Index	Active Carbon	Organic Matter (%)
1	L	M-G	4.7
2	G	H	4.4
3	L	M	4.2
4a	G	H	4.8
4b	M	M-G	4.7

VL=Very Low, L=Low, M=Medium, G=Good, H=High

Earthworm Counts

Multiple 30 cm x 30 cm pits were dug in each field and in one uncultivated area on each farm to determine the number of earthworms present in the soil. Earthworms are thought to be a good indicator of soil health. However, we found that the number of earthworms in the soil appeared to be more closely related to the soil texture than it was to the soil health. For example, there were less earthworms in the cultivated clayey soils on Farm 1 than there were in the silty clay loam cultivated soils on Farm 3, even though the two farms had a similar soil health index.

Soil Infiltration Test

Farm	Average # of Earthworms in Cultivated Area	# of Earthworms in Uncultivated Area
1	2	12
2	19	15
3	21	27
4a	19	7
4b	17	

Except for Farm 2, soil infiltration varied significantly within farm fields. On the contrary to what we expected, there did not appear to be a clear connection between soil health and soil infiltration. Additionally, the uncultivated soil did not always have a faster infiltration rate than the cultivated soils which also contradicts our predictions. In fact, at two of the farms, soil infiltration rates were slower in the uncultivated areas than in the cultivated areas.

Cotton Test

We were only able to locate the buried cotton at one of the four farm locations. Inconsistencies with GPS devices made it difficult to locate the cotton when we returned 2 months after burying it. Because of this, we were unable to compare the cotton between farms. Next year we will use more precise GPS devices and mark the cotton burial spot with larger markers.

Soil Aggregate Stability (Slake) Test

The pictures below show that, not only are the highly tilled, cultivated soils from Farm 1 cloudier than the uncultivated soils from the same farm, they are also cloudier than cultivated soils on other farms. This indicates that Farm 1 has poor aggregate stability. On the other hand, Farm 3 appears to have excellent aggregate stability, which is likely from all the deep, long-lived roots that accompanied the previous hay crop.

SC

Other News

AUTOMATED HOEING FOR VEGGIES

Source: https://TheGrower.org/index.php/news/intellingent-weeder-cuts-labour-costs Karen Davidson

Marc Van Winden says his intelligent weeder could be smarter, but the reality is that the eight-row device has paid for itself after eight years of service in muck soils at Sherrington, Québec.

A Steketee IC Weeder - automated 8 row hoe

The Intelligent Concept (IC) weeder delivers automated hoeing at the highest level says Matt Amey, product specialist for Lemken Canada Inc. Its cameras are mounted underneath cover and reliably display the field of view, which is illuminated by LED lights, even in changing light conditions and at night. As a result, the IC-Weeder detects the precise position of plants based on their hue, size and position, and hoes precisely around them from both sides. A compressor provides the pneumatic pressure to move sickle-shaped knives actively intra-row (between the plants in one row). The inter-and intra-row tools are mounted on a parallelogram element to follow the contour of the ground easily. The support wheels guarantee the correct working depth of the knives, and via the side shift-frame the machine is steered precisely between the rows.

The IC-Weeder is essentially a moving photo studio that photographs every plant and identifies it and kills any that are not the crop.

A few growers in both Québec and Ontario have adopted the European technology in order to stay in the highly competitive field vegetable market. At Production Horticole, Marc Van Winden is a member of the three-generation family farm that's operated 405 acres including onions, carrots, garlic, kohlrabi and squash.

"We can enter the specifications for the blade and go into the field 10 days after transplanting and know that we can catch weeds before the lettuce gets any bigger," says Van Winden. "The machine is good for 80 per cent of the job."

On muck soils, the challenge is to keep up with weeds on large acreages at critically important times of the growing season. Van Winden says that he assigns a tractor driver and a follow-up worker to catch any misses. "It's not perfect, but paying for two people is better than paying for 12 to hand-weed," he says.

Robotic weeders are also in trials at the Sherrington farm, but Van Winden estimates another five to six years will be needed to make the technology viable for large-scale farms. To date, he says the weeder moves too slowly to pick one weed. The computer has a hard time distinguishing the green colours and shapes of lettuce leaves from weeds. He doesn't see a solution for robotic weeding his 200 acres of onions and carrots.

Henk Droogendyk of Harley, Ontario grows 90 acres of lettuce and kale demand exceptional weed control to ensure uniformity of the crop throughout the growing season.

Difficulties in accessing seasonal labour in the last two years have sharpened his approach. He can't depend on hand hoeing two weeks after the transplants are in the ground. In the spring of 2022, he purchased a $130,000 Steketee by Lemken Intelligent Concept weeder.

"I was in a tough spot down four people from the usual 28 hands," says Droogendyk. "This machine's camera system can be optimized to within a half-centimeter on either side of the plug. Accuracy of weeding has improved. This machine is better than the human eye."

ON FARM CLIMATE ACTION FUND ACCEPTING APPLICATIONS T

Ontario Soil & Crop Improvement Association has announced they will be accepting applications from January 4-January 18, 2023 for the On Farm Climate Action Fund (OFCAF)

Through the OFCAF, farmers can apply to 65% cost sharing on projects:

Project Category	Cost Share Funding
Rotational Grazing Systems	65% up to $20,000
Nitrogen Management	65% up to $30,000
Cover Crops	65% up to $20,000

For more information, contact IAPO or check out OSCIA"s website: https://programguides.ontariosoilcrop.org/. The On Farm Climate Action Fund (OFCAF) is funded by Agriculture & Agri Food Canada (AAFC).

KEEP THE SOIL COVERED THIS WINTER

source: National Resource Conservation Agency

Percentage of Soil Covered by Crop Residue After Field Operations		
Tillage Operation	Corn/Small Grain	Soybeans
After Harvest	90-95	60-80
Moldboard Plow	0-10	0-5
Chisel Plow (twisted points)	50-70	30-40
Chisel Plow (straight points)	60-80	40-60
Tandem Disc (finishing)	30-60	20-40

JH