



# Native Agri Update

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[www.indianag.on.ca](http://www.indianag.on.ca)

## THE OVER LOOKED ECONOMIC DRIVER

First Nation food production and farming is an overlooked economic driver that, if fully engaged, could provide tremendous benefits to First Nations communities and their members. Picture if you will vibrant local farm and food economy that not only provides economic benefits of business and job creation, but also supports community needs such a food insecurity and food sovereignty. While the opportunities may vary markedly across communities, if realized the overall outcomes will be the same: stronger, healthier communities.

Historically, when the discussion has turned to farming and economic development, resource assessments have typically focused on traditional farming metrics such as acres of land, growing season, etc. Today however, there is a paradigm shift occurring with constraint such as limited land base and location being diminished. This shift has been supported by:

- the local food movement demonstrating the productivity and sustainability of “small” scale production,
- local food systems approaches,
- the introduction of technology including container & vertical farming, aquaponics, greenhouses, & high tunnels,
- Community interest and support for local food production including skill development.

Across the province, there are opportunities to harness under utilized resources and technologies to expand the First Nation farm sector.

### Farming’s Economic Impact

Farm businesses provide many economic benefits to their local communit-

ies. In addition to income and wealth creation, farm businesses provide employment opportunities, as well as fuel the economy:

**\$2.24 to \$1**

According to a 2015 report “Dollars and Sense: Opportunities to Strengthen the Southern Ontario Food System”, for every dollar spent by the farm sector, \$2.24 circulates through the entire economy.

Considering local farms( those that sell locally), particularly within the context of leakage, further highlights the positive role farms have in driving the local economy:

**\$2.80-3.40 to \$1**

According to Sustain Ontario’s “The Multiplier Effect of Buying Local Food”, in Temiskaming it was found that for every dollar of farm gate sales, \$2.80 to \$3.30 is generated in the wider local economy, a tremendous example of local farming’s impact.

Supporting the growth and establishment of farms can drive the local economy. To be successful, it requires a long term vision and commitment, as well as support from all stakeholders.

## FIRST NATIONS FOOD & FARMING PHOTO CONTEST



October 31 is the deadline for submissions to the photo contest. The contest is open to Status First Nations Youth between the ages of 10 & 18 residing in Ontario with prizes for the top three submissions in each category and class.

Complete details are available at: [www.indianag.on.ca](http://www.indianag.on.ca) or [info@indianag.on.ca](mailto:info@indianag.on.ca)

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# Agribusiness

## NEW WAYS OF FARMING

Early this month, IAPO tagged along on a day trip with Moose Cree First Nation learning about Aquaponics systems and how they can provide the community with fresh fish and produce throughout the year.

You may be wondering what is Aquaponics? Aquaponics is a system of aquaculture in which fish are raised in tanks and the waste produced by the fish flows through to the plants supplying them with nutrients to be grown hydroponically. This process reconditions the water so it can be returned back to the fish tanks starting the cycle over again.



The picture above shows a very small-scale example from the tour which circulates the water from the fish tanks on the left through to the tray of vegetable plants shown on the right. In this example the two small fish are providing enough nutrients for all of these plants to flourish. Just imagine how many plants can be grown with a large tank full of mature fish.

This is one of many new methods of farming as all the fish and plants are located indoors in a climate-controlled building set for ideal growing conditions. This allows for year-round production and consistent results. All plants are set under LED grow lights and all the fish are highly monitored.



As you can see in the picture on the left, styrofoam is used to hold the plants above the water while also allowing the roots to grow underneath in the water where they can absorb all of the nutrients from the fish. Through the aquaponics system, growing times are almost half of what they would be in the traditional pot and soil method while also using considerably less water as it is constantly being cycled. As well, all produce has a longer shelf life as you can ship the harvested plants with the roots attached compared to in the ground growing where they are removed when harvested.

New methods of crop production which are boosting productivity are always changing with modern technology. We are always working and adapting to be at the forefront of the agricultural industry but it seems that technology and

agriculture are operating hand-in-hand, both changing at a rapid pace.

