

Dairy Goat Digest



Information for Ontario's Dairy Goat Industry provided by the
Ontario Ministry of Agriculture, Food and Rural Affairs

Spring 2020

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COVID-19 Information and Resources

Protecting the health and safety of both industry and ministry employees who are working hard to keep our agri-food industry strong is a top concern amid the global COVID-19 pandemic. The Ontario Ministry of Agriculture, Food and Rural Affairs sincerely appreciates everything that you have been doing and will continue to do to ensure Ontario's food supply system remains strong in these challenging times.

To support your efforts, our ministry is taking all the necessary steps to keep our employees healthy and safe and ensure that they are following the advice of public health authorities and Ontario's Chief Medical Officer of Health. We expect our industry partners to take similar measures and to follow the Ministry of Health's [COVID-19 Guidance for Food Premises](#).

Additionally, we request our industry partners to:

- Practice physical distancing wherever possible.
- Have a plan in place in the event that an employee tests positive for COVID-19, which includes plans to communicate with your staff, the local public health unit and OMAFRA.
- Ensure staff notify their manager immediately, leave the workplace, and contact their local public health authority or medical practitioner if they develop symptoms consistent with COVID-19.

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- Follow the advice of their local public health authority in cases where there is someone diagnosed with COVID-19
- Be prepared to implement continuity plans in the event of any potential disruptions to business practices that may result from COVID-19.

We are also pleased to share some further resources with information on steps you can take to ensure you are contributing to efforts to reduce the spread of COVID-19:

Ontario Government

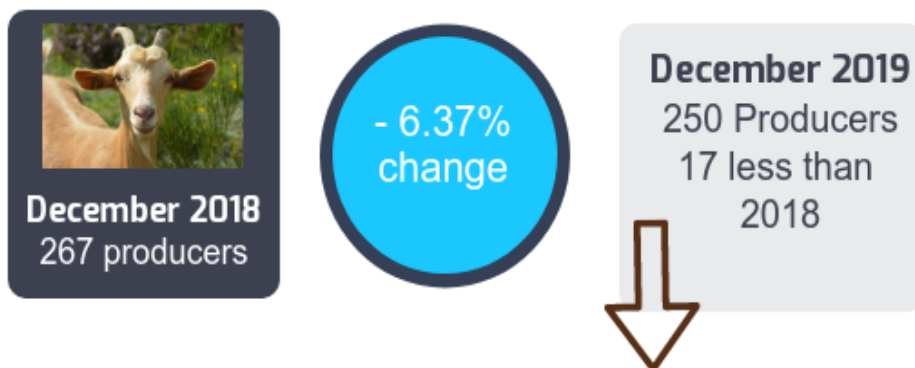
- Ministry of Health COVID-19: www.ontario.ca/page/stopping-spread-covid-19
- Stop the Spread Business Information Line - 1-888-444-3659 - for questions about closures of at-risk workplaces or how emergency measures may impact their operations or employment
- Public Health Ontario - www.publichealthontario.ca

INDUSTRY SNAPSHOT:

Key statistics for Ontario's Dairy Goat Industry

Goat Milk Producers in Ontario

Comparing December 2018 to December 2019



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Recent Averages for Milk Quality Measures – compared to the same period last year

Measures	Regulatory Standards	2019 Oct – Dec average	2018 Oct - Dec average	Difference	% Difference
Bactoscan: ibc/mL	$\leq 321,000$	111,000	89,000	+22,000	24.7%
Somatic Cell Counts (SCC): SCC/mL	$\leq 1,500,000$	1,404,000	1,398,00	+6000	0.4%
Freezing Point: °Celsius*	> -0.534	-0.548	-0.549	0.001	-0.2%
% Fat	-	3.89	3.85	+0.04	1.04%
% Protein	-	3.5	3.5	0	0.0%

*Changes in the concentration of solids and salts will cause milk to freeze at different temperatures. Dilution of milk with water progressively gives a freezing point closer to that of water. Results equal to or greater than -0.534° Celsius (i.e., closer to zero) are considered abnormal for goat milk.

Percentage of Producers in Bactoscan Range – compared to the same period last year

Bactoscan: ibc/mL	2019 December	2018 December	Difference	Comment
$< 35,000$	2.4%	7.2%	-4.8%	Excellent milk quality ¹ .
35,000-100,000	32.0%	46.0%	-14.0%	Good milk quality
101,000-321,000 ² .	48.8%	40.3%	+8.5%	Acceptable milk quality, however check milking equipment and procedures ²
$> 321,000$	16.8% ³ .	6.5%	+10.3%	Poor milk quality. Seek advice ³
Totals	100.0	100.0	-	

¹. The combined percentage of producers marketing either good or excellent quality milk is down (18.8%) when compared to the same period last year.

