



Getting Started

in Small-Scale Dairy
in Nova Scotia



Disclaimer

Regulations may change at any time. While care has been taken to ensure the information in this booklet is accurate, authority rests with the relevant regulatory body.

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Introduction

Cow's milk is a supply-managed commodity in Canada. There are regulations that restrict who can produce cow's milk and who can purchase it for processing. There are no volume restrictions on the production of goat's and sheep's milk because these products are not supply-managed. However, because milk is a high-risk product, there are food safety regulations that apply to producers and processors of all types of milk.

This booklet is intended for new dairy producers, processors, and distributors in Nova Scotia. It answers these questions:

- What production regulations apply to dairy producers?
- What food safety regulations apply to dairy producers or processors?
- What food safety regulations apply to vendors of dairy products?

The booklet also provides some basic information on setting up a dairy farm or dairy processing facility and contact information for some key resources.

Anyone interested in starting a dairy farm should consult with a variety of experts, whether building from scratch or converting an existing farm. For example, when developing

a new dairy farm, you should consult with your municipal planner, agricultural engineer, veterinarian, feed supplier, and milking equipment dealer throughout the process, in addition to the regulatory bodies referred to in this booklet. Work with your local Agricultural Resource Coordinator to help locate expertise and guide you through the planning process (see the **Contacts** page for details). You should also visit other dairy farms of a similar scale to learn from their experiences.

Anyone interested in setting up a processing facility will also need to consult with several experts. To develop an efficient operation that complies with all regulations, be sure to consult with a municipal planner and building engineer, in addition to the regulatory bodies referred to in this booklet. Work with the National Research Council – Industrial Research Assistance Program (NRC-IRAP) Industrial Technology Advisor based in Halifax to help locate expertise and guide you through the planning process (see the **Contacts** page for details). You should also visit other dairy processing facilities of a similar scale to learn from their experiences.

Milk Production Regulations

Cow's Milk

Cow's milk is a supply-managed commodity in Canada, meaning that product supply and consumer demand are matched by way of a production quota. Producers of cow's milk must have a licence from Dairy Farmers of Nova Scotia and hold a minimum of 10 kg of quota.

Quota is currently in high demand, so it is very difficult and very expensive to purchase. While anyone can own one or more milk cows on their own premises and consume and process the milk produced by their cow(s), they may not sell, offer for sale, or give away this milk or anything produced from it. In addition, all licensed producers of cow's milk must sell all the milk they produce to Dairy Farmers of Nova Scotia. They may keep their own milk for personal consumption if they wish but may not sell, offer for sale, or give away their milk or anything produced from it except to sell it to Dairy Farmers of Nova Scotia.

If you are interested in purchasing dairy quota, there are two avenues. One is to negotiate a purchase with a retiring dairy farmer. In this case, you must purchase the entire block of quota and the accompanying farm, including the land holdings and equipment required to support the herd. The other way to get started is to apply to Dairy Farmers of Nova Scotia's New Entrant Program: www.dfns.ca/NEP%202012.pdf .

Milk from Goats, Sheep and Water Buffaloes

There are currently several dairy goat and sheep operations in Nova Scotia. There are water buffalo dairies elsewhere in Canada but none currently in Nova Scotia. If a person wanted to establish a water buffalo dairy farm in Nova Scotia, the same regulations for dairy goat and sheep farms would apply.

Goat's and sheep's milk are not supply-managed commodities in Canada, so no quota is required to produce goat's or sheep's milk for sale. However, a Producer Licence must be obtained from the Natural Products Marketing Council.

If the goat's or sheep's milk is sold directly to a processor, the producer does not require any further licences. However, if the producer is also processing the milk, either selling pasteurized fluid milk to retail outlets or the final consumer, and/or processing the milk into cheese, butter, yogurt, ice cream or other dairy products, additional licences are required. (See **Milk Processing** and **Milk Distribution** sections for more details.)

Regulations that Apply to All Dairy Producers

All milk producers, regardless of species, must adhere to the [Dairy Industry Act](#) and accompanying [regulations](#). The *Dairy Industry Act* and regulations have stipulations that cover the following aspects of dairy production:

- The farmyard
- Barn construction
- Barn water supply
- Milking parlour construction
- Milk house construction
- Bulk milk tank specifications
- Milk handling equipment
- Hygiene during milking operations
- Animal health requirements
- Handling and transport of bulk milk
- Milk transport vehicles
- Milk transfer
- Criteria for raw (unpasteurized) milk (note that this refers to unpasteurized milk sold for processing, not unpasteurized milk sold to consumers, which is not permitted)

If you are interested in becoming a milk producer, you should review the *Dairy Industry Act* and regulations and then contact the provincial Dairy Inspector for a pre-inspection (see the **Contacts** page for details).