## SIX LOW-COST MARKETING STRATEGIES TO IMPLEMENT NOW

Source: <https://www.bdc.ca/en/articles>

With these simple marketing tricks, you should be able boost your end of year sales reaching all of your yearly goals.

### 1. Conduct a survey

It's critical to create a marketing plan before moving on to tactics. The first step is to understand who your target customers are and what they want. A good way to gain a better understanding is to conduct a survey.

### 2. Pamper your existing customers

It's typically five times as expensive to make a sale to a new customer then an existing one. Make sure you're not neglecting the people who already know and trust you.

### 3. Commit to online marketing

The Internet provides you with an inexpensive 24-hour virtual storefront. You can build relationships with prospective customers by offering quality content through your online platforms.

### 4. Use all your real estate

Your building and surrounding land are great places to put up signs and banners. And don't forget to use your vehicles as moving billboards. Remember: Your messages should focus on what you're selling, not your company's name.

### 5. Turn employees into ambassadors

Your employees are part of the community and have all sorts of contacts that could help you. How about inviting employees and their extended families to a fun event at your business? You may find you get new word-of-mouth business or hear about a potential new business partner.

### 6. Give back

By sponsoring a hockey team, participating in a charity drive or a collection jar by the register, you're not only doing your part for the community, but also generating goodwill with customers and prospects.

## IAPO'S HERDBUILDER FINANCING

Thinking of expanding your herd? Whether it's beef cattle, goats, or sheep, IAPO's HerdBuilder program offers cost effective lending rates and terms to facilitate successful herd expansion.

HerdBuilder loans have flexible payment terms that accommodate the significant timelines that exist from when heifers, ewe lambs and doelings are held back or purchased to when sales of offspring are recognized.

HerdBuilder loans offer interest only payments until calves are marketed, helping maintain cash flow during herd expansion.

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# Market Information

**BEEF MARKET WATCH** *Prices are courtesy of the Beef Farmers of Ontario Weekly Market Information Report for the week ending Thursday October 18, 2018.*

Changes here reflect the difference in prices from the week of August 16, 2018 to the week of October 11, 2018. Weekly reports provide prices on a per cwt basis for the week but do not include Friday sale results.

Rail grades have bounced back since our August report. Fed steers are generally steady to a small decline. Stocker steer and heifer prices are stronger. Rail grade steers are up \$10 and fed steers and heifers are off \$4 to steady respectively. Cull cows and bulls are down \$7 and \$10 respectively. Stocker steers are up \$5 to \$19 with lighter weights showing the most improvement. Stocker heifers are up \$6 to \$12

Cull cows and bulls are showing the normal downward trend as increasing numbers are showing up at the sale barns. The stocker market report reflects the beginning of the many fall quality stocker sales being held in Ontario. Stocker prices have been steady through September and into October. Increased prices are not anticipated however prices should maintain current levels into November.

More fed cattle and cull cows are being processed in Canada with the year to date kill up 7% over last year. This is keeping Canadian packers running near full capacity. Fed cattle exports are down 19% also reflecting this trend. Export of stocker cattle however is still high with an increase of 56%

over last year to date. This should support local calf prices. Beef exports to the U.S are up 7%. Continued strong consumer demand is counteracting increased production in the U.S.

Category	Price Range \$	Ave Price	Top Price	Change
Rail Steers	238-244			+10
Fed steers	123-144	135	148	-4
Fed heifers	113-138	129	145	steady
Cows	44-66	54	115	-7
Bulls	73-97	84	140	-10
Stocker steers				
700 – 799	177-219	204	232	+5
600 – 699	173-228	208	242	+8
500 – 599	190-251	229	266	+19
Stocker heifers				
700 – 799	163-201	182	209	+12
600 – 699	156-201	182	213	+6
500 – 599	150-210	186	234	+10

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

## CROP MARKET

*Excerpts from Monthly Market Trends October November 2018 by Phillip Shaw GFO www.gfo.ca*

**Corn** The USDA's lower corn yield signaled this big crop might not be getting bigger. In fact, with all the terrible harvest weather in the United States with sprouting taking place at certain locations in both corn and soybeans it presents a likelihood that this corn yield might go down further. The October 11th estimates were taken before much of the heavy rainfall set into the Midwest.