²This illustrates the proportion of goat milk producers who are shipping milk with bacterial levels approaching the regulatory limit. Producers that consistently fall in this category should consider examining their milking process and equipment for potential issues.

³.16.8% of producers were shipping milk above the regulatory standard of 321,000 ibc/mL in December 2019. Producers falling into this category are notified and are required to take corrective actions in relation to equipment cleanliness, udder health, etcetera.

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Welcome to our new Raw Milk Specialist!



Genna Wright, Raw Milk Specialist

We are pleased to welcome Genna Wright as the new Raw Milk Specialist in the Food Safety Inspection Delivery Branch at OMAFRA. Genna replaces Mike Foran who retired in December after 16 years.

Genna has been in the role since the beginning of January and has been enjoying her time working with producers. She is a recent graduate of the University of Guelph, where she studied Honours Agriculture. Growing up and working on her family's dairy cow farm has given Genna a strong background in dairy. She has also worked as an agronomy research assistant for crop input companies and at the University of Guelph Elora Research Station. Genna is looking forward to her time working in the dairy goat industry!

Welcome to the Sheep and Goat Blog

Looking for the latest information in sheep and goat production? Visit the Ontario Sheep and Goat Blog. Contributing authors to the blog are specialists from various backgrounds from the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA). You can subscribe to the blog to receive notifications when new content is published, or you can follow the blog on Twitter @GProdn. Visit the blog today at <http://quartet.aps.uoguelph.ca/SheepGoatProduction/>

Clostridial Disease Outbreaks in Dairy Goats

Brought to you by:
the Ontario Animal Health Small Ruminant Network



Cases of enterocolitis (inflammation of both the small intestine and colon) in adult does caused by *Clostridium perfringens* type D have increased over the past several years. These cases tend to present differently from the classical enterotoxemia sudden death syndrome (pulpy kidney disease) in sheep caused by the same bacterium. Adult does

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develop recurring bouts of diarrhea (usually 2-4 days duration), are dull and may have decreased appetite and milk production. More severely affected animals are dehydrated, may develop bloody diarrhea, and exhibit abdominal pain and depression. Death may follow.

At postmortem examination, does are typically in good body condition, dehydrated, and may or may not have external evidence of diarrhea. Lesions in the intestinal tract range from subtle to severe inflammation with hemorrhage of the small intestines and colon (Figure 1).

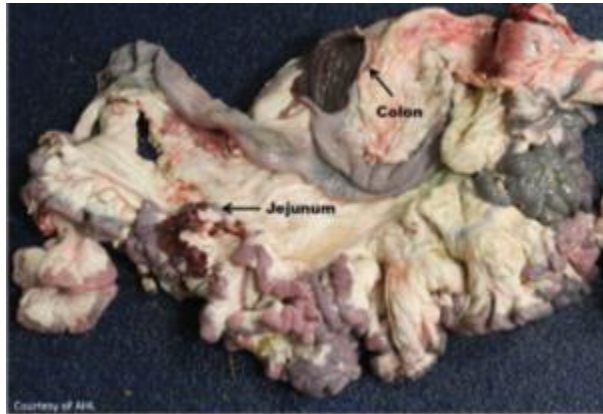


Figure 1 - Lesions in the intestinal tract

A recent feed change is commonly reported in dairy goat farms experiencing an outbreak of clostridial enterocolitis. Rumen bacteria do not have time to adjust to the new ration, causing a large amount of carbohydrates to pass through to the intestines, where *Clostridium perfringens* reside. The increase in carbohydrates allow the bacteria to multiply quickly. *Clostridium perfringens* type D produces a toxin, which in large quantities results in disease. Changes in feeding practices, feeding grain in the parlour and sudden changes in weather have also been associated with disease.

Small ruminants, especially goats, are very susceptible to enterotoxemia. It is strongly recommended that **all goats be vaccinated against clostridial diseases as part of any basic herd health program**. However, antibody levels tend to drop quickly in goats post-vaccination, which means they need to be vaccinated more frequently than sheep or cattle.