Once you have set up your facilities and equipment and applied to Dairy Farmers of Nova Scotia (for cows) or the Natural Products Marketing Council (for goats or sheep) for a Milk Producer's Licence, the Dairy Inspector will return for the final inspection. Dairy inspections of

licensed producers are conducted once each year to ensure continued compliance with the *Dairy Industry Act*. In addition, raw (unpasteurized) milk is tested at least once a month to ensure that the total bacteria and somatic cell counts do not exceed the maximum allowable levels. Milkhouse water (the water used to wash equipment) must also be tested as required by the regulations.

There are other regulations that apply to dairy farms in Nova Scotia, including municipal zoning regulations and environmental regulations. For more information on municipal zoning regulations, contact your municipal office. For more information on environmental regulations, contact your Agricultural Resource Coordinator.

For more information on best practices in dairy production, including housing, livestock, nutrition, milking practices, milking equipment, etc., contact Perennia Dairy Specialist Dan Mosley: 896-0277 ext. 223, dmosley@perennia.ca



Milk Processing

All milk processors, regardless of dairy species, must have a Processor Licence from the Natural Products Marketing Council. Canada's Food and Drug Act and regulations do not allow the sale of raw (unpasteurized) milk to consumers from any species of dairy animal. Like cheese, yogurt, butter, ice cream, and other dairy products, pasteurized milk is considered a processed dairy product, so even if your only product is pasteurized milk, you still require a Processor Licence.

Cow's Milk

All licensed cow dairy farms must sell all of their milk to Dairy Farmers of Nova Scotia (DFNS). DFNS then sells the milk to licensed milk processors according to a pre-set pricing schedule, based on the dairy products they make.

For dairy farms that process their own milk, this sale and repurchase occurs on paper even though the raw (unpasteurized) milk may not actually leave the farm.

For small-scale licensed milk processors, raw (unpasteurized) milk can be sourced on a scheduled basis through DFNS. A transporter, who would be picking up milk in that area, can be directed by DFNS to deliver milk to a licensed processor. Transportation and delivery surcharges will apply. Alternatively, pasteurized milk may be purchased directly from another licensed processor (likely in 20 L containers),

who would determine the price and delivery arrangements.

Depending on the scale of their processing operation, licensed processors either report their monthly milk purchases and dairy product production directly to DFNS, or through another processor reporting to DFNS.

The licensed processor is required to have a suitable milk receiving area and a way to accurately measure the milk that is delivered.

A Processor Licence must be obtained from the Natural Products Marketing Council. The licence application fee is \$75. Licence approval depends on the applicant meeting all Natural Products Marketing Council requirements and passing all relevant inspections.

Goat's and Sheep's Milk

There are no regulations regarding the quantity or price of goat and sheep milk sold to a licensed processor. Goat's and sheep's milk producers can make their own arrangements with licensed processors. If milk is transported from the farm to a processor, it must be stored in a sealed container and meet temperature requirements during transport.

A Goat or Sheep Milk Processor Licence must be obtained from the Natural Products Marketing Council. The licence application fee is \$75.

Regulations that Apply to All Dairy Processors

Processors who intend to sell their products outside of Nova Scotia must be federally registered with the Canadian Food Inspection Agency (CFIA). Dairy processors who intend to sell within Nova Scotia can be provincially inspected or federally registered.

Regardless of the size of the operation, all processing facilities must meet the relevant provincial regulations. Dairy processors are regulated under the Milk Production, Transportation and Pasteurization Regulations of the *Health Protection Act* and numerous regulations under the *Dairy Industry Act* (some regulations under the *Dairy Industry Act* only apply to processors of cow's milk).



Milk Distribution

If you are selling pasteurized fluid milk to consumers or distributing the milk yourself to retail outlets, you will also need a Distributor Licence, which can be obtained from the Natural Products Marketing Council. The licence application fee is \$0.016 per hL of milk processed. Licence approval depends on the applicant meeting all Natural Products Marketing Council requirements and passing all relevant inspections.

Dairy Retail

If you are selling dairy products from a farmers' market stall, or from your own retail outlet (on-farm or off-farm), you will require a permit from the Food Safety Division of the Nova Scotia Department of Agriculture. If you are selling fluid milk, you also require a Distributor Licence from the Natural Products Marketing Council.

If you are selling from a farmers' market stall, you will require a Public Market Permit. The permit costs \$38.70+HST (subject to change). You can use a single permit for more than one farmers' market as long as the markets are not on the same day. You can find the application form here:

www.gov.ns.ca/agri/foodsafety/policies/publicmarketapp.pdf .

