



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

Spring 2019

READERSHIP SURVEY

Thank you to our readers who provided feedback by completing our fall 2018 readership survey. Over 90 readers responded with mostly positive results! Over 75% of respondents felt the Dairy Goat Digest provided them with timely information for making decisions for their farm, business or job. 70% plus were satisfied with the relevance of the content to their business.

One reader commented "It's a good vehicle to keep in touch with some of the issues important to the goat industry". We agree and will ensure it remains as such. Over 80% of respondents are Ontario goat milk producers so this will continue to be our target audience.

We are also making changes to address areas that could be improved – notably the frequency of receiving information. To keep you informed of news, trends and emerging issues in the dairy industry, OMAFRA will now be publishing the Dairy Goat Digest more often. We will continue to provide it in hard copy to you. Look for the digest in the mail!

We also received many ideas from you for future topics. We will work to include these in upcoming editions.

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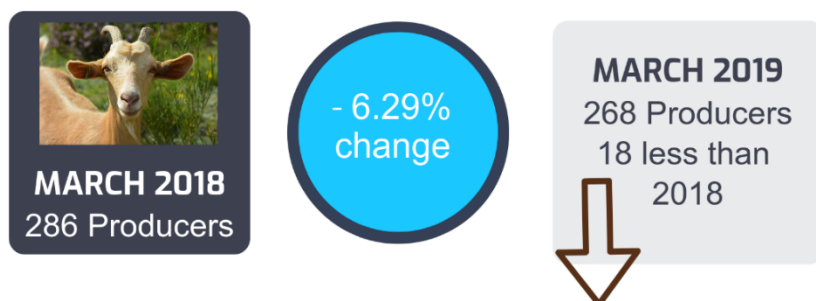
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INDUSTRY SNAPSHOT:

Key statistics for Ontario's Dairy Goat Industry

Goat Milk Producers in Ontario Comparing March 2018 to March 2019



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

Measures	Regulatory Standards	2019 Jan – March	2018 Jan – March	Difference	% Difference
Bactoscan: ibc/mL	<=321,000	105,000	102,000	3000	2.94%
Somatic Cell Counts (SCC): SCC/mL	<= 1,500,000	1,500,000	1,519,500	-19500	-1.28%
Freezing Point: °Celcius*	>-0.534	-0.549	-0.548	-0.001	0.18%
% Fat	-	4.00	4.11	0	0.00%
% Protein	-	3.64	3.61	0.03	0.83%

*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 closer to zero (greater than) -0.566 °Hortvet (-0.547° Celsius) are considered abnormal for goat milk.

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

Bactoscan: ibc/mL	2019 March	2018 March	% Difference	Comment
<35,000	7.04%	9.31%	-2.27%	Excellent milk quality
35,000-100,000	45.56%	45.17%	0.38%	Good milk quality
101,000-321,000	35.93%*	35.52%	0.41%	Acceptable milk quality, however check milking equipment and procedures
>321,000	11.48%**	10.00%	1.48%	Poor milk quality. Seek advice.

*This 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.

**11.48% of producers are shipping milk above the regulatory standard of 321,000 ibc/mL.

Is Copper Toxicity a Concern in Goats?

Brought to you by:
Ontario Animal Health Network Small Ruminant Producer Report

Unfortunately, the answer is yes. Though goats are reported to be three times more resistant to copper toxicity than sheep, toxicosis does occur in goats and is likely under-reported.

CLINICAL SIGNS: As in sheep, clinical signs are vague including:

- abdominal pain
- teeth grinding

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- elevated respiratory rates
- off-feed
- little to no milk
- diarrhea

Affected goats progress to recumbency (downers) followed by death. In contrast to sheep, signs such as dark rusty-coloured urine and yellow mucous membranes, are not always noted.

Diagnosis is usually done at postmortem, so having your vet evaluate animals that have died is very important. To confirm copper toxicosis – your vet will take kidney and liver samples and submit to the laboratory. Blood is not a reliable measure of copper toxicity risk. In 2017, 2 cases of copper toxicity were diagnosed at the Animal Health Laboratory and in 2018, 3 cases were diagnosed. Case examples include a 3-year-old Boer goat showed signs of depression for one day prior to death. On postmortem, the doe had a Body Condition Score (BCS) of 3, adequate fat and pale mucous membranes. Liver copper levels were in the toxic range. In another case, a 3-year-old Nubian doe in mid-lactation showed signs of depression and mastitis for several days prior to death. On postmortem, the doe had a BCS of 4, adequate fat stores and muscle mass. Mucous membranes (mouth and eye) were yellow. Liver copper levels were high and kidney levels were in the toxic range.

SOURCES OF COPPER include:

- mineral supplements
- commercial or custom feeds
- forages
- copper sulfate footbaths
- copper oxide wire particles used to control *Haemonchus* parasites,
- water

In addition to excess copper sources, low dietary molybdenum and sulfate levels can also increase the risk of copper accumulation in the liver.