KEYS TO PREVENTING CLOSTRIDIAL INFECTION IN GOATS

- Develop a vaccination program to ensure that kids and mature goats are properly vaccinated.
 - vaccinate kids at 12 **and** 16 weeks of age (primary series)
NOTE: the timing of the primary series may change depending on the vaccination status of the does and management practices in the herd. Discuss the situation with your herd veterinarian in order to maximize immunity.
 - vaccinate does every 3 to 4 months (don't forget the bucks)
NOTE: all animals must have a primary series of vaccinations

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- Dietary management is also key.
- Review feeding frequency, access to fiber, and avoid sudden feed changes and overeating.
- Work with your herd's veterinarian and nutritionist to investigate feed-related health issues and to minimize the risks associated with feed changes.

Goat Meat Residue Testing at Ontario Provincially Licensed Slaughter Plants

Mike Eastment, Residue Control Officer, OMAFRA

OMAFRA's meat inspection program uses monitoring and surveillance testing to determine whether chemical residues (e.g., antibiotics) are present in food animals. This testing provides data on a variety of veterinary drugs. Chemical residues in foods are of concern as they have been linked to severe allergic reactions, carcinogenicity and the spread of bacterial resistance to antibiotics used in human medicine.

Goat producers should be aware that there are no approved antibiotics for use in goats in Canada. Therefore, any use is considered extra-label drug use (ELDU). ELDU is defined as¹:

- Administration to a different **SPECIES** or production class (e.g., lactating versus dry versus weaned) than listed on the label
- Administration of a different **DOSE** than listed on the label
- Administration of a different **VOLUME** per injection site than listed on the label
- Administration via a different **ROUTE** than listed on the label
- Administration at a different **INTERVAL** (frequency) than listed on the label
- Administration for a different **DURATION** (length of time) than listed on the label
- Administration for a different **INDICATION** (purpose) than listed on the label

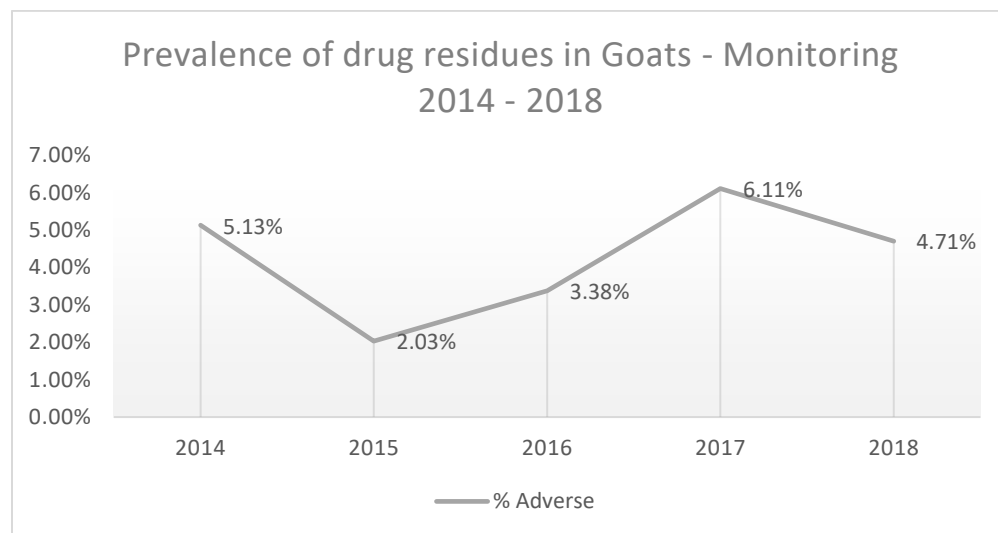
In most situations, ELDU will affect milk and meat withdrawal times.

As part of the ministry's monitoring program, OMAFRA routinely tests tissue and kidney samples from goats slaughtered at provincially licensed plants. Occasionally these tests will come back with an adverse result (e.g., residues above the Health Canada Maximum Residue Limit). Drug withdrawal times for products used in an extra-label manner are based on maximum residue limits (MRLs) and scientific studies; and take into account government testing. If no MRL has been established for a drug in a particular species OR for milk/tissue, then ANY amount detected in milk/tissue constitutes a residue violation. This is one of the reasons why goat withdrawal times are



longer than cattle withdrawal times. When adverse results are detected, the Canadian Food Inspection Agency is notified for possible trace back to the farm of origin. Additionally, OMAFRA will communicate adverse drug residue results to individual meat plant operators through written letters and possible visits to the plant.