If you are selling through your own retail outlet, that retail outlet must have a Food Establishment Permit in the Food Shop category. The permit costs \$63.13 + HST (subject to change). You can find the application form here:

www.gov.ns.ca/agri/foodsafety/pdfs/AppFoodEst.pdf .



Setting Up a Dairy Farm

If you are planning to develop a commercial herd of dairy cattle, goats, sheep, or other species, you should become familiar with the *Dairy Industry Act* and accompanying regulations.

If you are interested in milking cows, your next step should be to contact Dairy Farmers of Nova Scotia. If you are interested in milking goats, sheep, or water buffaloes, your next step will be to contact the Provincial Dairy Inspector who can answer any questions you have about legal requirements.

Q. Where can I buy equipment for my milking parlour?

A. There are several suppliers of milking machines, pipelines, milk tanks, etc. Use the Internet to find manufacturers and dealers, and ask people in the industry for suggestions. You must ensure that the equipment you purchase complies with provincial regulations.

Q. Is it okay to buy used equipment?

A. Yes. However, before purchasing you should have it checked over by an equipment specialist to ensure it's in working order and meets provincial regulations.

Q. Does the *Dairy Industry Act* allow for hand milking?

A. Yes, dry hand milking is allowed.

Q. Where can I find information about herd management and nutrition?

A. Contact Perennia's Dairy Specialist. You can also find information from provincial, national, and international producers' organizations. See Appendix for contact information.

Q. Are there any good record keeping tools that I can use with my herd/flock?

A. Many dairy farmers in Atlantic Canada use software and management tools developed by a company called Valacta: www.valacta.com .

Q. I want to produce organic cow's milk. Does that mean I don't need quota?

A. No, producers of organic cow's milk must purchase quota before beginning production and selling milk. There is not a special quota pool for organic producers. Organic milk producers must meet all of the same requirements as producers of conventional milk, in addition to the Canadian Organic Standards and specific regulations and policies that pertain to organic milk.

Q. I really want to have a dairy cattle farm. Is there any way to access quota?

A. Review DFNS's Producer Manual for more information about how milk quota is bought and sold in Nova Scotia

(www.dfns.ca/Producer%20Manual%20v1.12.pdf).

There are new dairy farmers every year in Nova Scotia who purchase a farm and facility, along with quota, from an existing dairy producer leaving the industry. Prospective dairy farmers can also apply to DFNS's New Entrant Program. The successful applicant (one per year) must purchase quota and will then be loaned a matching amount, up to 12 kg, by DFNS for a set time period.

For more information, visit:

www.dfns.ca/NEP%202012.pdf .

Q. What kind of financial investment is required to start a dairy farm?

A. For a farm producing cow's milk, you will need to spend at least \$500,000 to get started. For a farm producing sheep's or goat's milk, a 100 animal farm will require an investment of approximately \$80,000 in barns, milking equipment and parlour, livestock, and machinery. (See *Goat Farm Establishment and Cost of Production*:

http://growingnovascotia.ca/images/uploads/COP_goat_a.pdf)



Setting Up a Dairy Processing Facility

A Food Safety Specialist with the Nova Scotia Department of Agriculture based in Dartmouth performs provincial inspections of dairy processing facilities. If you are interested in processing dairy products for sale, including pasteurized milk, cheese, yogurt, butter, and ice cream, get familiar with the provincial regulations and then contact the Food Safety Specialist to discuss your plans.

Q. Can I sell cheese/ yogurt/ice cream I make in my kitchen?

A. No. Any processed dairy products must be made in a licensed dairy processing facility. The requirements for a licensed dairy facility are different from those of a licensed commercial kitchen.

Q. I've made some small batches of cheese/yogurt/ice cream in my home kitchen to test my recipes. Can I give these samples to my friends, neighbours, or potential customers for feedback so I know that I have a good product before I invest in a processing facility?

A. No, you cannot give away samples made in an unlicensed facility. However, product testing before investing in a facility is a very good idea. You can produce samples for product and market testing in the test kitchen of the Perennia Innovation Centre in Bible Hill. The Innovation Centre offers a wide variety of services to dairy

processors, including recipe testing, shelf life determination and nutrition testing.

www.perennia.ca/Innovation_Centre.php

Q. I keep a cow/goat to provide milk for personal consumption and sometimes make cheese, yogurt, etc. in my home kitchen. I don't sell any of those products but I sell baked goods/prepared foods at the farmers' market and use my milk/cheese/ yogurt, etc. in these products. Since I only use a small amount and it all gets cooked, is this okay?

A. No, all dairy ingredients used in prepared food products offered for sale in Nova Scotia must have come from a licensed processing facility.

Q. Do I have to pasteurize milk before I process it?

A. All milk used for dairy processing must be pasteurized with the exception of some cheeses that are aged for more than 60 days. These aged cheeses are permitted to be made with unpasteurized milk.