Treatment is as for sheep copper toxicity – removing the source(s) of copper in the diet and the use of a binding agent like molybdenum. Prevention of copper toxicosis in goats will depend on avoiding accidental exposure or ingestion of high levels of copper. Finding the source(s) of copper may be challenging. Though uncommon, copper toxicosis should be considered as a differential diagnosis particularly in goats with abdominal pain or those showing vague clinical signs.

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Milk in Bulk Tank Must Be Gradeable

A brief reminder to all goat milk producers that Regulation 761 - Milk and Milk Products, under the *Milk Act* (Ontario), was updated May 1, 2018. One of the changes requires the Bulk Tank Milk Grader (BTMG) to reject milk if they cannot visually grade it (e.g., poor lighting) or cannot grade it by smell because of conditions in or around the milk house.

Circumstances in the milk house that might lead to a BTMG rejecting milk could include:

- strong cleaning chemical smell
- excessive cigarette smoke
- sewer gas from improperly trapped drains
- strong manure smell from a dirty milk house floor
- sour smell from spoiled milk
- unclean equipment

Conditions outside the milk house that might affect a BTMG's ability to grade milk by smell could include a manure pile that is too close and is causing odours in the milk house, deadstock being in or near the loading area, or parking of manure handling equipment such that odours enter the milk house.

Your BTMG will appreciate your efforts to keep the milk house and surroundings clean, tidy and odour-free.

Testing for Inhibitors in Goat Milk

Phillip Wilman, Raw Milk Quality Program Coordinator, OMAFRA

Ontario's goat milk producers are very vigilant in their use of inhibitors and ensuring that proper withdrawal times are followed, so there are normally very few instances of inhibitors being detected in goat milk. However, to date in 2019, there have been 4 officially positive test results. Two tank-truck loads of milk screened positive at a processing plant for the presence of inhibitors. Fortunately, the milk on these loads, when tested by the official method at the Agriculture and Food Laboratory University of Guelph (AFL, UofG), was negative, and the milk could be marketed. Unfortunately, the milk from one producer on each of these loads did test positive for inhibitors using the official method. Two additional producer samples also tested officially positive. These samples were part of the routine regulatory testing done by OMAFRA at the lab.

The official regulatory methods used for the detection of the most common classes of

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inhibitors used on dairy goat farms are the Charm ROSA SULF at MRL and Charm BL-TET II. These two rapid tests have been validated for use with goat milk in Ontario and use test strips to detect Sulfonamides (sulfamethazine), Beta Lactams (penicillin) and Tetracyclines (oxy-tet, oxy-vet). Other classes of drugs are tested using LC-MS/MS methodologies at the AFL UofG. All test methods are very sensitive, with detection limits as low as 2 to 6 parts per billion (ppb), depending on the drug class. One ppb is approximately equivalent to one drop of water in an Olympic-size swimming pool!

Most producers will have milk samples from treated animals tested prior to introducing that milk back into the bulk tank. These samples are often submitted to the producers' local veterinary clinic. Most of these clinics have a larger proportion of their business with cow dairy farms and may not have the appropriate test kits for analyzing goat milk. It is critical that the technician performing the test know that they are testing goat milk, as most cow milk test kits do not work for goat milk. For example, the SNAP test method by IDEXX Laboratories often results in false positives when used to test goat milk. We have been told many times that goat milk samples will test positive on SNAP for 2 to 3 weeks past what should have been an appropriate withdrawal period. Usually when these same samples are tested using an official method, the result is negative. False negatives can also occur, even when using Charm tests, if the test strip used is not one designed and verified for use in goat milk.

At this point, the only Charm test strips validated for use with goat milk in Ontario are the Charm ROSA SULF at MRL and Charm BL-TET II. Also note that OMAFRA strongly recommends that you ensure that your clinic and technician are aware of these differences when testing cow and goat milk.

With most of the goat milk now being collected and transported in larger trailers, the cost to a producer who contaminates a load of milk with inhibitors has risen. A producer whose milk is responsible for contaminating a load of milk with inhibitors is liable to their broker for the cost of that load of milk, as well as any extra transportation and disposal costs. We have been advised that the total costs could be as high as \$45,000 to \$50,000. Producers are encouraged to discuss insurance options with their insurance broker/provider.

If you suspect you have inadvertently milked a treated animal into your bulk tank prior to the appropriate withdrawal period, immediately contact your veterinarian to arrange inhibitor testing of the milk in the bulk tank. Notify your broker/transporter not to pick up milk until you have a sample result which tests negative for inhibitors. You may also contact the Raw Milk Quality Program Coordinator or a Raw Milk Specialist to discuss testing options.



Canada's Code of Practice for the Care and Handling of Goats to be Updated

Brought to you by:
National Farm Animal Care Council (NFACC), April 11, 2019

The National Farm Animal Care Council (NFACC) is pleased to announce the update to the 2003 goat Code of Practice. The update, initiated by the Canadian National Goat Federation, will be guided by NFACC's Code development process.