The graph below is a summary of the prevalence of drug residues found in the meat of goats tested under OMAFRA's monitoring program. The data covers the period 2014 to 2018. Tetracyclines (e.g., oxytetracycline, tetracycline and chlortetracycline) are commonly implicated in goat meat residue violations. Producers are strongly encouraged to discuss withdrawal times with their herd veterinarian.



¹ Food Animal Residue Avoidance Databank website: <http://www.farad.org/extra-label-drug-use.html>

Impacts of Feed Behaviour on Dairy Goat Production

Marlene Paibomesai, Dairy Specialist, OMAFRA

Dairy goats spend a large amount of time feeding throughout the day. Dry matter intake is an important aspect of milk production and goat health. This article will explain some recent research that is focused on goat feeding behaviours and the occurrence of sub-acute ruminal acidosis (SARA).

FEEDING BEHAVIOR AND FEEDER HEIGHT

Goats are browsers and intermediate feeders (between grass and roughage) by nature. Their dentition is designed in a way that allows the goat to eat the small leaves on

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shrubs while leaving the stem and short grasses. Goats are adaptable and in a natural feeding scenario goat will vary their choice of feed according to season and available feed stuff. Goats are sensitive eaters and drinkers. They will reduce their intake of water if the water is off-tasting. They will also refuse feed that is soiled. For these reasons the feeding behavior of goats is different from cattle and sheep.

The delivery and presentation of feed is one key aspect that can impact feed intake and feeding behaviour. Keil et al. 2017, tested goats at different feeder heights and step-up heights to determine what height resulted in a relaxed body posture. The researchers evaluated the goat's ability to reach for feed without putting pressure onto the feeder. There was no impact on body posture of step-ups up to 20 cm in height. The researchers did not test higher step-ups. A feeder height of 10cm and higher from the level of the feet, allowed the goats to reach a further distance into the manger with a relaxed body posture. This was dependent on the height of the goat at their withers with taller goats being able to reach a further distance in the manger (Keil et al. 2017).

More recently, Dr. Gosia Zobel from AgResearch Ltd. in New Zealand has tested elevated feeders and the impact on dry matter intake at 0cm, 60cm and 90 cm of elevation. Goats preferred the elevated feeder with a step-up at 90cm from floor level and the head level feeders (60cm from floor level) over the non-elevated feeder. The goats had increased dry matter intakes, more visits and more displacements of other goats at the head and elevated feed compared to the floor level feeders (Zobel et al., 2019).

CONCLUSIONS

Goats are sensitive to changes in feed. Ensuring consistency in feed offered to goats is a key feature to improved goat performance. There are three checks that should be done to ensure that your nutritional program is working for your herd. Consulting with a nutritionist is recommended. Producers can:

- 1) Check feed quality and balancing for appropriate nutrition according to stage of lactation, age of the animal (i.e. doelings vs. pregnant milking does), and other impacts on nutritional needs of an animal;
- 2) Focus on how feed is delivered including feeder height, bunk space per goat, and ensuring the appropriate feed is being delivered to the group (i.e., medicated feed is only being delivered to the pen it is intended for) and
- 3) Assess refusals at the feed bunk to determine what goats are selecting for in the ration and make any adjustments as required.

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Nutrition is a key aspect in optimizing goat herd performance and maintaining their overall health. Goat feeding behaviour differs greatly from cattle and sheep and these differences should be taken into consideration when designing your facilities or problem-solving nutrition related issues.

Maximize the Quality and Safety of Feed delivered to your Farm

Phillip Wilman, Raw Milk Quality Program Coordinator, OMAFRA

Most dairy goat farms will have livestock feeds delivered to their farm, whether in bags, totes or bulk form. The following tips will help maximize the quality and safety of the feed and minimize incidents of contamination.

DO:

- Check each delivery for accuracy:
 - ensure bags or totes are properly labelled, and contain the feed ordered
 - check weigh bills for bulk feed to ensure correct volumes were delivered to the correct bins.
- Label all bins AND fill pipes clearly to ensure that all delivery drivers know where to unload.
- Keep all feed areas secure, clean and tidy. Remove spilled feed regularly. Ensure rodents and other pests are kept from the area and that livestock have no access.

If you suspect errors in delivery or feed formulation, or that a medicated feed was delivered when or where it should not have been, contact your feed supplier and nutrition advisor as soon as possible.

DO NOT:

- Utilize feed that has become mouldy or spoiled.
- Wait to report an issue with the quality, quantity or type of feed delivered.
- Assume that the feed ordered is the feed delivered.