US corn is benefiting because it is one of the cheapest feed grains on the world market today. For instance, early shipments in the 2018/19 crop are up 67% from a year ago. We know in agriculture the cheap always wins and at least for the moment this is being reflected an increased demand for US corn. Seasonally, corn futures prices tend to trade higher from early October into the winter.

**Soybeans** The soybean market has rallied a bit lately reflecting some kind

of unusual exuberance. Simply put, when USDA announced that soybean carry out was pegged at 885 million bushels, many traders took that as slightly bullish as some had expected it to go higher. Needless to say, there is nothing bullish about that number. Clearly, everybody can see that there needs to be less soybeans grown in the United States next year. Those soybean acres will likely go into wheat, cotton and corn. Seasonally, soybean futures prices tend to trend upward from October into winter.

**Wheat** Production problems in Europe and Australia and other regions of

the world have helped reduce global ending stocks for wheat. However, this is not been reflected in increased exports from the United States. Chicago wheat futures seem range bound between \$5.10-\$5.30 per bushel. As per usual, wheat is grown everywhere in the world and it takes a major calamity to change the futures price.

In Ontario, it doesn't look good for wheat as of October 13th with wet weather delaying soybean harvest and delaying wheat planting. Producers will be hoping for a wide-open late October and early November in order to get the wheat planted.

### Coming Events

- Nov. 7 Akwesasne Business Meeting**, A'nowara'ko:wa Arena, Wednesday, 5 p.m.  
For more info: Collen Nolan 613-575-2250 ext. 1054
- Nov. 21 IAPO Sagamok Agricultural Meeting**, Wednesday, time & location - tba
- Nov. 22 IAPO Wiky Farmers Meeting**, Thursday, 6:30 p.m.  
For more info: Camden Lawrence 1-800-363-0329
- Dec. 5 Wasauksing Maple Syrup Meeting**, 6:00 p.m., Administration Meeting Room, Community Complex, 1508 Lane G, Geewadin Rd. Wasauksing

# Livestock Information

## BALANCING RATIONS FOR THE COW HERD

In most cowherds, hay forms the basic winter diet and hay analysis results are coming back from a few beef farmers that have taken advantage of IAPO's hay sampling and ration program offer. Results show a variation from field to field and farm to farm. Legume content, date of harvest, exposure to rainfall after cutting, storage method and soil nutrient levels have a bearing on results.

Pregnant beef cows need nutrients for body maintenance and to develop a calf over 9 months while growing pregnant heifers require added nutrients for their own body growth. Cows will consume about 2.5% of body weight. For a 1400 lb cow this amounts to almost 40 lbs of dry hay at 10% dry matter. The 40 lbs of hay has to be of high enough quality to meet the needs outlined.

A winter ration for beef cows takes into consideration stage of pregnancy, body condition, frame size, weight, and age whether 1<sup>st</sup> or 2<sup>nd</sup> calvers or mature cows. This information helps to determine the needs of a particular cowherd. Since a herd is made up of different ages, body condition etc. feeding similar animals together can make best use of available feed. For example, first and second calf heifers and older cows in lower body condition could make one group with the rest of the herd as a second group. The first group has higher nutritional needs and would be fed a higher quality diet perhaps a higher protein hay.

All hay is not the same. We will look at two dry hay sample analyses comparing how well they meet the needs of a mature cowherd and what supplementation is required. Results are on a dry matter basis. In this example we are feeding a mature cowherd calving March/April, medium frame, about 1400 lbs and average body condition (about 3 score out of 5). Hay analysis shows the key components:

Sample (Mixed Hay)	Protein	Calcium	Phosphorus	Potassium	Magnesium
Early July	9.7	.87	.13	1.17	.27
Late July	5.2	.35	.06	1.15	.15

When we develop rations for this cowherd using first the hay cut in early July and then the late July sample, differences in quality quickly show up. The early July hay at 9.7% protein meets all the needs of the cowherd described at 33 lbs/head per day with supplementation of a 1:1 mineral in this case with 13:13 calcium to phosphorus ratio. Calcium, phosphorus, magnesium and selenium are key minerals. Calcium and phosphorus needs must be met with a ratio between 1.5:1 and 7:1. Our ration is about 4:1. Commercial minerals usually have a magnesium level at 4% and include added selenium at 30mg/kg. Many areas of Ontario are soil deficient in selenium and require supplementation in the ration. It is important to have one source of supplemental selenium as it can be toxic. Check

purchased grain mixes for added selenium. Selenium partners with Vitamin E to maintain muscle functions. All minerals and vitamins play a role in animal health. Free choice loose blue salt is also recommended. Hay disappearance is not exact and could be 45-50 lbs/day including waste.