The Code development process includes a survey, launched at the outset of each Code, to capture top-of-mind welfare concerns from any and all stakeholders. The input received will help the Code Development Committee understand the kinds of issues people wish to see considered in the update. Everyone is invited to participate; the survey for the goat Code is available at www.nfacc.ca/codes-of-practice/goats.

Canada's Codes of Practice are guidelines for the care and handling of farm animals. They reflect our national understanding of animal care requirements and recommended practices and serve as educational tools, reference materials for regulations, and the foundation for farm animal care assessment programs.

"We look forward to partnering with NFACC on the update of the goat Code. The update will ensure that responsible and practical standards of care are in place across the dairy, meat, and fibre sectors," stated Brian Pelleboer, Vice-President of the Canadian National Goat Federation.

"The NFACC Code development process is based on stakeholder commitment to ensure quality animal care standards are established," said Ryder Lee, Chair of NFACC. "It's about each of us taking responsibility – farmers, processors, food companies, consumers, and allied groups – moving beyond the hype and rhetoric, and doing real things to support farm animal welfare."

Three Codes – transportation, dairy cattle, and goats – are being updated and a new farmed finfish Code is being developed. Visit www.nfacc.ca for more details and a timeline outlining the steps and progress made on the respective Codes.

Funding for this project has been provided through the AgriAssurance Program under the Canadian Agricultural Partnership, a federal–provincial–territorial initiative.

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Testing Colostrum Quality

Marlene Paibomesai, Dairy Specialist, OMAFRA

Colostrum is an important part of goat kid management. Colostrum quality is just as important as the volume of colostrum that is fed. In the last edition of the Dairy Goat Digest we covered the important aspects of colostrum and what makes this liquid essential to life especially in ruminants. Immunoglobulin G (IgG) is a measure that is used to determine colostrum quality and is an important part of sufficient passive transfer from the dam to the kid. The minimum cut off for Brix reading for cow colostrum quality is 21% which equates to 50g of IgG/L of colostrum. In a preliminary study with colostrum collected from 79 dairy goats determined that Brix reading of 22% equates to 50g of IgG / L of colostrum. Brix refractometers offer simple animals side test to determine colostrum quality. There are a few Brix readers on the market that would be suitable for colostrum quality testing including the hand-held optical refractometer and digital refractometer.

Handheld Optical Refractometers

- Purchase a refractometer that is temperature corrected. Ambient temperature can be 10-30°C.
- The scale should be at least Brix% 30 as colostrum specific gravity can range from 4-45% Brix.
- Calibrate the system with distilled water at ambient temperature of 20°C by turning the screw at the top of the refractometer.
- Manually read the Brix% on the scale when looking through the eye piece after placing a few drops of a colostrum sample on the sample slide. Wipe the slide clean between uses with a damp cloth and dry.
- Prices range from \$75 - \$200 CAD.
- You can buy digital refractometers online from Amazon or from scientific supply stores, farm



AN OPTICAL REFRACTOMETER AND AN EXAMPLE OF A READING TAKEN FROM AN OPTICAL REFRACTOMETER.

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supply stores such as the Farmers Farmacy, or at make your own wine shops and department stores such as Walmart.

Digital Refractometers

- The scale should be at least Brix% 30 as colostrum specific gravity can range from 4-45% Brix.
- The refractometer should be waterproof and dustproof to survive use in the barn.
- Calibrate the system with distilled water at ambient temperature of 20°C by zeroing the unit.
- To use a digital refractometer, drop 2-3 drops of colostrum on the sample well and start the read. Wipe the sample well clean. After use, clean the unit with a damp cloth. Do not submerge in water.
- Some digital refractometers can store up to 100 readings for review afterwards.
- Price varies based on the functionality of the unit and range from \$335 – \$600 CAD.
- You can buy digital refractometers online from Amazon or from scientific supply stores, farm supply stores such as the Farmers Farmacy, or at department stores such as Walmart.

The quality of colostrum being delivered to goat kids can impact their passive immunity during the first few weeks of life. The quality of colostrum is just as important as the amount that is fed to goat kids at birth. The amount of colostrum fed at birth is based on the birth weight of the kid. A colostrum replacer can be used in situations when there is not enough colostrum produced, or the quality is very poor. Be sure to follow the manufacturer instructions when mixing and measuring amounts as it can affect the effectiveness of the colostrum replacer. Mix thoroughly with a whisk and follow the prescribed powder-to-water ratio. For example, a kid at 3 kg birth weight should receive 3 feedings of 30g of powder per 110mL of hot



A DIGITAL REFRACTOMETER WITH A PROTECTIVE RUBBER SLEEVE DISPLAYS A READING OF 15.9% BRUX.

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water (43-49°C). Do not microwave the colostrum replacer. Creating a standard operating procedure or decision tree for your barn can make sure that every goat kid receives sufficient protection in the first weeks of life.

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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. To receive an electronic copy of the Digest, please contact the Agricultural Information Contact Centre (AICC) at:

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

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