Your operation and livelihood depend on the health of your livestock, and the quality of the milk they produce. Taking a few minutes to verify feed orders and deliveries can prevent significant impacts to milk production, milk quality and livestock health.



Pricing Trends for Dairy Goat Kids in Ontario (2017-2019)

Jillian Craig, Small Ruminant Specialist, OMAFRA

The weighted average of monthly kid prices for 14 Ontario auction markets can be found in **Figure 1**. The Agriculture and Agri-Food Canada data reflects prices from 2017 to 2019 and includes a five-year average price which are reflected in dollars per hundred weight. No weight ranges are provided.

Figure 1: Monthly Average Kid Prices, Dollars per Hundred Weight: 14 Ontario Auction Markets (2017 – 2019)

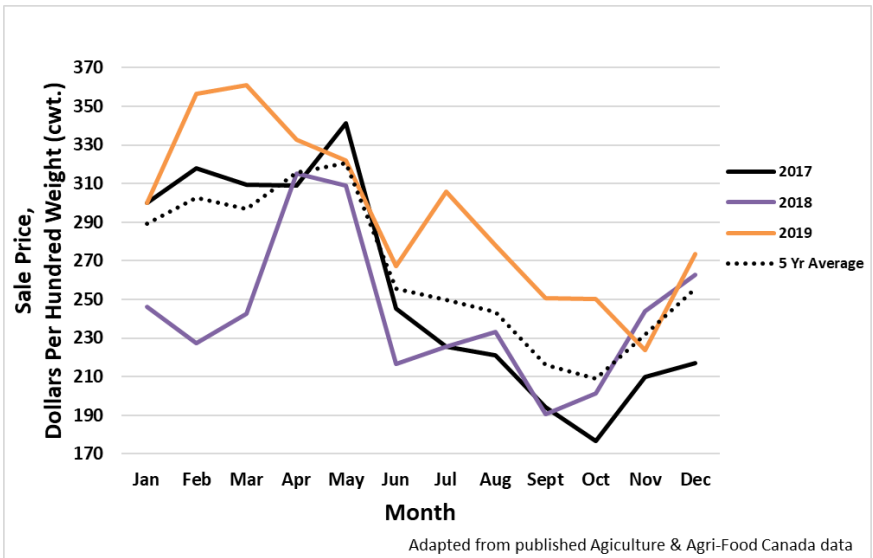


Figure 2 shows the average price per hundred weight of the total kids marketed from the Ontario Livestock Exchange (OLEX), in Waterloo.

There are no weight classes reported; this figure represents the price of all kids marketed. Volume data is included in **Figure 3**.

Figure 2: Price Ranges: Dollars per Hundred-weight for Kids Marketed (2017 - 2019) (OLEX)