The late July hay at 5.2 % protein is another story. This was cut later in the season and is probably mostly grass. The ration using the late July cut hay needs more than salt and mineral to meet needs. Keep in mind there is a limit to how much dry matter a cow can eat. On the late cut hay a cow can't consume enough to meet its needs. It will take about 25 lbs of this hay and another 7 lbs of a grain mix to come close. A 20% protein block is not nearly adequate because of limited consumption. Pregnant cows consuming low quality hay will have weak calves at birth and be late in breeding back. A hay analysis and ration formulation provides an opportunity to control what happens at calving season next March. If good quality hay with at least 10% protein is available, consider alternating the two hays on a daily basis or as often as new bales are put out.



Cost studies over a number of years show feed makes up about 60% of the total cost of maintaining a beef cow. Hay at 10 to 12% protein with mineral and salt provided can help control cost without purchased grain or protein blocks.

If you would like IAPO to take a sample of your hay and develop a ration for your cow herd (free of charge), contact your Business Advisor or IAPO at 1-800-363-0329.

## MARKETING THE CALF CROP

If you're getting ready to ship your calves, here is a reminder of the key points of successful packaging and marketing plan.

Packaging to market demand means starting by targeting a quality stocker sale. The Beef Farmers of Ontario website has a listing. [www.ontariobeef.com/markets/fall-stocker-sales-hk.aspx](http://www.ontariobeef.com/markets/fall-stocker-sales-hk.aspx)

Wean 3 weeks and preferably 6 weeks before loading for market. While dehorning and castrating is best done at birth, if you haven't, dehorn and castrate at least 3 weeks before loading. As well, vaccinate according to local veterinary recommendations at least 3 weeks before loading with modified live vaccine, no booster required. Start on hay and grain and drinking from trough or water bowl. RFID tag of course! Consider age verifying.

Keep up your reputation. Follow the plan from year to year. Buyers will be waiting at ringside for your calves.

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# Crop Information

## SOIL ORGANIC MATTER

References: *Importance of Organic Matter*, dr. Tarlok Singh Sahota, p 15B, *Ontario Farmer* August 28, 2018, *Soil Organic Matters: Keys to Building It and Keeping It*, by Jake Munroe, *Field Crop News* - January 25, 2017. *Agronomy Guide for Field Crops, Pub 811, OMAFRA*

The importance of Soil Organic Matter (SOM) in cropping systems has long been recognized. SOM is important to the nutrient cycle of both plants and soil micro-organisms, the absorption and retention of soil moisture, and increasing soil aggregation and improving soil structure. Building up SOM is a slow process and just like money it is far easier to spend it than it is to earn, save and build it up.

Common ways to build organic matter includes; conservation tillage, crop rotation, incorporation of crop residues, inclusion of cover crops, use of manure and prevention of soil erosion. Forage legumes and grasses which have a dense, fibrous root system help to form soil aggregates and are better for building SOM versus row crops or vegetables which have shallow limited root systems and don't build organic matter. The decomposition of crop residues is what makes organic matter in the soil. Likewise cover crops such as red clover and oilseed radish provide more organic matter to the soil than grasses or cereals.

Climate change and unpredictable weather patterns have caused scientists to revisit the topic of building SOM in hope of improving soil water holding capacity thereby ensuring stable production. So what new insights are available to help farmers increase SOM?

- Soil microbes have a huge influence on SOM by both decomposing residues and by contributing to SOM when they die. Both the dead and dormant soil organism and their by-products are important components of SOM itself.
- Having a balance of both low C:N ratio crop residues such as legumes and high C:N ratio crop residues such as wheat straw and corn stover is important to building SOM.
- Carbon from root material is retained in the soil more efficiently than carbon from aboveground plant inputs.