Q. I only want to process a small amount of milk - do I need a special pasteurizer or can I do it in a pot on the stove?

A. Provincial regulations require a specialized batch pasteurizer.

Q. Where can I buy equipment for my dairy processing facility?

A. Most dairy processors in Nova Scotia source their equipment from [Glengarry Cheesemaking and Dairy Supply Ltd.](#) in Lancaster, Ontario but you may be able to find equipment from another supplier. Be sure that that all milk contact surfaces are stainless steel and that the equipment is capable of reaching and maintaining the required temperatures for pasteurization or refrigeration. For more information on equipment requirements, refer to the [Dairy Establishment Inspection Manual](#) .

Q. Is it okay to buy used equipment?

A. Not all used processing equipment complies with provincial regulations and applicable federal standards. As with new equipment, you should refer to the Dairy Establishment Inspection Manual before making a purchase. You should also have it checked over by an equipment specialist before buying to ensure it's still in good working order.

Q. What records am I required to keep for my facility?

A. You must keep all microbiological records for water, unpasteurized milk, and finished product testing. You must also keep the recording chart information for batch pasteurization, records for calibration of equipment, and pest control records. These records must be kept for a minimum of one year. In addition, you must keep records pertaining to the source of your milk and records of sales to final

customers (for purposes of recall), unless you sell only at Farmers' Markets.

Q. How much does it cost to build a facility that complies with the regulations?

A. The minimum investment is currently around \$100,000 for the construction of a small processing facility. However, there are many hidden costs in operating a dairy facility, which are customer-driven rather than regulation-driven. For example, if you wish to wholesale your products, you may be required by your customers (the distributors or retail outlets) to have a Safe Quality Food (SQF) or a Hazard Analysis and Critical Control Points (HACCP) plan, or to carry a large amount of liability insurance. These unexpected costs of doing business will drive up your start-up costs as well as your annual operating costs.



More Information

- Nova Scotia's legislation governing dairy producers and processors is similar to Canada's National Dairy Code. If there is a discrepancy between the provincial and national legislation, the *Dairy Industry Act* and regulations and *Health Protection Act* and regulations are the legal standard with which Nova Scotia dairy producers and processors must comply. The National Dairy Code is a good place to start gathering information: www.dairyinfo.gc.ca/index_e.php?s1=dr-rl&page=canada .
- The University of Guelph has a lot of information on dairy science and technology, including sections on cheese and ice cream production. The University also offers short courses on cheese and ice-cream making: www.uoguelph.ca/foodscience/dairy-science-and-technology .
- The Ontario Ministry of Agriculture and Food has a guide for Starting a Food Processing Business that details the initial steps in product development and market research: www.omafra.gov.on.ca/english/food/industry/food_proc_guide.pdf .
- The American Livestock Breeds Conservancy has a comprehensive online workbook for the beginning dairy farmer or dairy processor. The workbook focuses on rare breeds of cattle, goats and sheep, and the regulatory requirements are different in Nova Scotia, but is still an excellent resource for developing a new dairy business. <http://albc-usa.org/dairy/index.html> .



Contacts

Agricultural Resource Coordinators

Cape Breton

Tel: (902)563-2000

Email: arccapebreton@gov.ns.ca

Eastern (Pictou, Antigonish and Guysborough)

Tel: (902) 863-4705

Email: arceastern@gov.ns.ca

Central (Colchester, Cumberland, Halifax and East Hants)

Tel: (902)893-6575

Email: arccentral@gov.ns.ca

Valley/South Shore (West Hants, Kings, Lunenburg, Queens)

Tel: (902)679-6021

Email: arcvalley@gov.ns.ca

Western (Annapolis, Digby, Yarmouth, Shelburne)

Tel: (902)638-2395

Email: arcwestern@gov.ns.ca

Milk Producer Licence (Cows) or Purchasing Cow's Milk

Dairy Farmers of Nova Scotia

Suite 100

4060 Highway 236

Lower Truro NS B6L 1J9

Tel: (902) 893-6455

Email: hboyd@dfns.ca

**Milk Producer Licence (Goat/Sheep), Milk Processor Licence
(Cow/Goat/Sheep) Milk Distributor Licence**

Natural Products Marketing Council

PO Box 890 (Harlow Building)

Truro NS

B2N 5G6

Tel: (902) 893-5943

Provincial Dairy Inspector (farms)

Scott MacKenzie

Tel: (902) 893-6524

Email: mackensf@gov.ns.ca

Provincial Dairy Inspector (processors)

Janice Gammie

Tel: (902) 424-1176

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National Research Council – Industrial Research Assistance Program

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Perennia Production Specialists

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