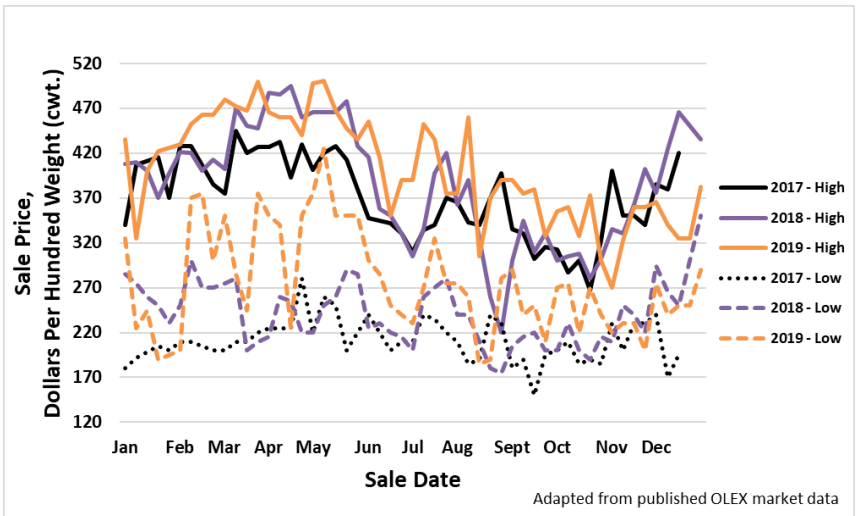
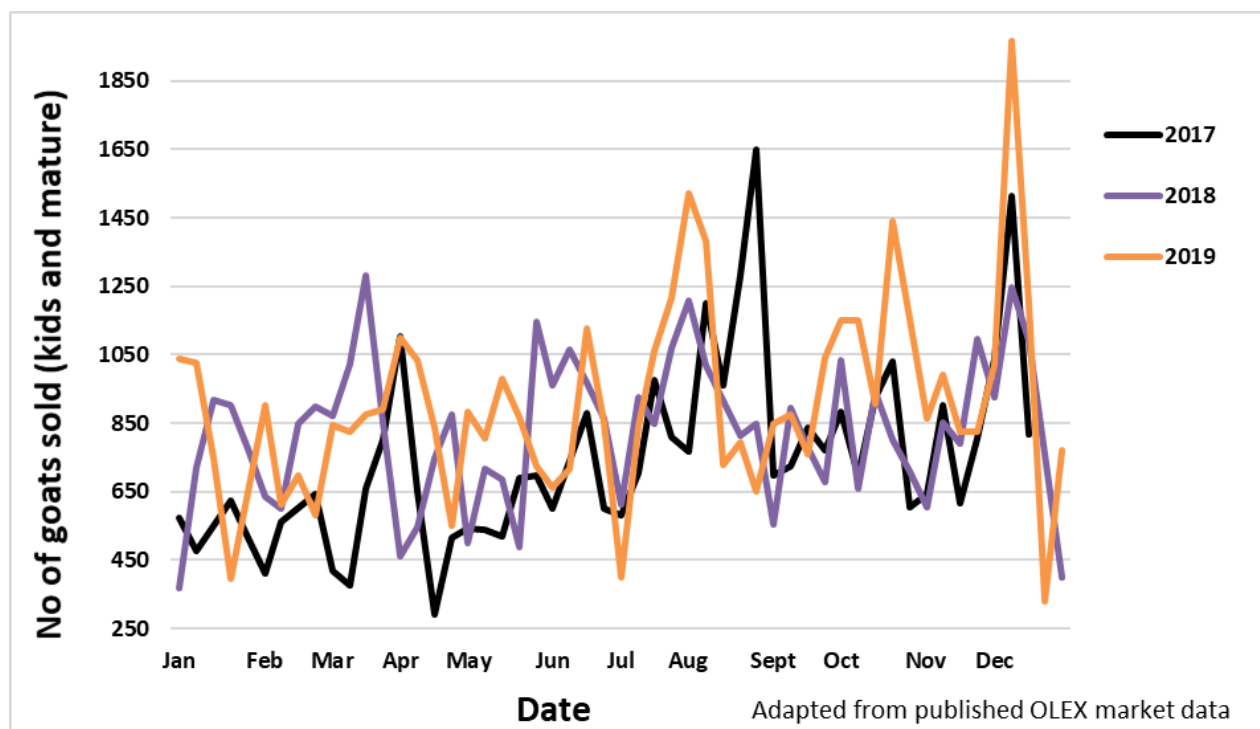




Figure 3: Weekly Volumes of Total Goats (2017 - 2019) (OLEX)



Figures 4 and 5 provide the weekly kid prices **per head** for the Ontario Stockyards Inc. (OSI) in Cookstown. Weight classes of kids are reported, and for the purpose of this article, two weight classes are included. Volume data can be found in **Figure 6**.

OSI reports three price ranges, for the purposes of this article only the 'high' and 'from' price is included:

1. 'High' is the highest price per head
2. 'To' is the average range in price taking out extreme highs and lows
3. 'From' represents a low price, taking out any extreme low prices per head.

OSI had a complication with its website from the end of February to mid-April 2019 and therefore no results were reported. This is reflected in the data as a gap in both **Figure 4** and **5**.



Figure 4: Price Ranges: Dollars per Head, Kids 35-49 lbs (2017 - 2019) (OSI)