In 2016, Dr. Lisa Tiemann, from Michigan State University presented her research findings at Ontario's South West Ag conference. She discovered that there are 2 different types of microbes that work on crop residues to create SOM. There are microbes that are fast-growing but energy inefficient and thrive on low C:N residues (like young alfalfa). Additionally, there are microbes that are slow growing yet more energy efficient and do better with high C:N residues (like wheat straw and corn stover) however this second type of microbe requires additional nitrogen from manure, fertilizer or the SOM itself. So based on Dr. Tiemann's discovery, what was her final message? Grow cover crops and apply manure to wake up and feed both types of the soil microbes and have a diverse crop rotation - include wheat or perennial forages. More diversity means more SOM. Carbon from roots is more stable in soil and sticks around longer than carbon from shoots so consider roots as well as shoots when building SOM. For example, both oats and cereal rye

have great fibrous root systems.

Soil Organic Matter is the one single thing that a farmer can influence which will improve soil structure, soil health and inevitably crop yields and profit on the farm.

## SOIL SAMPLING

References: OMAFRA FACT sheet – Soil Sampling and Analysis for Managing Crop Nutrients, Keith Reid, March 2016, Michigan State University Extension

A well balanced fertility program tailored to your individual farm, field and crop starts with understanding what the land has to offer. Having soil tested is the first step in this process and will help you best decide how to meet your crops needs, protect the environment, and be profitable. Soil tests should be repeated once every 2 to 3 years and after harvest in the fall is the best time for soil testing. Here are a few reasons why:

- Fall weather is more conducive to soil sampling and more time is available to collect the samples as well as for fertilizer decisions
- Phosphorous (P) and Potassium (K) can be applied in the fall when more time and equipment are available for application and fertilizer is in less demand and therefore often priced better
- Where low soil pH indicates a need for liming a fall lime application is better as it provides more time to neutralize soil acidity before spring planting.

Tools needed: A soil probe (IAPO & most farm supply outlets have ones available for loan) or a shovel, a screwdriver is handy for dislodging cores that get stuck in a soil probe, a clean plastic pail (avoid using galvanized metal as it will contaminate the sample), sample bags available from most soil laboratories, and a pen or marker.

Steps:

- Sample each field separately (max 25 acres). Separate large fields or fields with considerable variability into smaller sections (there is no minimum field size).
- Do not include areas of the field with obvious differences (ie. Where manure has been piled or where there is a laneway.)
- Sample to a depth of 6 inches (the root and tillage zone)
- Sample the field randomly so as to represent the entire field – usually a zig-zap pattern across the field works well. Take a minimum of 20 cores per field. For larger fields over 20 acres take an additional core per acre.
- Mix the sample in the plastic bucket well with a stainless steel or aluminum trowel. Make sure there are no lumps. (clay soils may need to dry out a bit to get good mixing.)
- Place approximately 1 lb (400 grams) or 1 cup of soil in the sample in the bag and send to the lab.

## SOIL SAMPLING COST SHARE

To help offset the cost of soil sampling and testing, this fall IAPO is offering to share the cost. For every 3 soil tests, IAPO will pay for one, up to a maximum of three free soil tests per client. Open to all First Nations farmers.

Contact IAPO for complete details at 1-800-363-0329.

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# Other News

## BEEKEEPING IN THE OFF SEASON

There isn't a season that's harder on beekeepers, both hobbyists and professionals, than winter itself. Beekeeping in winter gets even more difficult if you're just starting out. It doesn't help that you become really anxious that your bees won't survive the coldest season. Still, you do have power in your hands, not only to limit the damage, but more importantly to optimize the place you and your bees are at. This makes the winter season much easier to deal with and ultimately causes you less stress over the short term and long term so that you can work on your bees better. Best of all, following these tips increases the chances of your bees staying alive throughout the whole winter so they'll be alive and booming next season.