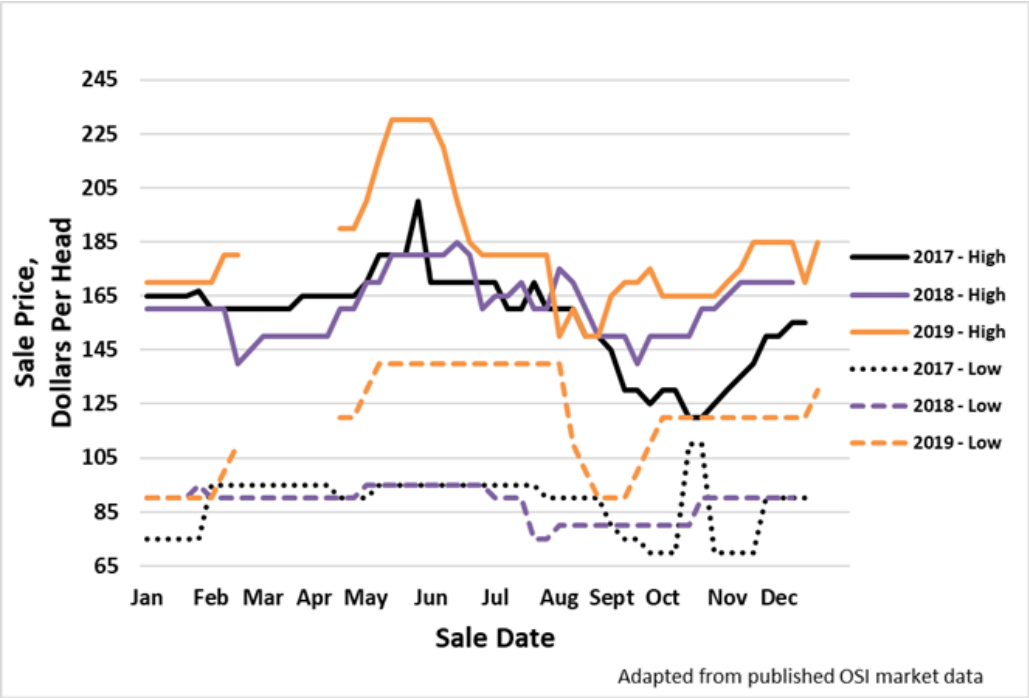


Figure 5: Price Ranges: Dollars per Head, Kids 50-75 lbs (2017 - 2019) (OSI)

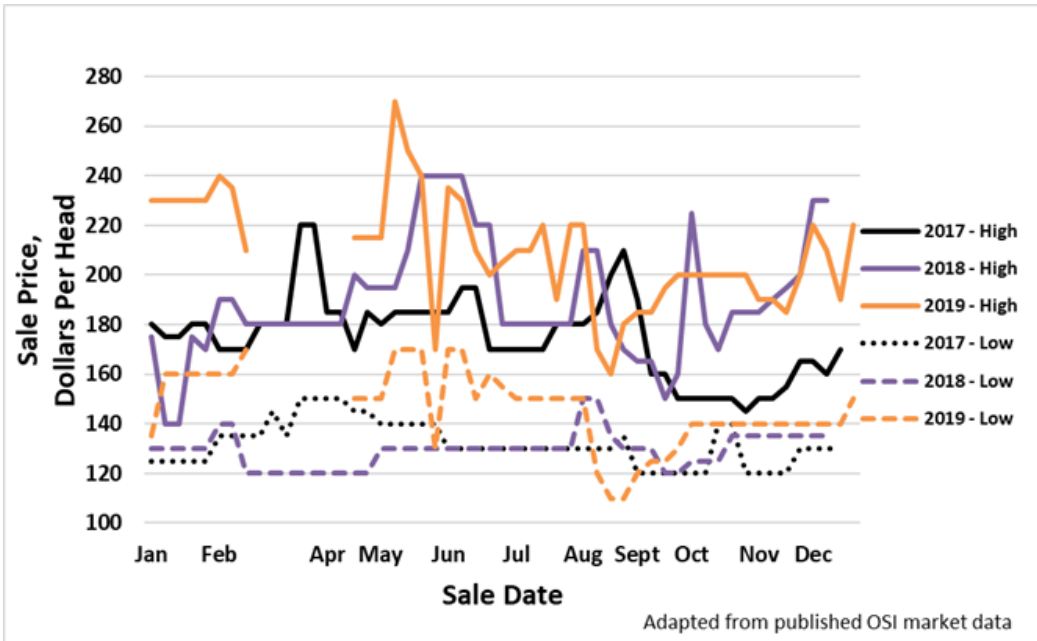




Figure 6: Weekly Volumes of Total Goats (2017 - 2019) (OSI)