Your preparation for winter should have started once the honey crop was harvested in September. By the end of October supplemental feeding of sugar syrup and disease control measures should be complete. You should have assessed each hive for the presence of brood and overall health and removed all of the honey supers leaving only the brood boxes. During November bee activity outside of the hive will only occur on warm sunny days. The bees will begin to cluster in the hive as temperatures ratchet lower. During this period the last winter preparations can be completed. In the London area I try to have the following winter tasks completed by December 1:

**Reduce the Hive Entrance :** I prefer to reduce the entrance to less than two centimeters. This allows the hive to be cozy warm and adjust to the upcoming cold. Pesky hive robbing bees and wasps are kept out of the hive. This is a good time to ensure that a top vent is provided and that the vent is clear of wax and propolis. The top vent is a means of ventilation that helps control humidity in the hive and acts as winter escape for the bees. Wet bees are usually dead bees.

**Install Your Mouse Guards:** At this time of year mice are searching for a warm winter home. Once in the hive a mouse can be very destructive, chewing its way through comb and honey and building a nest where the cluster should be. Mouse guards can be purchased but homemade versions work just fine. A wire mesh with holes small enough to keep out mice but sufficiently large enough to allow bees to travel in and out works well. Use a couple screws to fasten the guard in place allowing the guard to be easily removed to clean out dead bees, snow and ice if required.

**Shelter From the Wind:** The hive opening should not face the prevailing winter wind. Larger producers will cluster their hives in groups of four at this time of the year so outside walls facing the cold is reduced. Overwintering success is improved if a shelter either natural or constructed is provided. Trees or the contour of the land can be natural shelters. Some will use straw bales or plywood that is strategically placed behind the hive to mitigate wind and snow concerns. Bees can withstand cold but struggle to adapt to drafts and to large temperature fluctuations.

**Keep Your Hives Wrapped Up :** The majority of producers wrap or cover their hives over winter however in my area there seem to be more producers not adopting this practice. Covering or wrapping your bees should be your norm until you have tried leaving one or two hives unwrapped. Tarpaper wrapping of hives is one method that has been used for decades. There are many other options on the market to consider. Plastic insulated wraps slide over the winter boxes and fit snugly to the box. Care must be taken not to block the bottom entrance or the top vent when installing. My preference is a black corrugated card board shell that slides over the hive box, covering it top to bottom. These fit loosely to allow ventilation, stay in place and provide the correct amount of winter protection in my area.

**Winter Advice:** One of the things that make hive inspection difficult during winter is the fact that the hive is strapped up and sealed during this time. However, it is possible to monitor the colony during this time. A simple way is by pressing your ear against one side of the hive and feeling the heat generated by the cluster. Tiny fragments of wax are also a common sight on the floor during winter since bees uncap stored honey. You may also look for some melting snow at the hive entrance or at the top vent which indicates that there is heat being produced from a live cluster of bees. There is ideally little you can do to protect the hive at peak of winter. Still, be sure to chase away woodpeckers, ensure the bees have enough food supply, and keep the hive dry.

Bees are known for their exceptionally good hygiene. They usually engage in what is referred to as cleansing flights whereby they leave the hive in order to defecate or rid the hive of debris. During winter it is almost impossible for the bees to leave the hive for this purpose due to the extreme cold. However, when they do leave the hive, the bees may become trapped at the entrance when the entrance is blocked by snow. Others may be left outside and end up freezing since entries are blocked also. To curb this, clean off all exits and entrances after every snowfall. It is common to see dead bees on the surrounding snow after a warm spell or a bright sunny winter day.

Avoid taking out the frames for the purposes of checking. During the winter season, almost all of the time, it will simply be too cold to even think about the risk of exposing your bees to the chilling and freezing air. Checking the bees should be something you do as an extreme last resort. The best thing to do is to just let the bees be, and leave them to their own devices. You've done a great deal of work and expended a huge amount of effort to prepare the bees for the cold winter before this, and now the bees must do their part and keep themselves alive through the next few months. Trust and believe in your human preparation and the bees and nature to know and do what they do best.

As spring begins to approach check on them on warmer days by quickly opening the top of the hive to make sure the bees have enough honey for food. If they are out of food, place pollen patties or another form of food in the hive.

May all of your planning and winter preparations reward you with robust hives of bees next spring.

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