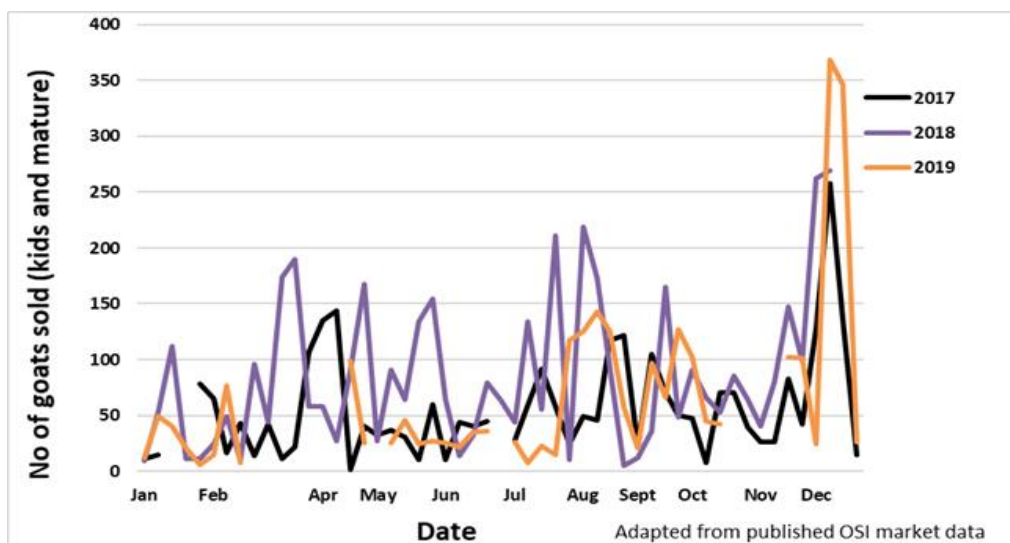
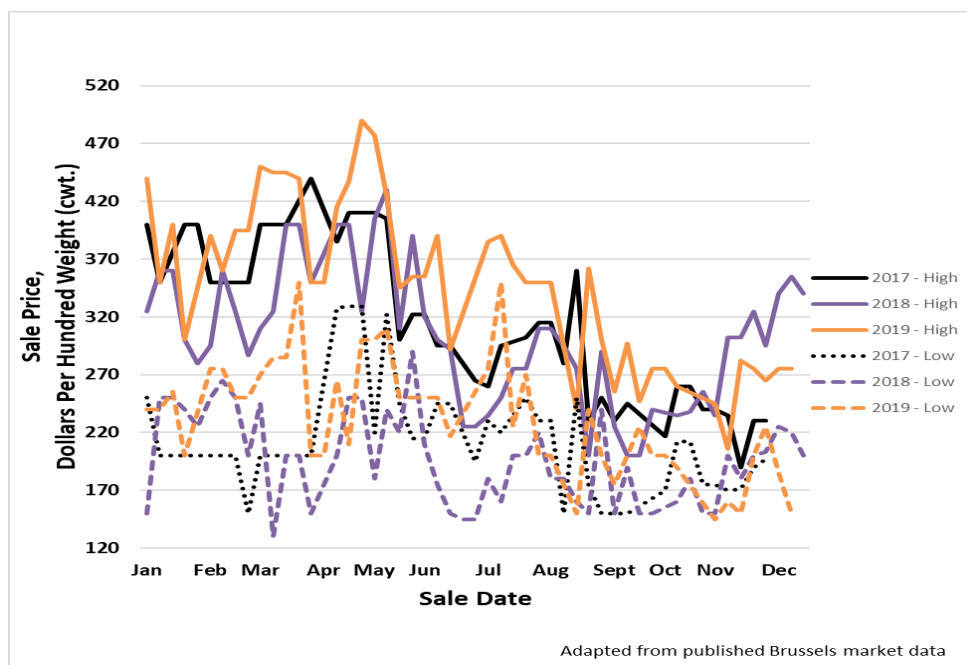


Figure 7 shows the price per hundred weight of the total kids marketed weekly from Brussels Livestock. There are no weight classes reported. In early 2017, Brussels Livestock began reporting kid prices in two categories – dairy and meat – with a high and low range in each category. For the purposes of this article, the dairy category has been included. Weekly volumes are not reported for Brussels Livestock as they do not report sheep and goats separately.

Figure 7: Price Ranges: Dollars per Hundred-weight for Dairy Kids (2017 - 2019) (Brussels Livestock)



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SOURCES:

- Agriculture and Agri-Food Canada – [monthly kid prices and volumes](#)
- Brussels Livestock – weekly market data: www.brussellslivestock.ca
- Ontario Livestock Exchange (OLEX) – weekly market data: www.olex.on.ca/Olex/Default.asp
- Ontario Stockyards Inc. (OSI) - weekly market data: www.ontariostockyards.on.ca

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The Dairy Goat Digest is a newsletter published by the Food Safety Inspection Delivery Branch with input from specialists across the Ministry.

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1-877-424-1300 or ag.info.omafra@ontario.ca

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For more information on Goat Milk Quality and Procedures, visit the OMAFRA website at: www.ontario.ca/bw9x